# Pilgrim Federation
# Key Stage 2
# Learning Theme:



# The Americas

| Links to Other Learning Themes: |
| --- |
| This Learning Theme Links to:<br>Invaders & Settlers<br>Looking after where we live<br>The Maya<br>Explorers<br>World War II<br>Europe |

## KEY STAGE 2

To wrap their heads around two massive continents, the National Curriculum for Key Stage 2 focuses on moving from broad "map skills" to specific "human and physical comparisons."

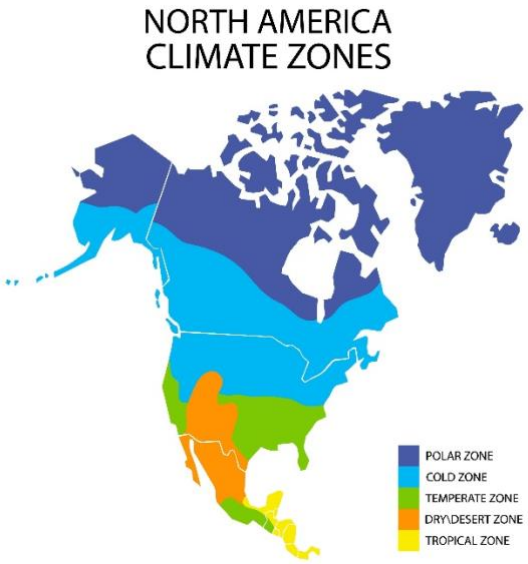
By the end of the learning theme, pupils should be able to answer these six fundamental questions:

**1. Where are the Americas located in relation to the rest of the world?**
Pupils should be able to identify North and South America on a world map. This includes knowing which oceans border them (Atlantic and Pacific) and identifying the **Equator**, the **Tropics of Cancer and Capricorn**, and the **Arctic Circle**.

**2. Which countries and major cities make up the Americas?**
It isn't just about the USA. Pupils should be able to name and locate several key countries (e.g., Canada, Mexico, Brazil, Chile) and their capital cities. They should also understand the difference between a **continent**, a **country**, and a **state**.

**3. What are the significant physical features of the landscape?**
This covers the "giants" of the natural world. Pupils should be able to describe the location and scale of features like the **Amazon Rainforest**, the **Andes Mountains**, the **Grand Canyon**, and the **Mississippi River**.

**4. How do the climates vary across the two continents?**
Because the Americas stretch from the North Pole almost to the South Pole, the climate variety is huge. Pupils should be able to explain why Northern Canada is a **tundra** while Central America is **tropical**, using the Equator as a reference point.




**5. How does life in a region of the Americas compare to life in the UK?**
This is a core curriculum requirement. Pupils must pick a specific region (e.g., a village in the Amazon or a city like New York) and compare its **human geography**—such as housing, industry, and food—to their own lives in the UK.

**6. How do humans use the land and natural resources?**

This explores the impact of people on the environment. Key topics include:

- **Agriculture:** What crops are grown (e.g., coffee in Brazil, wheat in the US)?
- **Industry:** How do people make money?
- **Environmental Impact:** What is happening to the rainforests (deforestation) or how do people adapt to living in mountainous regions?

**Teacher Note:** It's easy for pupils to think "The Americas" just means "The USA." I find that starting with South America first helps break that misconception early on!

# The Americas

Explore • Compare • Discover

Two continents... a world of diversity!

## 1 Where are the Americas located in relation to the rest of the world?




North and South America are bordered by the Atlantic and Pacific Oceans.

## 2 Which countries and major cities make up the Americas?

**Key countries include:**

- Canada
- Mexico
- Brazil
- Chile

**Famous cities:**

- New York
- Mexico City
- Rio de Janeiro
- Santiago



Remember: a continent is huge, a country is a nation, and a state is a part of a country.

## 3 What are the significant physical features of the landscape?

- Amazon Rainforest (the largest rainforest)
- Andes Mountains (the longest mountain range)
- Grand Canyon (a vast canyon)
- Mississippi River (a major river)



## 4 How do the climates vary across the two continents?



- Tundra (cold)
- Temperate (mild)
- Tropical (warm)
- Arid (dry)

From the Arctic to the Equator and down to the South Pole, the Americas experience a huge range of climates!

## 5 How does life in a region of the Americas compare to life in the UK?



**A village in the Amazon**

- Wooden houses
- Fishing & farming
- Tropical climate
- Rich biodiversity



**A town in the UK**

- Brick houses
- Services & industry
- Temperate climate
- Green spaces

Life in the Americas can be very different depending on the region!

## 6 How do humans use the land and natural resources?

**Agriculture:** Coffee in Brazil, wheat in the USA.

**Industry:** Mining, manufacturing and tourism.

**Environmental Impact:** Deforestation, protecting rainforests and living in mountainous areas.



*The Americas – a land of amazing landscapes, diverse cultures and vital resources.*

## Vocabulary

Exploring **'The Americas'** at Key Stage 2 covers everything from the icy tundral of Canada to the tropical rainforests of Brazil. To help pupils navigate these two continents, the vocabulary is split into **physical geography**, **human geography**, and **location-specific** terms. Here is the essential vocabulary broken down by category:

**1. Locational Knowledge**

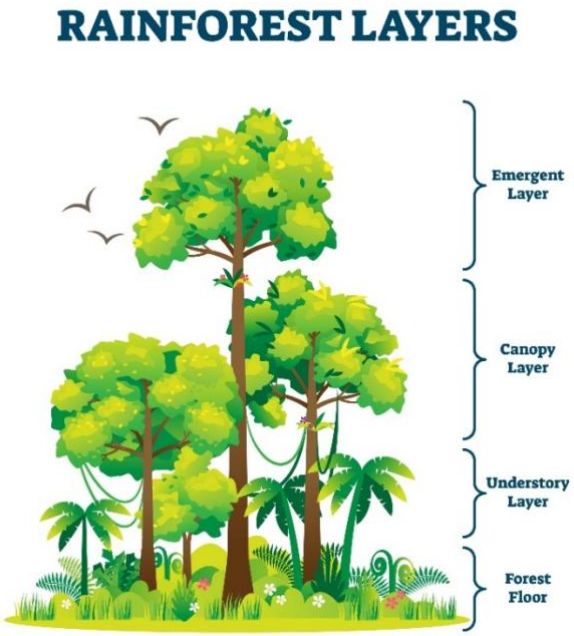
Understanding where things are is the first step. Pupils need to distinguish between continents, regions, and countries.

**Northern Hemisphere:** The half of the Earth north of the equator.
**Southern Hemisphere:** The half of the Earth south of the equator.
**North America:** Continent containing Canada, USA, Mexico, and Central America.
**South America:** Continent south of the Isthmus of Panama.
**Central America:** The "land bridge" connecting the two main continents.
**The Caribbean:** A region consisting of the Caribbean Sea and its islands.

**2. Physical Geography**

The Americas contain some of the most extreme natural features on Earth.

**Biome:** A large naturally occurring community of flora and fauna (e.g., rainforest, desert, tundra).
**Canopy:** The upper layer or habitat zone formed by mature tree crowns in a rainforest.
**Basin:** A large-scale depression on the earth's surface, often containing a river (e.g., the Amazon Basin).
**Tributary:** A river or stream flowing into a larger river or lake.
**Mountain Range:** A line of mountains connected by high ground (e.g., The Rockies or The Andes).
**Tundra:** A vast, flat, treeless Arctic region where the subsoil is permanently frozen.




**3. Human Geography**

This focuses on how people live, trade, and build within these environments.

**Urbanisation:** The process of making an area more urban (the growth of cities).
**Indigenous:** Originating or occurring naturally in a particular place; native people (e.g., Maya, Aztec, Inca, or Inuit).
**Settlement:** A place, typically one previously uninhabited, where people establish a community.
**Export/Import:** Goods sent out to another country / Goods brought in from abroad.
**Agriculture:** The science or practice of farming, including cultivation of the soil for the growing of crops.
**Megacity:** A very large city, typically one with a population of over ten million people (e.g., São Paulo or New York City).

**4. Key Landmarks & Features**
Specific names that often appear in KS2 curriculum:

| Feature | Type | Location |
|---|---|---|
| **Amazon** | River / Rainforest | South America |
| **The Andes** | Mountain Range | South America |
| **The Rockies** | Mountain Range | North America |
| **Atacama** | Desert | South America (Chile) |
| **Great Lakes** | Freshwater Lakes | North America (USA/Canada border) |

**Top Tip:** When teaching these, try to use "Comparison Vocabulary." Words like **contrast**, **similar**, and **differ** are vital for KS2 pupils to meet the curriculum requirement of comparing a region in the UK with a region in **'The Americas'**.

## Art & Design

### Substantive Knowledge

In Key Stage 2 Art & Design the **substantive knowledge** for **'The Americas'** learning theme is the "what"—the specific facts, artists, movements, and traditions that pupils must learn and remember. In the context of **'The Americas'**, this involves a journey through ancient civilisations, indigenous traditions, and modern movements.

**1. Ancient Civilisations and Indigenous Traditions**
Pupils need to know that art in the Americas existed long before European arrival and was often deeply spiritual or functional.

**The Maya, Aztecs, and Incas:** Knowledge of stone carvings, intricate jewellery, and the use of **relief sculpture** in temples.
**Totem Poles:** Understanding that indigenous peoples of the Pacific Northwest (North America) used wood carvings to tell stories and represent family lineages.
**Textiles:** Knowledge of the vibrant, woven patterns of the Andes (South America), often using wool from llamas and alpacas.
**Mask Making:** The use of masks in rituals, such as the colourful **Mexican Diablada** or the turquoise-encrusted masks of the Aztecs.

**2. Iconic Artists and Movements**
Pupils should be able to identify key figures and styles that have shaped the visual identity of the Americas.

**Frida Kahlo (Mexico):** Known for her self-portraits and use of symbolism to express her identity, heritage, and pain.
**Diego Rivera (Mexico):** Famous for his massive **murals** that depicted the history and struggles of the working class.
**Pop Art (USA):** Understanding the movement led by **Andy Warhol** and **Roy Lichtenstein**, which used everyday objects and comic-book styles.
**Georgia O'Keeffe (USA):** Known as the "Mother of American Modernism," famous for her large-scale paintings of flowers and New Mexico landscapes.
**Beatriz Milhazes (Brazil):** A contemporary artist known for her vibrant, circular, and geometric abstract paintings inspired by Brazilian culture.

**3. Materials and Artistic Vocabulary**
This is the "technical" **substantive knowledge**—knowing the names of tools and the properties of materials used in American art.

**Media:** Knowing what **tempera**, **acrylics**, **clay**, and **textiles** are and how they were used historically.
**Techniques:** Understanding specific terms like **weaving**, **printing**, **muralism**, and **mosaic**.
**Visual Elements:** Being able to identify **bold colour palettes** (common in Latin American art), **geometric abstraction**, and **symbolism**.

**4. Key Concepts and Themes**
The "big ideas" that link the art to the geography and history of the continents:

| Theme | Substantive Detail |
|---|---|
| **Identity** | How artists like Frida Kahlo or Jean-Michel Basquiat explored who they were through art. |
| **Nature** | How the diverse biomes (Amazon, Rockies, Deserts) influenced the colours and subjects of art. |
| **Storytelling** | How art was used to record history before or alongside written language (e.g., Mayan glyphs). |
| **Public Art** | The importance of the Muralist movement in making art accessible to everyone in cities. |

**Summary Checklist for Pupils:**
Can I name at least two artists from the Americas?
Can I identify a piece of art from an ancient American civilisation?
Do I know what a mural is and why they are popular in the Americas?
Can I describe the difference between a traditional textile and a modern Pop Art print?

**Disciplinary Knowledge**

In Art and Design, **disciplinary knowledge** refers to the "how" of being an artist—the skills, techniques, and critical thinking pupils use to create and evaluate work. When applied to **'The Americas'**, the focus shifts from

just "knowing" about Mayan masks or Warhol's pop art to understanding the *intent* and *process* behind them.

**1. Visual Literacy & Critical Analysis**
Pupils should learn to "read" the art of the Americas, understanding that art is often a reflection of culture, belief, and history.

**Contextual Understanding:** Identifying how ancient civilisations (like the Maya, Aztec, or Inca this links to the Maya learning theme) used art for ritual and communication.
**Art Appreciation:** Comparing traditional indigenous crafts (e.g., Navajo weaving) with modern American movements (e.g., Abstract Expressionism or Street Art).
**Critical Vocabulary:** Using terms like *form*, *texture*, *composition*, and *symbolism* to describe American artworks.

**2. Mastery of Techniques (Media & Materials)**
**Disciplinary knowledge** requires pupils to select and manipulate materials to achieve a specific effect inspired by American styles.
**Pattern & Symmetry:** Studying the intricate geometric patterns found in Peruvian textiles or Mexican folk art to develop drawing and printmaking skills.
**Colour Theory:** Exploring how artists like Georgia O'Keeffe used bold, saturated colours to depict the American landscape, or how Frida Kahlo used colour to express emotion.
**Sculpture & Form:** Experimenting with clay or mixed media to create 3D structures, drawing inspiration from Inuit soapstone carvings or Totem poles of the Pacific Northwest.

**3. The Creative Process (Sketchbooks)**
A key part of **disciplinary knowledge** at KS2 is the ability to develop an idea from an initial observation to a finished piece.

**Experimentation:** Using sketchbooks to test colour palettes for a rainforest-themed piece or practicing the "halftone" dots used in American Pop Art.
**Refinement:** Reviewing their work against their original intent—for example, "Does my mask look as powerful as the Aztec original?"
**Adaptation:** Learning how to take an existing style (like the vibrant, street-style murals of Brazil) and adapt it to represent their own local community.

**4. Understanding Artistic Traditions**
Pupils should understand that **'The Americas'** isn't a single artistic block but a tapestry of different traditions.

| Tradition | Disciplinary Focus | Key Skill |
|---|---|---|
| **Indigenous Art** | Symbolism & Nature | Creating meaning through icons/animals. |

| | | |
|---|---|---|
| **Mexican Folk Art** | Vibrancy & Pattern | Using high-contrast colours (e.g., Alebrijes). |
| **Pop Art (USA)** | Mass Production | Using printmaking and repetition. |
| **Contemporary Muralism** | Scale & Community | Designing art for public spaces. |

**Key Questions for Disciplinary Thinking:**
*Why did the Maya choose stone for their stelae?*
*How does the scale of the Statue of Liberty change its impact on the viewer?*
*How can I use the texture of the Amazon rainforest in my own mixed-media collage?*

**Learning Objectives**

In Key Stage 2, Art and Design **learning objectives** should balance **technical skill** (the "how"), **substantive knowledge** (the "what"), and **evaluative thinking** (the "why"). When linked to **'The Americas'**, these **learning objectives** allow pupils to travel from the ancient temples of Mexico to the modern streets of New York.

**1. Research and Exploration (Sketchbooks)**
**To record observations and ideas** by researching indigenous American art forms (e.g., Inuit carvings or Mayan glyphs) in sketchbooks.
**To experiment with different techniques** to represent the textures and colours of various American biomes, such as the Amazon rainforest or the Atacama desert.

**2. Drawing and Painting**
**To use colour, tone, and shade** to recreate the vibrant, saturated palettes of Mexican folk art or the desert landscapes of Georgia O'Keeffe.
**To master the use of line and pattern** by studying the geometric symmetry found in Navajo weaving and Peruvian textiles.
**To create a collaborative mural** inspired by the work of Diego Rivera, exploring how art can tell a story about a community or history.

**3. Sculpture and 3D Work**
**To use clay or other malleable materials** to create a relief sculpture, drawing inspiration from the architectural carvings of the ancient Aztecs or Incas.
**To construct a 3D form** (such as a totem pole or a ceremonial mask) that incorporates symbolic meaning, using recycled materials or mixed media.
**4. Printing and Pattern**
**To design and create a repeated pattern** block for printing, inspired by the motifs found in Central American textiles.
**To explore the "Pop Art" movement** by using screen printing or block printing techniques to produce a series of images in the style of Andy Warhol.

**5. Evaluation and Art History**
**To compare the work of two different artists** from the Americas (e.g., Frida Kahlo and Jean-Michel Basquiat), identifying similarities in their use of symbolism.
**To describe the cultural significance** of art in the Americas, explaining how traditional crafts differ from modern commercial art.

**Example Learning Objective Progressions**

If you are planning a medium-term unit, you might structure your objectives like this:

| Week | Focus | Sample Learning Objective |
|---|---|---|
| 1 | History | I can identify the key features of Mayan art and record them in my sketchbook. |
| 2 | Skill | I can use slip and score techniques to join clay when making a ritual mask. |
| 3 | Context | I can explain how Frida Kahlo used self-portraits to express her Mexican identity. |
| 4 | Creation | I can apply bold, contrasting colours to my sculpture to reflect Latin American styles. |
| 5 | Review | I can evaluate my work by comparing my use of pattern to traditional Andean weaving. |

**Lesson Ideas**

Here is a complete, 6-week Medium-Term Plan for Key Stage 2 Art & Design framed around the visual culture, artistic techniques, and indigenous heritage of **'The Americas'**. This unit connects North, Central, and South American artistic traditions—**North American Indigenous Northwest Coast Native Art**, **Central American Maya Terracotta & Relief Carving**, **Mexican Folk Art (Alebrijes & Papel Picado)**, and **South American Andean/Inca Textiles**—with core National Curriculum Art strands: **Drawing & Pattern**, **3D Sculpture & Clay Work**, **Printmaking & Relief**, **Textiles & Weaving**, and **Colour Theory & Mixed Media**. It balances **substantive knowledge** (formline design rules, clay slab/coiling techniques, relief printing processes, warp/weft weaving mechanics, dynamic colour harmonies, and paper carving) with **disciplinary knowledge** ("Thinking & Acting Like an Artist & Art Historian"—analysing cultural symbolism, evaluating formal artistic choices, critiquing art across historical/geographical contexts, refining ideas through sketchbook experimentation, and reflecting on individual creative intent).

**Unit Title:** Visions of the Americas: Indigenous Heritage, Sculpture, and Sacred Patterns
**Duration:** 6 Weeks (Approx. 1.5–2 hours per week)
**Theme:** North American Pacific Northwest Formline Art, Central American Maya Terracotta Sculpture & Relief Prints, Mexican Alebrije Mixed-Media Sculpture, and Andean Textile Weaving.
**Artistic & Cultural Contexts**
*North America:* Haida and Tlingit totem formline art (ovoid shapes, U-forms, formline symmetry, animal crest symbolism).
***Central America (Maya & Mexico):*** Ancient Maya terracotta clay ritual masks and architectural stone relief carving; Mexican Folk Art (*Alebrijes* fantastical creature sculptures and *Papel Picado* cut paper).
***South America:*** Andean and Inca backstrap loom weaving, geometric textile motifs, and natural plant dye colour palettes.
**Key Art & Design Pillars**
**Substantive Knowledge:**
***Drawing & Visual Language:*** Formline rules (ovoids, U-shapes, S-shapes), visual balance, continuous line work, geometric grid mapping.

***Sculpture & 3D Form:*** Clay mechanics (slab building, coiling, slipping & scoring, surface incising), armatures (wire, foil, tape, papier-mâché), structural stability.
***Printmaking:*** Relief printing mechanics, incising polystyrene/lino blocks, ink roll control (brayer), registration, layered printing.
***Textiles****:* Loom warping, weft passing, tension management, colour blocking, tactile texture juxtaposition.
**Disciplinary Knowledge ("Thinking Like an Artist"):**
***Contextual Analysis:*** Exploring how indigenous and folk arts embody spiritual beliefs, animal symbolism, and ancestral heritage.
***Sketchbook Process:*** Iterative design experimentation, colour swatching, testing material limits, refining visual ideas.
***Critical Evaluation:*** Appraising personal and peer artworks using formal visual language (line, form, shape, colour, texture, pattern).

**Weekly Progression Scheme**
**Week 1: Formline of the Pacific Northwest – Symbolism & Visual Language**
**Art Strand:** Drawing, Graphic Pattern & Cultural Analysis.
**Substantive Knowledge:**
**LKS2:** The core elements of Haida/Tlingit formline art: **Ovoids** (curved rectangle-egg shapes), **U-forms**, and continuous black primary lines; crest animal symbolism (*Raven, Bear, Orca, Eagle*).
**UKS2:** Negative vs. positive space balance in formline composition; secondary line colour rules (traditional red and black split-colour harmonies); designing complex symmetrical crest shields.
**Disciplinary Knowledge:**
***Visual Decoding:*** Analysing how indigenous artists convey animal identity and ancestral stories through stylised abstract geometric shapes rather than naturalistic representation.
**Practical Art Activity:**
**LKS2 (Y3/4):** *Formline Animal Crests.* In sketchbooks, pupils practice drawing ovoids and U-shapes, assembling them into a bold black-and-red Haida-style animal crest (*Raven or Bear*).
**UKS2 (Y5/6):** *Symmetrical Formline Shield Design.* Pupils design a complex, symmetrical animal crest shield using precise formline geometry, balancing positive black lines, secondary red fills, and negative white space.

**Week 2: Spirits of the Mesoamerican Forest – Maya Clay Terracotta Sculpture (this links to the previous learning theme 'The Maya' so if this has been covered already swap it for something else (see Other Ideas, Resources and Information section)**
**Art Strand:** 3D Clay Sculpture & Surface Texture.
**Substantive Knowledge:**
**LKS2:** Clay manipulation fundamentals: rolling slabs, pinch pots, slipping and scoring (scratch-and-attach) to join pieces securely; incising surface texture with clay tools.
**UKS2:** Constructing 3D hollow masks with structural integrity; carving high-relief facial features (*Maya jaguar deities/sun kings*); burnishing clay surfaces.
**Disciplinary Knowledge:**
***Material Exploration:*** Testing the plastic limits of terracotta clay to prevent cracking, air pockets, and structural failure during drying.
**Practical Art Activity:**
**LKS2 (Y3/4):** *Maya Relief Clay Tiles.* Pupils roll a flat clay slab and construct a Maya glyph tile, adding raised relief shapes using slip/score methods and incising fine details.
**UKS2 (Y5/6):** *3D Maya Ritual Mask.* Pupils build a hollow 3D facial mask over a balled-paper mould, adding exaggerated features (*jaguar fangs, ear spools, royal headdresses*) with secure scoring and slip joints.

**Week 3: Stones of Chichen Itza – Relief Printmaking & Glyph Stamping (this links to the previous learning theme 'The Maya' so if this has been covered already swap it for something else (see Other Ideas, Resources and Information section)**
**Art Strand:** Printmaking, Relief Carving & Registration.
**Substantive Knowledge:**
**LKS2:** Relief printing mechanics; incising lines into high-density foam tiles (*QuickPrint*) using pencil pressure; applying block printing ink evenly with a roller (brayer).
**UKS2:** Multi-block printing or reduction printing; precise paper registration for repeating pattern bands; creating textured background rolls to simulate aged stone.
**Disciplinary Knowledge:**
***Print Precision:*** Evaluating ink transfer density—distinguishing between over-inked (filled-in detail) and under-inked (faint/patchy) relief prints.
**Practical Art Activity:**
**LKS2 (Y3/4):** *Single-Block Glyph Print.* Pupils carve a sacred Maya animal or numerical glyph into a foam block and execute a series of clean, single-colour prints on earth-toned paper.
**UKS2 (Y5/6):** *Layered Stone Relief Frieze.* Pupils create a 2-colour layered print by printing a dark glyph block over a roller-textured "stone wall" background, maintaining accurate border registration.

**Week 4: Alebrijes of Oaxaca – Armature & Mixed-Media Sculpture**
**Art Strand:** 3D Construction, Armatures & Papermaking.
**Substantive Knowledge:**
**LKS2:** Building lightweight 3D armatures using newspaper, foil, masking tape, and wire; wrapping armatures with smooth papier-mâché layers (*paste & strip technique*).
**UKS2:** Designing hybrid fantastical animal forms (*Alebrijes*: merging wings, horns, tail, and feline body); structural balance and weight distribution; applying smooth gesso primer coats.
**Disciplinary Knowledge:**
***Structural Engineering:*** Problem-solving how to build a top-heavy or extended 3D sculpture that stands independently without collapsing.
**Practical Art Activity:**
**LKS2 (Y3/4):** *Foil & Tape Animal Base.* Pupils construct a sturdy 4-legged animal armature using foil and masking tape, applying two smooth layers of papier-mâché strips.
**UKS2 (Y5/6):** *Fantastical Alebrije Armature.* Pupils assemble an intricate hybrid creature armature (e.g., *jaguar with eagle wings and lizard tail*), securing limbs with wire and paper tape to ensure balance.

**Week 5: Vivid Visions of Mexico – Colour Theory & Pattern Painting**
**Art Strand:** Painting, Colour Theory & Fine Surface Detail.
**Substantive Knowledge:**
**LKS2:** Complementary colour pairs (orange/blue, yellow/purple, red/green) to create vibrant contrast; applying flat acrylic colour bases to 3D sculptures.
**UKS2:** High-contrast pattern painting on 3D surfaces; using dotting tools, fine liner brushes, and geometric motifs to decorate *Alebrijes*; optical colour vibration.
**Disciplinary Knowledge:**
***Visual Harmony:*** Utilising vibrant colour relationships purposefully to celebrate the exuberance of Mexican folk art without muddying brushwork.
**Practical Art Activity:**

**LKS2 (Y3/4):** *Complementary Colour Painting.* Pupils paint their dry papier-mâché forms with bold complementary base colours and simple geometric accents.
**UKS2 (Y5/6):** *Intricate Folk Art Painting.* Pupils apply a brightly coloured base coat to their Alebrije, using fine brushes and dotting tools to overlay intricate dots, zigzags, and spiral patterns.

**Week 6: Threads of the Andes – Textile Weaving & Exhibition Showcase**
**Art Strand:** Textiles, Weaving & Curation/Evaluation.
**Substantive Knowledge:**
**LKS2:** Textile fundamentals: warping a cardboard frame loom; weaving weft threads (*over-under technique*); changing yarn colours; creating plain weave bands inspired by Inca patterns.
**UKS2:** Advanced loom weaving: introducing geometric motifs (diamonds, stairs), incorporating texture variations (roving wool, beads, ribbons); finishing loom edges cleanly.
**Disciplinary Knowledge:**
***Curatorial Reflection:*** Selecting, displaying, and evaluating finished artworks against criteria of craftsmanship, visual impact, and cultural authenticity.
**Practical Americas Art Exhibition:**
**LKS2 & UKS2:** *The "Art of the Americas" Gallery Showcase.*
***Station 1: The Weaving Studio:*** Pupils weave vibrant wool bands on card looms, combining finished strips into a class Andean textile installation.
***Station 2: The Sculpture Plaza:*** Displaying dry terracotta Maya masks alongside vivid, fully-painted Mexican Alebrijes.
***Station 3: The Print & Formline Gallery:*** Exhibiting Haida animal crest drawings and stone relief glyph prints.
***Plenary Evaluation:*** Pupils write gallery labels and conduct peer critiques evaluating form, colour balance, and craftsmanship.

**Assessment Matrix (Progression Indicators)**

| Phase | Working Towards | Expected Standard | Greater Depth |
|---|---|---|---|
| **Lower Key Stage 2** *(Years 3 & 4)* | • Draws basic animal outlines without incorporating formline ovoid or U-shapes.<br>• Attaches clay pieces without slipping/scoring, causing parts to detach when dry.<br>• Applies block printing ink unevenly, producing smudged or patchy relief prints.<br>• Weaves yarn inconsistently, pulling | • Incorporates Haida ovoids and U-shapes accurately into a recognisable animal crest.<br>• Joins clay features securely using slip and score methods to build a relief tile.<br>• Inscribes clear lines into foam blocks and produces evenly-inked glyph prints.<br>• Warps a card loom and executes neat over-under weaving with straight side edges. | • Combines formline shapes fluidly to create original, balanced animal crest compositions.<br>• Incises deep, intricate surface textures and builds high-relief forms on clay tiles.<br>• Produces a consistent series of crisp prints, experimenting with colour background overlays.<br>• Introduces intentional pattern changes and |

| | | | |
|---|---|---|---|
| | warp threads inward and distorting loom shape. | | colour blocks into weaving seamlessly. |
| **Upper Key Stage 2** *(Years 5 & 6)* | • Draws symmetrical designs that lack balance between positive and negative space.<br>• Builds clay masks that collapse or crack due to uneven thickness and weak joints.<br>• Constructs papier-mâché armatures that wobble or fail to stand independently.<br>• Paints sculptures with thick, smudged brushwork that obscures underlying detail. | • Balances positive black lines, secondary red fills, and negative space in formline art.<br>• Constructs a structurally sound 3D hollow clay mask with high-relief features.<br>• Builds a stable, well-proportioned 3D creature armature using foil, wire, and paper.<br>• Paints fine, high-contrast geometric motifs onto 3D sculptures using specialised tools. | • Manipulates formline visual rules to create complex, highly expressive shield artworks.<br>• Sculptures display sophisticated anatomical detail, burnished surfaces, and expressive depth.<br>• Constructs dynamic, multi-limbed creature armatures that balance weight effortlessly.<br>• Executes flawless, intricate pattern painting that wraps around 3D curves with optical precision. |

**Other Information, Ideas and Resources**

Using **'The Americas'** learning theme for Key Stage 2 Art & Design allows pupils to travel across an incredibly diverse geographical and historical landscape. From ancient Mesoamerican civilisations to Indigenous traditions of the Pacific Northwest, these ideas explore multiple mediums including sculpture, textiles, painting, and printmaking.



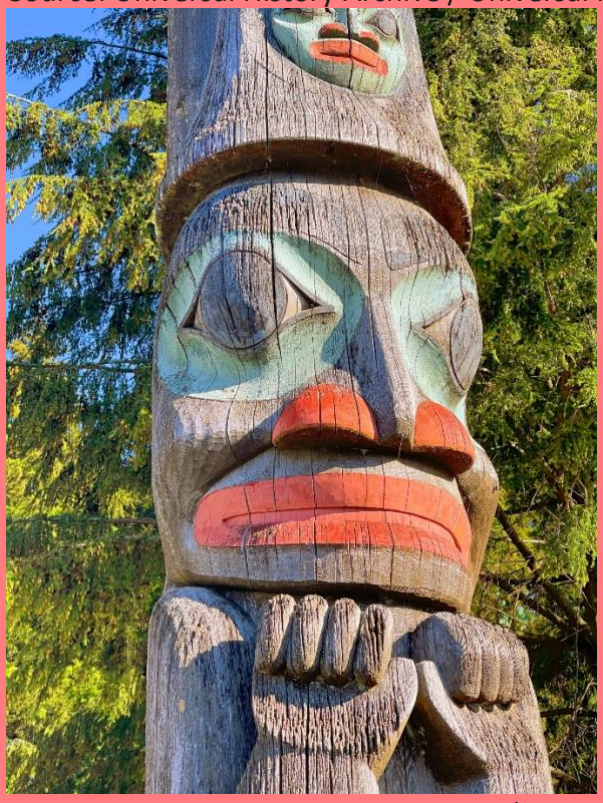
Olmec Colossal Stone Head (Mexico). Source: TAKAYUKI UEDA / Getty Images



Huichol Yarn Painting (Mexico). Source: Robert Alexander / Getty Images



Kuna Mola Fabric Art (Panama). Source: Universal History Archive / Universal Images Group via Getty Images



Northwest Coast Totem Carving (North America). Source: Harald Sund / Getty Images

These are four culture-rich, technique-driven lesson sequences tailored directly to the KS2 curriculum.

**1. Clay Sculpting: Olmec Colossal Heads**

**Art Focus:** 3D Sculpture, manipulating form, and surface texture.
**Cultural Focus:** The Olmecs (Mesoamerica's oldest major civilisation).
**The Lesson Concept**
Before the Maya and the Aztecs, the Olmec civilisation carved massive human heads from giant basalt boulders, some standing over 3 metres tall. Look closely at the distinct characteristics of these sculptures: their realistic facial features, downturned expressions, and individualistic, helmet-like headdresses.
**The Skill:** Children learn basic clay techniques—moulding a solid base shape, smoothing surfaces, and using scoring/slipping to add clay details like the headdress without them falling off during drying.
**Execution:** Using air-drying clay, pupils sculpt their own mini "colossal head." They can use clay tools or everyday objects (like toothpicks and plastic cutlery) to press in textures, wrinkles, and geometric helmet patterns.
**Finishing:** Once dry, paint them with a watery black and brown acrylic wash to replicate the weathered look of ancient volcanic stone.

**2. Layered Paper Cuts: San Blas 'Mola' Art**
**Art Focus:** Colour theory (contrast), pattern, shape, and layering.
**Cultural Focus:** The Guna (Kuna) people of Panama and Colombia.
**The Lesson Concept**
Traditional *Molas* are vibrant textile panels handmade by Guna women using a complex reverse-appliqué technique, where layers of coloured cloth are stitched together and cut away to reveal the colours beneath. They frequently depict stylised geometric shapes, local ocean wildlife, or mythical stories.
**The Classroom Adaptation:** Because fabric appliqué is highly advanced for KS2, translate this technique using **layered card and paper**.
**Execution:**
Pupils choose a central local animal (e.g., a sea turtle, jaguar, or parrot) and draw it as a simplified silhouette shape.
They select 3 or 4 brightly contrasting sheets of sugar paper (e.g., bright orange, black, vibrant green).
Pupils carefully cut and stack their designs, gluing smaller, vibrant shapes *inside* larger cut-outs to mimic the stepped, outline look of traditional needlework.
**Detailing:** Fill any empty space with geometric slots and lines—a hallmark of Mola textile design.

**3. Printmaking: Pacific Northwest Formline Art**
**Art Focus:** Printmaking (polystyrene blocks), line work, and symmetrical balance.
**Cultural Focus:** Indigenous Nations of the Northwest Coast (Haida, Tlingit, Kwakwaka'wakw).
**The Lesson Concept**
Northwest Coast Indigenous art is famous for its striking **formline design**—a style using continuous flowing lines, characteristic "U-shapes" and "ovoids" (rounded rectangles) to construct images of crest animals like eagles, ravens, and killer whales, often seen on totem poles.
**The Skill:** Introducing printmaking allows children to master repeating patterns and symmetry.
**Execution:** Pupils draw their own animal crest using the ovoid and U-shape rules on a sheet of paper. They then transfer this by tracing firmly onto a flat polystyrene printing tile (quick-print block), engraving the lines deep into the foam with a dull pencil.

**Printing:** Using a brayer (ink roller), pupils apply water-based block printing ink (traditionally using bold black, red, and occasionally teal blue) and press their tile onto heavy cartridge paper to create clean, graphic prints.

**4. Texture & Pattern: Huichol 'Yarn Painting'**
**Art Focus:** Textures, drawing with media, and concentric colour blending.
**Cultural Focus:** The Wixáritari (Huichol) people of Western Mexico.
**The Lesson Concept**
Modern Huichol art includes breathtakingly detailed paintings called *nierikas*. Traditional artists brush a wooden board with beeswax and pine resin, then meticulously press individual strands of brightly coloured yarn into the wax to form complex, symbolic patterns of deer, corn, and fire.
**The Classroom Adaptation:** Use heavy cardboard or grey board tiles as a base, coating them with strong PVA glue or double-sided adhesive sheets.

**Execution:**
Children sketch a simple outline of a sacred animal or natural element (e.g., a sun, wolf, or eagle).
Starting from either the absolute centre or the outer edge of their outline, pupils lay down yarn, curling it around and around to fill the shape in tight, concentric rows.
They must change yarn colours frequently to create vibrant, radiating colour gradients.
**Key Challenge:** Keeping the yarn lines perfectly flush against one another to eliminate gaps, building up a dense, beautiful texture.

**Considerations for Implementation**

Ensure pupils understand that **'The Americas'** is a term covering two continents; try to avoid "lumping" North and South American styles together. One way to do this is to ensure one objective focuses specifically on an indigenous North American craft and another on a South American modern movement.

## Computing

**Substantive Knowledge**

In Computing, **substantive knowledge** consists of the concrete facts and concepts pupils need to understand about how computers, networks, and software function. When applied to 'The Americas', this knowledge is often grounded in the physical infrastructure that connects the continents and the specific data that defines them.

**1. Computer Systems and Networks**
This focuses on the "physicality" of the internet and how the UK stays connected to North and South America.

**The Internet as a Network of Networks:** Understanding that when we access a website from the USA, data travels through a global infrastructure.
**Undersea Cables:** Knowing that the primary connection between Europe and the Americas is through fibres-optic cables laid on the Atlantic Ocean floor.
**Data Centres:** Understanding that much of the world's "Cloud" storage is physically located in massive server farms, many of which are in North America (e.g., Virginia or Iowa).
**IP Addresses and DNS:** The fact that every "place" on the digital map of the Americas has a unique numerical address.

**2. Data Representation and Handling**

This involves knowing how to categorise and manipulate "Americas-themed" information.

**Databases:** Understanding how to use records, fields, and search criteria to organise data about the 50 US states or the countries of South America.
**Spreadsheet Formulas:** Knowing how to use =SUM, =AVERAGE, and =MAX/MIN to analyse geographical data, such as comparing the average rainfall in the Amazon vs. the Atacama Desert.
**Binary and Pixels:** Understanding that the digital photos we see of the Grand Canyon or Machu Picchu are actually stored as sequences of 0s and 1s (binary).

**3. Programming Concepts**
The specific coding "building blocks" used to create American-themed projects.

**Variables:** Knowing that a variable is a "container" for a value that can change (e.g., a "Score" in a quiz about American capitals or a "Timer" in a game about crossing the Rockies).
**Selection (If... Then...):** Using logical conditions in code (e.g., *If* answer = 'Washington DC', *then* play 'Correct' sound).
**Repetition (Loops):** Using "forever" or "repeat" blocks to animate a digital map or a sprite of a Monarch butterfly migrating across North America.

**4. Digital Literacy and Content Creation**
The knowledge of which tools are fit for purpose when discussing the continents.

**Search Engine Mechanics:** Understanding that search engines use "crawlers" to index the web and that "ranking" determines which sites about the Americas appear first.
**Copyright and Fair Use:** Knowing that images of the Statue of Liberty or the Amazon Rainforest found online belong to creators and may require permission or attribution.
**Collaborative Software:** Knowing the features of real-time editing tools (like Google Docs) that allow a pupil in the UK to theoretically work with a pupil in Brazil.

**Core Knowledge Checklist**

| Category | The "Must-Know" Fact |
|---|---|
| **Hardware** | Data travels from the US to the UK via fibres-optic cables on the ocean floor. |
| **Data** | A spreadsheet is organised into **cells**, **rows**, and **columns**. |
| **Logic** | An algorithm is a precise set of instructions to complete a task. |
| **Safety** | Not all information found on the internet about American history is accurate or unbiased. |

**Disciplinary Knowledge**

In **Computing**, **disciplinary knowledge** is less about knowing facts and more about "thinking like a computer scientist." It involves the skills pupils use to solve problems, create digital content, and understand the systems that connect the world. When linked to **'The Americas'**, computing becomes a tool for data analysis, geographical simulation, and digital communication across continents.

**1. Computer Science: Logic and Algorithms**
This involves understanding how systems work and how to control them.

**Simulation and Modelling:** Pupils use code (e.g., in Scratch or Logo) to simulate the movement of a journey across the Americas. They learn how to use **variables** to represent real-world factors, such as "fuel levels" for a flight from London to New York or "rainfall" in the Amazon.
**Decomposition:** Breaking down a complex task—like planning a multi-stop expedition across South America—into smaller, manageable steps for an algorithm.
**Logic and Debugging:** Identifying why a program (such as a quiz about American landmarks) isn't working as intended and fixing the errors in the logical sequence.

**2. Information Technology: Creating and Organising**
This is the application of digital tools to research and present findings about the continents.

**Digital Research:** Moving beyond basic searching. Pupils learn to use **advanced search operators** to filter information specifically about the Americas (e.g., using "Amazon River -shopping" to avoid retail results).
**Data Handling:** Using spreadsheets to organise, analyse, and graph "The Americas" data.
***Substantive** link:* Comparing the population density of various American countries or tracking temperature changes across different climate zones.
**Multimedia Presentation:** Choosing the most effective digital tool (e.g., video editing, website builders, or 3D modelling) to communicate their geographical findings to a specific audience.

**3. Digital Literacy: Communication and Safety**
This focuses on the "global" aspect of the Americas and how we interact with it safely.

**Network Understanding:** Learning how data travels across the Atlantic/Pacific via **undersea cables** to connect the UK to the Americas. They understand that the "Cloud" is actually physical infrastructure often located in North American data centres.
**Collaborative Tools:** Using cloud-based software (like Google Workspace or Microsoft 365) to work simultaneously with peers, mimicking how international teams across the Americas and Europe collaborate in real-time.
**Evaluating Information:** Developing a critical eye for **online bias** or misinformation when researching sensitive topics like deforestation in the Amazon or American political history.

**4. Disciplinary Thinking Skills**

| Thinking Skill | Application to 'The Americas' |
|---|---|
| **Abstraction** | Deciding which details of a South American map are necessary for a digital game and which can be removed. |
| **Pattern Recognition** | Spotting trends in climate data from different North American states to predict future weather. |
| **Evaluation** | Determining if a digital map (like Google Earth) is more effective than a paper map for exploring the Andes. |

**Key Disciplinary Questions for Pupils:**
*How does the computer know where the Amazon Rainforest starts and ends on a digital map?*
*What is the most efficient way to organise a spreadsheet of the 50 US states?*
*Can we trust every website that gives us information about the Maya civilisation?*

## Learning Objectives

In Key Stage 2 Computing, the learning theme of **'The Americas'** provides a framework for data handling, programming simulations, and understanding global connectivity. The **learning objectives** are typically divided into the three main strands of the National Curriculum:

**1. Computer Science (Programming and Logic)**
**To design, write, and debug programs** that simulate a journey across the Americas, using **sequences** and **repetition** to move a sprite between key landmarks.
**To use selection (if-then statements)** to create an interactive "Americas Quiz," where the program branches based on whether a user correctly identifies a capital city or flag.
**To use variables** in a simulation (e.g., a "Rainforest Explorer" game) to track changing data such as "oxygen levels," "miles travelled," or "currency spent."

**2. Information Technology (Creating and Organising)**
**To use search technologies effectively** by applying filters and advanced keywords to find reliable information about the Maya civilisation or the geography of the Andes.
**To collect and analyse data** using a spreadsheet to compare the heights of American mountain ranges or populations of different states, using **formulas** (e.g., =SUM, =AVERAGE) to identify patterns.
**To create and manipulate digital content** by designing a multi-layered digital map of the Americas, using tools to label physical and human features.
**To select and use a variety of software** to create a collaborative presentation or short film about the impact of deforestation in the Amazon.

**3. Digital Literacy (Safety and Networks)**
**To understand computer networks** by tracing the physical path data takes (undersea cables) when we access a website hosted in North America.
**To recognise acceptable and unacceptable behaviour** when using collaborative online tools to work with others on "The Americas" projects.
**To evaluate digital content** found online, identifying potential bias or inaccuracies in websites discussing American history or environmental issues.

## Lesson Ideas

Here is a complete, 6-week Medium-Term Plan for Key Stage 2 Computing framed around the geography, history, and digital landscape of **'The Americas'**. This unit connects core National Curriculum Computing strands—**Computer Science (Algorithms, Programming & Logic)**, **Information Technology (3D Digital Design & Data Handling)**, and **Digital Literacy (Web Searching & Online Safety)**—with North, Central, and South American topics such as Maya glyph cryptography, rainforest environmental sensing, 3D step pyramid modelling, and Amazon deforestation data analytics. It balances **substantive knowledge** (variables, conditional logic, repetition loops, database querying, 3D coordinate geometry, sensor input/output, and network protocols) with **disciplinary knowledge** ("Thinking & Acting Like a Computer Scientist"—debugging

systematic errors, evaluating algorithmic efficiency, assessing data validity, decomposing complex problems, and considering the ethical implications of digital technologies).

**Unit Title:** Digital Americas: Cryptography, 3D Architecture, and Rainforest Data Systems
**Duration:** 6 Weeks (Approx. 1–1.5 hours per week)
**Theme:** Maya Glyph Ciphers, 3D Pyramid CAD Modelling, Amazon Rainforest Micro:bit Sensors, and Geographical Data Analytics.
**Tech & Cultural Contexts:**
***Block/Text Programming:*** Scratch and MakeCode (Micro:bit) algorithms.
***3D CAD Design:*** Tinkercad or similar 3D spatial software.
***Data & Analytics:*** Spreadsheets and databases analysing North/South American climate and rainforest deforestation data.
***Digital Citizenship:*** Evaluating web search reliability when researching international heritage sites.
**Key Computing Pillars**
**Substantive Knowledge:**
***Computer Science:*** Variables, selection (if...then...else), count-controlled and conditional loops, sensor inputs (light/temperature), cipher logic.
***Information Technology:*** 3D spatial alignment, grouping and ungrouping CAD solids, flat-file database queries (filtering/sorting), spreadsheet formulas (SUM, AVERAGE).
***Digital Literacy:*** Advanced search engine filters, evaluating domain authority (.gov, .edu, .org), copyright and fair use of media.
**Disciplinary Knowledge ("Thinking Like a Computer Scientist"):**
***Decomposition:*** Breaking complex design and coding tasks into manageable, testable sub-routines.
***Debugging:*** Identifying and correcting logical, structural, and syntax errors in algorithms systematically.
***Data Evaluation:*** Questioning the accuracy, bias, and completeness of digital datasets.

**Weekly Progression Scheme**
**Week 1: The Glyph Cipher – Encryption & Variables in Scratch**
**Computing Strand:** Computer Science (Algorithms & Programming).
**Substantive Knowledge:**
**LKS2:** Understanding inputs and outputs; creating variables to store score/text data; basic sequence and repeat loops in Scratch.
**UKS2:** String manipulation and indexing; user-defined variables for encryption keys; using nested selection (if...then...else) to translate plain text into Maya glyph codes.
**Disciplinary Knowledge:**
***Logical Reasoning:*** Predicting output values when variable strings pass through conditional substitution rules.
**Practical Computing Activity:**
**LKS2 (Y3/4):** *Maya Code Breaker.* Pupils build a Scratch project where pressing keys changes a variable on screen to display matching Maya numerical symbols (dot, bar, shell).
**UKS2 (Y5/6):** *Glyph Encryption Algorithm.* Pupils program a script in Scratch that accepts a text string input, applies a variable cipher offset, and outputs a coded message in Maya glyph sprites.

**Week 2: Virtual Tikal – 3D CAD Pyramid Architecture**
**Computing Strand:** Information Technology (3D Digital Design & Geometry).
**Substantive Knowledge:**
**LKS2:** Moving, rotating, and scaling 3D primitive shapes (cubes, roof wedges); snapping objects to a workplane grid; grouping objects.
**UKS2:** Precise dimensional editing (mm); applying the 'Hole' tool to create hollow inner chambers; duplicate and repeat transformations for tiered structures.
**Disciplinary Knowledge:**
***Spatial Abstraction:*** Translating physical ancient architecture into 3D geometric primitives inside a digital environment.
**Practical Computing Activity:**
**LKS2 (Y3/4):** *Step Pyramid Construction.* Using Tinkercad, pupils stack progressively smaller cuboid blocks using grid snap tools to build a 5-tier Maya step pyramid model.
**UKS2 (Y5/6):** *Architectural Temple Suite.* Pupils design an accurate scale model of *El Castillo*, using hole tools to carve out internal stairways, doorways, and upper altar rooms.

**Week 3: Canopy Monitors – Physical Computing & Rainforest Sensors**
**Computing Strand:** Computer Science (Physical Computing & Micro:bits).
**Substantive Knowledge:**
**LKS2:** Micro-controller hardware (LED matrix, buttons, light sensor); writing event-driven code (on button A pressed).
**UKS2:** Continuous sensing loops (while true); conditional logic reacting to environmental inputs (light levels, temperature); logging data to serial outputs.
**Disciplinary Knowledge:**
***Systemic Testing****:* Calibrating digital sensor thresholds to match real-world physical conditions accurately.
**Practical Computing Activity:**
**LKS2 (Y3/4):** *Jungle Alarm System.* Pupils program a Micro:bit to act as an animal detector, flashing an LED warning grid when ambient light levels drop suddenly.
**UKS2 (Y5/6):** *Amazon Climate Datalogger.* Pupils write a MakeCode script that reads temperature and light intensity in a simulated rainforest environment, alerting researchers via radio signal if conditions exceed safe thresholds.

**Week 4: The Amazon Ledger – Spreadsheets & Environmental Analytics**
**Computing Strand:** Information Technology (Data Handling & Spreadsheets).
**Substantive Knowledge:**
**LKS2:** Cells, rows, columns, and cell references (A1, B2); entering raw data; constructing basic bar charts to represent country populations across the Americas.
**UKS2:** Writing spreadsheet formulas (SUM, AVERAGE, MAX, MIN); conditional formatting to highlight critical data trends; generating multi-variable line graphs tracking Amazon deforestation rates.
**Disciplinary Knowledge:**
***Data Integrity Analysis:*** Evaluating how visual data representation (chart axes, scale choices) can alter human interpretation of environmental trends.
**Practical Computing Activity:**
**LKS2 (Y3/4):** *Americas Country Database.* Pupils create a structured spreadsheet comparing land area and population across North and South American nations, generating bar charts to compare regions.

**UKS2 (Y5/6):** *Deforestation Impact Model.* Pupils input historical Amazon rainforest data into a spreadsheet, using formulas to calculate annual tree-cover loss percentages and modelling future projections with line graphs.

**Week 5: Fact or Fiction in El Dorado – Advanced Web Search & Online Safety**
**Computing Strand:** Digital Literacy (Search Engines, Bias & Online Safety).
**Substantive Knowledge:**
**LKS2:** Using key terms in search engines; identifying sponsored vs. organic results; recognising safe, age-appropriate websites.
**UKS2:** Advanced search operators (AND, NOT, "exact phrase", site:.edu); evaluating source reliability, domain extensions, and digital media copyright licences (Creative Commons).
**Disciplinary Knowledge:**
***Information Verification:*** Cross-referencing web claims against reputable historical and scientific databases to detect digital misinformation.
**Practical Computing Activity:**
**LKS2 (Y3/4):** *Keyword Quest.* Pupils complete a search challenge about Maya inventions, testing different keyword combinations to filter out irrelevant and commercial web results.
**UKS2 (Y5/6):** *Myth-Busting Research Audit.* Pupils investigate common myths about ancient American civilisations, evaluating 4 contrasting web sources for authority, bias, and copyright compliance.

**Week 6: The Americas Tech Expo – Synthesis & Digital Presentation**
**Computing Strand:** Information Technology & Digital Literacy (Multimedia Synthesis).
**Substantive Knowledge:**
**LKS2/UKS2 Synthesis:** Combining imported 3D models, coded Scratch widgets, and spreadsheet charts into a cohesive digital presentation or website.
**Disciplinary Knowledge:**
***User Experience (UX) Critique:*** Appraising digital products for layout clarity, navigation efficiency, and accessibility for target audiences.
**Practical Maya Tech Showcase:**
**LKS2 & UKS2:** *The "Digital Americas" Exposition.*
***Station 1: Code & Ciphers:*** Demonstrating Scratch Maya glyph encoders and physical Micro:bit rainforest sensors.
***Station 2: 3D CAD Gallery:*** Presenting interactive 3D step pyramid architectural walkthroughs.
***Station 3: Data & Fact Desk:*** Displaying Amazon climate spreadsheet dashboards alongside audited research reports.
***Plenary:*** Pupils complete a peer usability evaluation using a structured UX feedback form (*Functionality, Aesthetics, Code Efficiency*).

**Assessment Matrix (Progression Indicators)**

| Phase | Working Towards | Expected Standard | Greater Depth |
|---|---|---|---|
| **Lower Key Stage 2** *(Years 3 & 4)* | • Runs Scratch scripts but requires help creating variables. | • Creates and uses variables in Scratch to store and display numeric/text outputs. | • Debugs variable logic in Scratch independently when outputs fail to match input rules. |

| | | | |
|---|---|---|---|
| | • Moves 3D shapes in Tinkercad but struggles to stack cuboids accurately.<br>• Connects a Micro:bit but relies on step-by-step guidance to program simple inputs.<br>• Enters text into spreadsheets but cannot format cells or build basic charts. | • Aligns and groups primitive 3D shapes to build a stable tiered step pyramid model.<br>• Programs Micro:bit sensors using event handlers (on light sensor < threshold).<br>• Enters numerical data into spreadsheets and generates clear bar charts independently. | • Applies precise grid measurements to construct complex, multi-part 3D CAD buildings.<br>• Combines multiple sensor inputs (buttons + light) within conditional logical loops.<br>• Interprets spreadsheet chart trends accurately, explaining mathematical patterns in data. |
| **Upper Key Stage 2** *(Years 5 & 6)* | • Uses Scratch selection blocks but struggles with nested if...then...else loops.<br>• Uses the 'Hole' tool in CAD but creates misaligned internal chambers.<br>• Writes Micro:bit code but fails to log continuous sensor data to serial outputs.<br>• Uses SUM formulas but struggles to write complex percentage or average calculations. | • Programs string-indexing algorithms in Scratch to encode and decode user text strings.<br>• Uses hole tools and precise dimensional transformations to construct complex CAD models.<br>• Programs continuous sensing loops on Micro:bits using conditional logic and data output.<br>• Writes AVERAGE, MAX, and MIN formulas, creating line graphs for trend analysis. | • Writes efficient, modular encryption code in Scratch, minimising redundant blocks.<br>• Optimises CAD models for efficiency, using duplicate transformations and group hierarchies.<br>• Calibrates physical sensor threshold algorithms to handle real-world noise and variable data.<br>• Evaluates spreadsheet data validity critically, identifying axis distortions and missing variables. |

**Other Information, Ideas and Resources**

| Phase | Objective Focus | Sample Activity |
|---|---|---|
| **Week 1** | **Digital Research** | I can use keywords and "search operators" to find and verify facts about the Amazon River. |
| **Week 2** | **Data Handling** | I can enter data into a spreadsheet and create a graph comparing US city temperatures. |
| **Week 3** | **Programming** | I can use a 'repeat' loop to animate a monarch butterfly's migration path across a map. |
| **Week 4** | **Hardware/Networks** | I can explain how a video call with someone in Brazil travels through undersea cables. |

| Week 5 | Evaluation | I can combine text, sound, and images to create a digital travel guide for South America. |
|---|---|---|

**Considerations for Implementation**

**Teacher's Tip:** Use **Google Earth** to bridge Geography and Computing. A fantastic objective is: *"To use digital mapping tools to calculate the distance between London and various American capitals using the 'measure' tool."*

## Design & Technology

### Substantive Knowledge

In Design and Technology, **substantive knowledge** consists of the factual information, technical vocabulary, and understanding of materials that pupils need to master. When studying **'The Americas'**, this involves learning about the history of American innovation, the properties of native ingredients, and the specific mechanics used in iconic American structures.

**1. Food Technology: Provenance and Nutrition**
Pupils must learn about the origins of food and the science behind a healthy diet.

**Native Crops:** Knowing that many staple foods originated in the Americas, including maize (corn), potatoes, tomatoes, peppers, cacao (chocolate), and squash.
**The "Eatwell" Guide:** Understanding how to categorise American-style meals (like burritos or chowders) into food groups.
**Food Processing:** Knowing how raw ingredients from the Americas are transformed—for example, how cacao beans are processed into chocolate.
**Safety and Hygiene:** Knowledge of the "four Cs" (Cleaning, Cooking, Chilling, and Cross-contamination) when handling fresh produce for recipes like salsa or guacamole.

**2. Structures and Materials**
This involves the specific "facts" about how things are built and the properties of the materials used.

**Reinforcement: Knowing** that triangulation is the key to making structures rigid. This is essential for understanding how American landmarks like the Golden Gate Bridge or New York skyscrapers are built to withstand wind and weight.
**Material Properties:** Understanding which materials are stiff, flexible, waterproof, or absorbent.
**Example:** Selecting materials for a model Amazonian shelter based on their ability to repel water and provide shade.
**Joining Techniques:** Knowing the difference between temporary joins (paper clips, masking tape) and permanent joins (glue, wood joins) when building models of American monuments.

**3. Mechanisms and Electrical Systems**
The technical "facts" regarding movement and power.

**Mechanical Components:** Understanding how pulleys, levers, and linkages change the direction of force. This can be applied to creating models of the Panama Canal locks or moving puppets based on American folklore.
**Series Circuits:** Knowing that a complete loop is required for electricity to flow. This is used when adding "working lights" to a model of a bustling American city at night.

**Programming:** Knowing that sensors can be used as inputs (e.g., using a light sensor to trigger a "sunrise" over a model of the Grand Canyon).

**4. Key Designers and Innovations**
Part of **substantive knowledge** is knowing the history of design within the region.

| Innovation / Person | Origin | Substantive Fact |
|---|---|---|
| **The Assembly Line** | USA (Henry Ford) | A manufacturing process where parts are added in sequence to create a product quickly. |
| **Inca Bridges** | South America | Knowing they were "suspension bridges" made from woven grass (Ichu), showing incredible tensile strength. |
| **Mayan Architecture** | Central America | The use of the "corbel arch" to create high ceilings in stone temples. |
| **Milton Glaser** | USA | The designer behind the "I ❤️ NY" logo—learning how graphic design creates a "brand" for a place. |

**Technical Vocabulary Checklist**
**Annotated Design:** A sketch that includes detailed labels and measurements.
**Net:** A 2D shape that can be folded to make a 3D object (like a skyscraper model).
**Function:** What a product is intended to do.
**Prototype:** A first model of something from which other forms are developed.
**Seasonality:** The time of year when a particular food is at its best (e.g., pumpkins in North America).

**Teacher Note:** A great way to test this knowledge is to ask pupils to "deconstruct" a common object, like a taco shell or a model bridge, and identify the materials, the process used to make it, and its intended function.

## Disciplinary Knowledge

In Design and Technology, **disciplinary knowledge** is the understanding of the *process* of being a designer. It's not just about the final product; it's about the "design, make, evaluate" cycle and the technical skills used to solve problems. When applied to **'The Americas'**, pupils use this knowledge to tackle challenges inspired by the geography and culture of the continents—from building earthquake-proof structures to preparing traditional cuisine.

**1. The Design Process (User & Purpose)**
**Disciplinary knowledge** requires pupils to design for a specific "user" or "need."

**Design Briefs:** Creating products with a specific American context, such as "Design a shelter for a researcher in the Amazon" or "Create a healthy snack based on ingredients native to the Americas."

**Market Research:** Looking at existing American products (e.g., North American "tiny houses" or Mexican textiles) to inspire new ideas.
**Annotated Sketches:** Using labels and cross-sectional diagrams to explain how their American-inspired product will function.

**2. Technical Knowledge: Structures and Mechanisms**
This is the "how" behind the physical creation of products.

**Strengthening Structures:** Understanding how to make models stronger and more stable. In the context of the Americas, this might involve building models of skyscrapers (like those in New York or Chicago) and testing them for stability.
**Mechanical Systems:** Using levers, pulleys, or linkages.
*Example:* Designing a "moving postcard" of the Panama Canal that uses a slider to show a ship moving through the locks.
**Electrical Systems:** Incorporating series circuits with bulbs or buzzers into a model, such as a lighthouse on the coast of New England or a "night-light" for a child in a Brazilian favela.

**3. Food Technology (Nutrition and Culture)**
In the context of the Americas, this focuses on where food comes from and how it is processed.

**Seasonality and Provenance:** Understanding which crops are native to the Americas (tomatoes, potatoes, maize, cacao) and how they reached the UK.
**Health and Nutrition:** Applying the "Eatwell Guide" to traditional recipes, like adjusting a Mexican taco recipe to be lower in saturated fat.
**Food Preparation Skills:** Mastering **disciplinary skills** like peeling, chopping, grating, and "bridge and claw" cutting techniques to prepare a South American-style salsa or salad.

**4. Evaluation and Critical Thinking**
This is the reflective part of **disciplinary knowledge.**

**Testing against Criteria:** Does the "Mayan-style" bag carry the intended weight? Does the "Inca-inspired" bridge span the required distance?
**Historical Impact:** Evaluating how key inventions from the Americas (such as the cotton gin or early American automotive assembly lines) changed how products are made globally.
**Sustainability:** Considering the environmental impact of materials, such as the use of sustainable timber from the Americas vs. deforestation.

**Summary of Disciplinary Skills**

| DT Discipline | Application to 'The Americas' |
|---|---|
| **Structures** | Building and testing "earthquake-proof" buildings for cities on the Andes fault line. |
| **Mechanisms** | Creating a 3D pop-up book showing the different layers of the Rainforest. |

| | |
|---|---|
| **Textiles** | Using "running stitch" or "backstitch" to create a decorative pattern inspired by Navajo art. |
| **Cooking** | Learning to use a heat source safely to make a "Corn Chowder" or "Chilli." |

**Key Disciplinary Questions for Pupils:**
*How can I make my model of a New York skyscraper withstand a "wind test" (using a fan)?*
*Which native American ingredients will provide a balanced texture for my recipe?*
*What is the most efficient way to join these materials to create a waterproof shelter for the rainforest?*

**Learning Objectives**

In Key Stage 2, DT **learning objectives** are designed to move pupils beyond simple "craft" and into functional, purposeful engineering and design. Using **'The Americas'** learning theme allows for a rich variety of projects, from structural engineering to culinary arts. The **learning objectives** are structured around the **Design, Make, and Evaluate** cycle, underpinned by **Technical Knowledge**.

**1. Design Objectives**
**To generate, develop, model and communicate ideas** through annotated sketches and cross-sectional diagrams for a functional product (e.g., an "earthquake-proof" building for a city in the Andes).
**To research and develop design criteria** to inform the design of innovative, functional products that are fit for purpose (e.g., a waterproof "explorer's shelter" for a rainforest expedition).
**To use computer-aided design (CAD)** to model the shape and proportions of a North American skyscraper.

**2. Make Objectives**
**To select from and use a wider range of tools and equipment** to perform practical tasks accurately, such as cutting, shaping, joining, and finishing (e.g., using saws and drills to build a model of the Golden Gate Bridge).
**To select from and use a wider range of materials and components** according to their functional properties and aesthetic qualities (e.g., choosing textiles with specific patterns for a Navajo-inspired pouch).
**To apply a range of finishing techniques**, including those from the Americas (e.g., Mexican folk-art painting styles), to improve the appearance of a product.

**3. Evaluate Objectives**
**To investigate and analyse a range of existing products** from the Americas, such as traditional Incan suspension bridges or modern American automotive design.
**To evaluate their ideas and products against their own design criteria** and consider the views of others to improve their work.
**To understand how key events and individuals in Design and Technology** (e.g., Henry Ford's assembly line) have helped shape the world.

**4. Technical Knowledge Objectives**
**To understand and use mechanical systems** in their products, such as gears, pulleys, or linkages (e.g., creating a "moving postcard" showing the rise and fall of water in the Panama Canal).
**To understand and use electrical systems** in their products, such as series circuits incorporating switches, bulbs, and buzzers (e.g., wiring a model of "The City That Never Sleeps").
**To apply their understanding of how to strengthen, stiffen and reinforce** more complex structures (e.g., using triangulation to build a stable model of the CN Tower).

**5. Cooking and Nutrition Objectives**

**To understand and apply the principles of a healthy and varied diet** by adapting a traditional American recipe (e.g., a "Three Sisters" stew of corn, beans, and squash).

**To prepare and cook a variety of predominantly savoury dishes** using a range of cooking techniques, such as peeling, chopping, and grating native American produce.

**To understand seasonality** and know where and how a variety of ingredients are grown, reared, caught, and processed in the Americas.

**Lesson Ideas**

Here is a complete, 6-week Medium-Term Plan for Key Stage 2 Design & Technology framed around the cultural, architectural, and culinary traditions of **'The Americas'**. This unit connects core National Curriculum DT strands—**Structures & Mechanics**, **Food Technology**, and **Textiles**—with Mesoamerican engineering, traditional regional ingredients, and South American weaving. It balances **substantive knowledge** (structural triangular bracing, lever and fulcrum mechanics, safe food hygiene and cutting techniques, flavour balancing, seam allowances, and functional fastening) with **disciplinary knowledge** ("Thinking & Acting Like a Designer & Engineer"—user-centred design briefs, testing structural failure points, sensory food evaluation, iterative prototyping, and assessing material suitability).

**Unit Title:** Engineers and Artisans of the Americas: Structures, Food, and Textiles

**Duration:** 6 Weeks (Approx. 1.5–2 hours per week)

**Theme:** Maya Ballgame Catapult Mechanics, Tortilla & Salsa Culinary Arts, Rainforest Truss Bridges, and Maya Pattern Pouches.

**DT Contexts & American Connections:**

***Mechanisms & Structures:*** Wooden lever/catapult launchers inspired by the Pok-a-Tok ballgame; rigid truss beam bridges over simulated Amazonian rivers.

***Food Technology:*** Authentic Mesoamerican plant foods (*maize, chili, tomato, avocado, lime*); hygienic preparation of corn tortillas and custom salsas.

***Textiles:*** Functional storage pouches featuring traditional geometric weaving patterns, secure fasteners, and reinforced stitching.

**Key DT Pillars**

**Substantive Knowledge:**

***Structures & Mechanics:*** Levers, fulcrums, linkage pivots, frame structures, triangulation for rigidity, load distribution, axle-to-chassis fitting.

***Food & Nutrition:*** Safe knife skills (bridge & claw grips), cross-contamination prevention, nutritional benefits of staple crops, flavour profiling (acid, heat, salt, sweet).

***Textiles:*** Threading needles, running stitch, backstitch, seam allowance, attaching fastenings (buttons/press-studs), pattern template cutting.

**Disciplinary Knowledge ("Thinking Like an Engineer & Chef"):**

***User-Centred Design:*** Developing design criteria tailored to specific target audiences and functional briefs.

***Iterative Testing:*** Evaluating structural models under stress and modifying designs to fix failure points.

***Sensory Analysis:*** Testing and critiquing food combinations objectively using formal sensory descriptors.

**Weekly Progression Scheme**

**Week 1: The Ballgame Launcher – Lever Mechanics & Catapults**

**DT Strand:** Mechanisms (Levers & Linkages).

**Substantive Knowledge:**

**LKS2:** Class 1 levers (effort, fulcrum, load); adjusting pivot points to alter force and distance; joining materials securely using card, dowels, and elastic bands.

**UKS2:** Class 1 vs. Class 3 levers; optimising effort-to-load ratios; integrating rigid guide channels to control launch trajectory and accuracy.
**Disciplinary Knowledge:**
***Iterative Modification:*** Testing how moving the fulcrum position systematically changes projectile launch distance.
**Practical DT Activity:**
**LKS2 (Y3/4):** *Pok-a-Tok Ball Launcher.* Pupils build a working lever catapult out of wood dowels, card, and rubber bands to launch a soft ball toward a vertical wall target.
**UKS2 (Y5/6):** *Precision Target Launcher.* Pupils design and construct an adjustable lever mechanism with a fixed base, testing pivot placements to hit targets at varied distances consistently.

**Week 2: Crops of the Sun – Food Hygiene & Mesoamerican Salsas**
**DT Strand:** Food Technology (Nutrition, Hygiene & Knife Skills).
**Substantive Knowledge:**
**LKS2:** Food hygiene rules (handwashing, clean surfaces, color-coded boards); mastering the **bridge cut** and **claw grip** for soft fruits/vegetables (*tomatoes, avocados*).
**UKS2:** Balancing flavour profiles (acid from lime, heat from chili, sweetness from corn/peppers, salt); understanding the nutritional profile of Mesoamerican plant staples.
**Disciplinary Knowledge:**
***Sensory Evaluation:*** Profiling food creations using a 5-point sensory scale (texture, aroma, appearance, taste, mouthfeel).

**Practical DT Activity:**
**LKS2 (Y3/4):** *Mild Fresh Pico de Gallo.* Pupils use claw and bridge grips to safely slice tomatoes, coriander, and sweet peppers, combining them into a fresh salsa.
**UKS2 (Y5/6):** *Custom Aztec Salsa Recipe.* Pupils formulate, prepare, and taste-test a bespoke salsa recipe, balancing lime juice acidity with chili heat and recording sensory profile graphs.

**Week 3: The Maize Press – Breadmaking & Tortilla Production**
**DT Strand:** Food Technology (Cooking & Processing Techniques).
**Substantive Knowledge:**
**LKS2:** Mixing, kneading, and shaping dough using masa harina (corn flour) and water; controlling heat and cooking times on dry skillets.
**UKS2:** The science of gluten-free corn dough (binding without gluten networks); controlling dough moisture levels; uniform dough thickness for even cooking.
**Disciplinary Knowledge:**
***Process Optimisation:*** Evaluating how dough thickness directly impacts tortilla flexibility versus brittleness.
**Practical DT Activity:**
**LKS2 (Y3/4):** *Hand-Pressed Corn Tortillas.* Pupils mix Masa Harina and water, knead the dough into uniform balls, press them flat between parchment sheets, and observe dry skillet cooking.
**UKS2 (Y5/6):** *Tortilla & Salsa Meal Assembly.* Pupils prepare corn tortillas from scratch, optimising dough moisture and pressing techniques to create flexible, non-cracking wraps for their custom salsas.

**Week 4: Crossing the Amazon – Structural Frame Bridges**
**DT Strand:** Structures (Rigidity & Triangulation).
**Substantive Knowledge:**

**LKS2:** Difference between weak shapes (squares/rectangles) and strong shapes (triangles); using gusset plates (card corners) to reinforce joints.
**UKS2:** Designing truss structures (Warren or Pratt trusses); distributing compression and tension forces across bridge beams; calculating strength-to-weight ratios.
**Disciplinary Knowledge:**
***Stress Testing Analysis:*** Identifying structural failure points under load tests to inform design reinforcements.
**Practical DT Activity:**
**LKS2 (Y3/4):** *Triangulated River Bridge.* Pupils construct a beam bridge over a 30cm gap using square timber strips, reinforcing rectangular frames with card gusset triangles.
**UKS2 (Y5/6):** *Amazon Truss Canopy Bridge.* Pupils design and assemble a load-bearing truss bridge using timber dowels and hot glue, testing how much mass (g) it supports before structural failure occurs.

**Week 5: Pouches of the Petén – Textiles & Template Cutting**
**DT Strand:** Textiles (Templates, Stitching & Fastenings).
**Substantive Knowledge:**
**LKS2:** Paper pattern templates; pinning templates to fabric; cutting clean edges; executing a consistent **running stitch**; seam allowances.
**UKS2:** Combining running stitch with **backstitch** for structural seams; installing functional fastenings (buttons, toggles, or press-studs); decorative surface embroidery using Maya geometric motifs.
**Disciplinary Knowledge:**
***Material Suitability:*** Selecting fabric types (felt, canvas, burlap) based on durability and ease of stitching for storage functions.
**Practical DT Activity:**
**LKS2 (Y3/4):** *Geometric Felt Pouch.* Pupils cut felt using paper pattern templates, join edges using a neat running stitch, and decorate the surface with pre-cut geometric felt shapes.
**UKS2 (Y5/6):** *Fastened Maya Travel Pouch.* Pupils design and construct a functional canvas/felt pouch, using backstitch for reinforced seams, embroidering a geometric border, and sewing a button fastening.

**Week 6: The Great Americas Trade Fair – Evaluation & Expo**
**DT Strand:** Evaluation, Testing & Presentation.
**Substantive Knowledge:**
**LKS2/UKS2 Synthesis:** Evaluating products against original design criteria; assessing functionality, structural integrity, food safety, and aesthetic appeal.
**Disciplinary Knowledge:**
***Critical Appraisal:*** Offering objective, constructive feedback on peer prototypes against industry-style design briefs.
**Practical Americas DT Showcase:**
**LKS2 & UKS2:** *The "Americas Design & Innovation" Expo.*
***Station 1: The Arena of Mechanics:*** Live testing of Pok-a-Tok ball catapult launchers for distance and accuracy.
***Station 2: The Structural Engineering Lab:*** Displaying Amazon truss bridges alongside load-testing weight records.
***Station 3: The Maya Kitchen:*** Serving freshly pressed corn tortillas and custom salsas with sensory evaluation cards.
***Station 4: The Artisan Textile Workshop:*** Exhibiting finished hand-stitched travel pouches with button fastenings.

***Plenary:*** Pupils complete a formal DT evaluation booklet reflecting on design modifications and final product success.

**Assessment Matrix (Progression Indicators)**

| Phase | Working Towards | Expected Standard | Greater Depth |
|---|---|---|---|
| **Lower Key Stage 2** *(Years 3 & 4)* | • Builds a simple lever but places the fulcrum randomly, causing weak launch force.<br>• Uses knives unsafely without demonstrating claw or bridge grips.<br>• Constructs square bridge frames that wobble under light weights.<br>• Stitches fabric unevenly, causing thread tangles and gaping seams. | • Constructs a working lever catapult with a stable fulcrum to launch a ball at a target.<br>• Uses bridge and claw grips safely to chop ingredients for a fresh salsa.<br>• Uses card gusset plates to triangulate rectangular frames, improving rigidity.<br>• Cuts fabric accurately from templates and joins edges using a neat running stitch. | • Adjusts fulcrum positions systematically to optimise projectile launch trajectory and distance.<br>• Formulates balanced salsa flavour profiles independently, explaining ingredient ratios.<br>• Explains how triangulation distributes forces across a structural frame.<br>• Executes uniform running stitches with precise seam allowances, adding custom decorations. |
| **Upper Key Stage 2** *(Years 5 & 6)* | • Constructs a catapult without guide channels, resulting in unpredictable launch directions.<br>• Prepares tortillas that crumble due to poorly mixed, dry corn dough.<br>• Assembles bridge trusses without measuring dowel lengths, resulting in crooked joints.<br>• Attaches buttons loosely without securing thread knots properly on the reverse side. | • Designs an adjustable lever mechanism capable of hitting targets at varied distances.<br>• Prepares smooth, flexible corn tortillas and custom salsas with balanced sensory profiles.<br>• Designs and builds a load-bearing truss bridge that distributes weight effectively.<br>• Combines backstitch seams with hand-sewn button fastenings to create a sturdy pouch. | • Calculates mechanical advantage ratios to maximise catapult launch efficiency and precision.<br>• Evaluates dough hydration science to create perfectly flexible, non-cracking tortillas.<br>• Analyses bridge failure points under load testing, suggesting structural enhancements.<br>• Produces a professionally finished pouch featuring hidden seams, reinforced joints, and embroidery. |

**Other Information, Ideas and Resources**

Example Project Progression: "**The Panama Canal Challenge**"

| Stage | Objective Focus | Activity |
|---|---|---|
| **Design** | Annotated Sketches | Pupils draw a mechanism showing how a ship can be lifted by a "lock." |
| **Make** | Mechanisms | Pupils use syringes and tubing (pneumatics) or sliders to move a card ship. |
| **Evaluate** | User Feedback | Pupils test if the "lock" is easy to operate for a younger child and improve the handle. |

**Considerations for Implementation**

## Geography

### Substantive Knowledge

In Geography, **substantive** knowledge is the "stuff"—the specific facts, locations, and concepts that pupils must master. In the KS2 curriculum, this is typically split into locational, physical, and human geography.

**1. Locational Knowledge**
This is the "mental map" pupils build of the two continents.

**The Continents:** Identifying North and South America as two distinct continents within the Western Hemisphere.
**Major Countries:** Locating key nations such as the USA, Canada, Mexico, Brazil, Argentina, and Chile.
**Significant Cities:** Recognising major hubs like New York City, Rio de Janeiro, Mexico City, and Washington D.C.
**Environmental Regions:** Understanding the location of the Arctic Circle (North America), the Equator, and the Tropics of Cancer and Capricorn.

**2. Physical Geography**
This focuses on the natural features and climate of the Americas.

**Major Mountain Ranges:** The Rockies in the North and the Andes in the South.
**River Systems:** The Amazon (the world's largest river by volume) and the Mississippi.
**Biomes and Vegetation Belts:** * **Rainforests:** Specifically the Amazon Basin.
**Deserts:** Such as the Atacama or the Mojave.
**Grasslands:** The Prairies (North) and the Pampas (South).
**Climate Zones:** Understanding the range from the icy Tundra of Northern Canada to the Tropical climates of Central America.

**3. Human Geography**
This focuses on how people live, work, and organise themselves across the continents.

**Land Use:** Understanding how the land is used for agriculture (e.g., cattle ranching in Argentina or corn belt farming in the USA), mining, and industry.
**Settlement Patterns:** Recognising that population density is often higher on coasts and exploring why people settle in mega-cities.
**Trade Links:** Identifying the natural resources the Americas export to the rest of the world, such as coffee, oil, timber, and minerals.
**Economic Activity:** The difference between "developing" and "developed" nations within the two continents.

**4. Key Vocabulary**
To demonstrate **substantive knowledge**, pupils are expected to use specific terminology correctly:

**Isthmus:** (e.g., the Isthmus of Panama connecting the two continents).
**Archipelago:** (e.g., the Caribbean islands).
**Basin:** (e.g., the Amazon Basin).
**Tributary:** A river or stream flowing into a larger river.

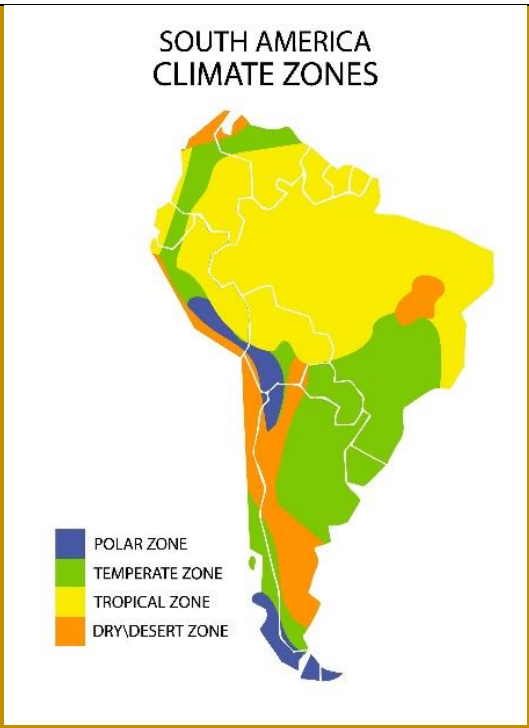
**Note:** A common pitfall is treating "The Americas" as one single culture. **Substantive knowledge** at KS2 should highlight the vast diversity—from the French-speaking regions of Quebec to the Portuguese-speaking heart of Brazil.

**Disciplinary Knowledge**

**Disciplinary knowledge** in Geography isn't just about knowing *where* things are on a map (that's **substantive knowledge**); it's about thinking and acting like a geographer. For the Key Stage 2 learning theme of **'The Americas'**, **disciplinary knowledge** focuses on the tools, processes, and analytical skills used to understand this vast and varied part of the world.

**1. Map Skills and Cartography**
Geographers use maps to interpret spatial patterns. At KS2, pupils move beyond simple recognition to analysis.

**Scale and Distance:** Using linear scales to calculate the vast distances between North and South American landmarks (e.g., the distance from New York to Brasilia).
**Coordinate Systems:** Using 4 and 6-figure grid references, as well as latitude and longitude, to pinpoint major features like the Andes or the Great Lakes.
**Thematic Mapping:** Interpreting maps that show more than just borders—such as climate zone maps, population density, or biome distribution.




**2. Comparative Analysis**
A core **disciplinary skill** is the ability to identify similarities and differences between places.

**Human vs. Physical:** Comparing a region in the UK to a region in the Americas (e.g., comparing the Lake District to the Amazon Basin).
**Inter-continental Comparison:** Analysing why North America has different economic drivers or urban structures compared to South America.

**3. Understanding Interdependence and Change**
**Disciplinary knowledge** involves understanding how humans and the environment interact over time.

**Human Impact:** Investigating how trade links (like the coffee or cocoa industry) connect the UK to the Americas.
**Environmental Change:** Analysing how human activity, such as deforestation in the Amazon or urbanisation in Mexico City, alters the physical landscape.
**Sustainability:** Evaluating how different regions manage their natural resources.

**4. Geographical Enquiry and Fieldwork**
This is the "doing" part of the discipline. Since KS2 pupils usually can't fly to the Americas for a field trip, this involves "remote fieldwork."

**Data Interpretation:** Analysing climate graphs (showing temperature and rainfall) to categorise different American biomes.
**Evidence-based Reasoning:** Using photographs, satellite imagery, and GIS (Geographic Information Systems) to reach conclusions about land use.
**Questioning:** Formulating geographical questions such as, *"Why is the population of South America concentrated on the coasts?"*

**Summary Table: Substantive vs. Disciplinary**

| Substantive Knowledge (The "What") | Disciplinary Knowledge (The "How") |
|---|---|
| Naming the countries in South America. | Using longitude/latitude to locate them. |
| Knowing the Amazon is a rainforest. | Analysing climate data to explain *why* it is there. |
| Identifying the Statue of Liberty. | Exploring why NYC became a major trade hub. |

## Learning Objectives

**Learning objectives** for Key Stage 2 are typically designed to bridge the gap between **substantive facts** and **disciplinary skills**. They are often framed using "I can" statements or measurable verbs like *locate, describe, compare,* and *analyse*. **Learning objectives** categorised by the core strands of the Geography curriculum:

**1. Locational and Place Knowledge**
These objectives focus on the "where" and the unique "character" of the regions.

**Locate the Americas:** I can identify North and South America on a world map and name their surrounding oceans (Atlantic, Pacific, and Arctic).
**Identify Major Countries:** I can locate and name at least six major countries across the two continents (e.g., USA, Canada, Mexico, Brazil, Chile, Peru).
**Map Significant Landmarks:** I can identify and locate key physical features, including the Amazon River, the Andes Mountains, the Rocky Mountains, and the Mississippi River.
**Understand Latitudinal Zones:** I can explain the position and significance of the Equator, the Tropics of Cancer and Capricorn, and the Arctic Circle in relation to the Americas.

**2. Physical Geography**
These objectives focus on the natural world and environmental processes.

**Describe Biomes:** I can describe the characteristics of different American biomes, such as the Amazon Rainforest, the Atacama Desert, and the North American Prairies.
**Explain Climate Patterns:** I can use climate graphs to compare the temperature and rainfall of a region in North America with one in South America.
**Analyse Physical Processes:** I can explain how the Andes Mountains were formed (tectonic activity) or how the Amazon River system functions.

**3. Human Geography**
These objectives focus on how humans interact with and change the landscape.

**Identify Land Use:** I can describe how natural resources are used in the Americas, such as cattle ranching in the Pampas or mining in the Andes.
**Analyse Urbanisation:** I can explain why major cities like New York or Rio de Janeiro are located where they are and identify common features of "mega-cities."
**Explore Trade Links:** I can map the journey of a product (like coffee or bananas) from Central/South America to the UK, explaining the global trade link.

**4. Geographical Skills and Fieldwork**
These objectives focus on the "doing" of geography.

**Use Cartographic Tools:** I can use 4 or 6-figure grid references and atlases to locate specific landmarks within the Americas.
**Conduct Comparative Studies:** I can identify similarities and differences between a region in the UK and a region in the Americas (e.g., the English Lake District vs. the Chilean Lake District).
**Interpret Data:** I can use satellite imagery and aerial photographs to identify human and physical features in a chosen American region.
**Example "Big Question" Objectives:**
**"Why is the Amazon Rainforest so important?"** (Focus on biodiversity and climate change).
**"How does life in New York compare to life in Brasilia?"** (Focus on urban planning and culture).
**"What makes the Americas so diverse?"** (Focus on the range of climates and biomes).

**Lesson Ideas**

Here is a complete, 6-week Medium-Term Plan for Key Stage 2 Geography framed around the vast biomes, varied climates, physical landscapes, and human geographical patterns of **'The Americas'**. This unit connects core National Curriculum Geography strands—**Locational Knowledge**, **Place Knowledge**, **Physical Geography (Biomes & Rivers)**, and **Human Geography (Land Use & Trade)**—with North, Central, and South American landscapes, from the frozen Arctic tundra to the tropical Petén and Amazon basins. It balances **substantive knowledge** (hemisphere position, prime meridian, latitude zones, biome characteristics, river systems, land-use changes, trade links, and population distribution) with **disciplinary knowledge** ("Thinking & Acting Like a Geographer"—thematic map analysis, climate graph interpretation, evaluating GIS satellite data, field inquiry, assessing environmental impact, and comparing regional settlements).

**Unit Title:** Continents of Contrast: Physical Systems and Human Footprints Across The Americas
**Duration:** 6 Weeks (Approx. 1.5–2 hours per week)
**Theme:** North vs. South America Topography, Rainforest vs. Desert Biomes, The Amazon River Basin, Maya Land Use vs. Modern Agriculture, and Megacities of the New World.
**Geographical Contexts:**
***Locational Framework:*** Northern vs. Southern Hemispheres, Tropics of Cancer and Capricorn, the Equator, and North/South American continental boundaries.
***Physical Environments:*** The Amazon Basin, Petén Rainforest, Andes Mountain Range, Sonoran Desert, and North American Great Plains.
***Human Environments:*** Deforestation in the Amazon, Mesoamerican agricultural practices (*milpas/chinampas*), global trade links (*cacao, coffee, soy*), and urban contrasts (*São Paulo / New York vs. rural rainforest communities*).
**Key Geography Pillars**
**Substantive Knowledge:**
***Locational & Spatial Knowledge:*** Equator, Tropics, Prime Meridian, time zones, identifying key nations, capital cities, and mountain ranges across the Americas.
***Physical Geography:*** Tropical rainforest structure (layers), water cycle mechanics in river basins, climate zones (tropical, arid, temperate, polar), biome biodiversity.
***Human Geography:*** Land-use change (deforestation, urbanisation), resource distribution, agricultural trade networks, rural-to-urban migration.
**Disciplinary Knowledge ("Thinking Like a Geographer"):**

***Map & Data Literacy:*** Reading thematic maps, GIS satellite imagery, climate graphs (precipitation vs. temperature), and topographic contour lines.
***Geographical Enquiry:*** Formulating geographical questions, analysing cause-and-effect environmental relationships, and evaluating human-environment interactions.
***Comparative Analysis:*** Critically evaluating physical and human similarities and differences between UK regions and regions within the Americas.

**Weekly Progression Scheme**
**Week 1: Mapping the New World – Locational & Spatial Framework**
**Geography Strand:** Locational & Place Knowledge (Coordinates & Physical Features).
**Substantive Knowledge:**
**LKS2:** Identifying the continents of North and South America; key nations (*USA, Mexico, Guatemala, Brazil, Peru*); major physical features (*Andes, Amazon, Rocky Mountains, Gulf of Mexico*).
**UKS2:** Latitude and longitude lines (*Equator, Tropics of Cancer & Capricorn*); Arctic Circle; time zones across the American landmass; environmental impacts of latitude on solar intensity.
**Disciplinary Knowledge:**
***Spatial Map Analysis:*** Using map projections, scale bars, and atlas indices to locate physical and political features systematically.
**Practical Geography Activity:**
**LKS2 (Y3/4):** *Americas Globe Challenge.* Pupils use atlases to label major countries, capitals, oceans, and mountain chains on a blank physical map of North and South America.
**UKS2 (Y5/6):** *Latitude & Time Zone Inquiry.* Pupils calculate local time differences across 6 time zones in the Americas using longitude grids, plotting how solar angle varies from the Equator to northern Canada.

**Week 2: Biomes of the Americas – Climates & Plant/Animal Life**
**Geography Strand:** Physical Geography (Climates, Ecosystems & Biomes).
**Substantive Knowledge:**
**LKS2:** Defining a biome; comparing tropical rainforests (*Central/South America*) with hot deserts (*Sonoran/Atacama*) and temperate forests; plant/animal adaptations.
**UKS2:** Analysing climate graphs (monthly temperature °C and rainfall mm); understanding atmospheric pressure belts and prevailing wind effects on rainfall distribution.
**Disciplinary Knowledge:**
***Climate Data Interpretation:*** Reading combined line and bar climate graphs to identify seasonal weather patterns and classify biomes.
**Practical Geography Activity:**
**LKS2 (Y3/4):** *Biome Sorting Matrix.* Pupils match climate descriptions, vegetation photos, and animal species cards to specific American biomes (*Amazon Rainforest, Atacama Desert, Great Plains*).
**UKS2 (Y5/6):** *Climate Graph Construction.* Pupils plot temperature and rainfall data for Manaus (Brazil) and Phoenix (USA), comparing biome variations using geographical climate profiles.

**Week 3: Arteries of the Forest – The Amazon & Petén River Basins**
**Geography Strand:** Physical Geography (Rivers, Water Cycle & Topography).
**Substantive Knowledge:**
**LKS2:** River features: source, tributaries, meanders, floodplains, and mouth; tracking the path of the Amazon River from the Andes to the Atlantic Ocean.
**UKS2:** The hydrologic cycle in tropical river basins; transpiration mechanics in dense canopy forests; river discharge volumes and sediment transport in the Amazon Basin.

**Disciplinary Knowledge:**
***Systems Thinking:*** Tracing how changes in forest canopy cover directly alter local evaporation and river runoff rates.
**Practical Geography Activity:**
**LKS2 (Y3/4):** *Amazon River Map Work.* Pupils trace the path of the Amazon River system on a contour map, identifying key tributaries and describing how water flows from high mountain land to sea level.
**UKS2 (Y5/6):** *Rainforest Water Cycle Model.* Pupils construct a systemic flow diagram illustrating how rainforest vegetation recycles water through evapotranspiration, calculating watershed runoff volumes under altered forest conditions.

**Week 4: Farming the Rainforest – Historical vs. Modern Land Use**
**Geography Strand:** Human Geography (Land Use, Agriculture & Economic Activity).
**Substantive Knowledge:**
**LKS2:** Traditional Mesoamerican land use (*milpa* shifting agriculture, terracing, *chinampas* floating gardens); sustainable resource harvesting vs. land exploitation.
**UKS2:** Modern drivers of rainforest land-use change: cattle ranching, soy farming, logging, and mining; analysing GIS satellite imagery over time (1984–2026 Amazon clearing).
**Disciplinary Knowledge:**
***GIS & Satellite Analysis:*** Evaluating multi-year satellite images to measure, quantify, and map changes in forest cover over time.
**Practical Geography Activity:**
**LKS2 (Y3/4):** *Maya vs. Modern Land-Use Comparison.* Pupils evaluate visual sources of ancient Maya terrace farming alongside modern cattle ranches, recording similarities and differences in soil impact.
**UKS2 (Y5/6):** *Amazon GIS Deforestation Audit.* Pupils analyse time-series satellite images of the Brazilian rainforest, calculating square-kilometre rates of tree loss and mapping cattle ranch expansion along transport corridors.

**Week 5: Global Trade Networks – Cacao, Coffee & Commodity Chains**
**Geography Strand:** Human Geography (Economic Trade, Resources & Global Links).
**Substantive Knowledge:**
**LKS2:** Fairtrade agricultural supply chains; origin countries for staple products (*cacao from Ecuador/Peru, coffee from Colombia, bananas from Guatemala*); transport routes to the UK.
**UKS2:** Global economic interdependence; commodity pricing; supply chain stages (growing, harvesting, processing, shipping, retail); evaluating economic vs. environmental trade-offs for exporting nations.
**Disciplinary Knowledge:**
***Economic Spatial Analysis:*** Mapping global trade flows and evaluating economic equity across producer and consumer countries.
**Practical Geography Activity:**
**LKS2 (Y3/4):** *Fairtrade Commodity Map.* Pupils trace the journey of a cacao bean from an Ecuadorian smallholder farm to a UK supermarket shelf, mapping shipping routes and key process steps.
**UKS2 (Y5/6):** *Coffee Supply Chain Economics.* Pupils model value distribution across a Colombian coffee supply chain, calculating percentage profits retained by growers versus international distributors and presenting economic fairness arguments.

**Week 6: Megacities & Rainforest Settlements – Human Contrast Synthesis**
**Geography Strand:** Place Knowledge & Human Settlement Patterns.
**Substantive Knowledge:**

**LKS2/UKS2 Synthesis:** Comparing life in a South American megacity (*São Paulo or Mexico City*) with an indigenous rainforest settlement (*Yanomami community*) and a local UK region; push and pull factors driving urban migration.

**Disciplinary Knowledge:**

***Geographical Comparison:*** Synthesising physical and human data to evaluate quality of life, infrastructure, and environmental challenges across differing settlement scales.

**Practical Americas Geography Conference:**

**LKS2 & UKS2:** *The "Americas Geography Summit".*

***Station 1: Climate & Biome Lab:*** Displaying student-constructed climate graphs and biome profile matrices.

***Station 2: The Amazon Environmental Desk:*** Presenting deforestation GIS maps alongside watershed flow models.

***Station 3: Global Trade Forum:*** Demonstrating commodity supply chain maps and Fairtrade economic analyses.

***Station 4: Settlement Inquiry Panel:*** Debating urbanisation challenges in South American megacities vs. rainforest rural life.

***Plenary:*** Pupils complete a comparative regional case study essay comparing a chosen region in the Americas with their local UK region.

**Assessment Matrix (Progression Indicators)**

| Phase | Working Towards | Expected Standard | Greater Depth |
|---|---|---|---|
| **Lower Key Stage 2** *(Years 3 & 4)* | • Identifies North and South America on a world map but struggles to locate specific nations.<br>• Defines a biome broadly but cannot distinguish between rainforest and desert characteristics.<br>• Names the Amazon River but cannot identify basic river features (*tributary, mouth*).<br>• Identifies crops grown in the Americas but struggles to trace supply chains to the UK. | • Locates key countries, capitals, and mountain chains across the Americas accurately using an atlas.<br>• Matches climate descriptions, flora, and fauna to rainforest, desert, and grassland biomes.<br>• Identifies and labels key river features along the Amazon system from source to mouth.<br>• Maps supply chains for commodities like cacao and coffee from South America to the UK. | • Explains how latitude and proximity to the Equator influence climate patterns across the Americas.<br>• Evaluates how plant and animal adaptations directly suit specific environmental biome stresses.<br>• Explains how river systems interact with regional water cycles and surrounding landforms.<br>• Analyses how Fairtrade trade networks alter economic outcomes for South American farmers. |
| **Upper Key Stage 2** *(Years 5 & 6)* | • Reads latitude lines but struggles to calculate time zone differences across regions.<br>• Plots simple temperature points but misinterprets combined rainfall bar graphs. | • Calculates time zone differences across the Americas using precise longitude coordinate lines.<br>• Constructs and interprets dual-axis climate graphs, identifying seasonal precipitation profiles. | • Formulates hypotheses on how shifting atmospheric pressure belts dictate regional biome boundaries.<br>• Synthesises climate graph data to predict agricultural yields under changing climate conditions. |

| | | | |
|---|---|---|---|
| | • Observes deforestation in satellite images but struggles to quantify land-use change.<br>• Lists urban features but struggles to explain push/pull factors driving rural-to-urban migration. | • Uses GIS satellite data to measure deforestation rates and map agricultural expansion over time.<br>• Evaluates push/pull migration factors and contrasts megacity life with rural rainforest settlements. | • Critically appraises economic vs. environmental trade-offs in Amazonian land-use policies.<br>• Formulates comprehensive geographical comparative essays evaluating complex human-environmental interactions. |

**Other Information, Ideas and Resources**

Exploring **The Americas** in Key Stage 2 Geography provides an incredible opportunity to contrast two vastly different continents: North America and South America. The curriculum focuses on identifying human and physical characteristics, understanding geographical similarities and differences, and exploring environmental regions like rainforests and megacities.
Here are four highly engaging, curriculum-linked geography lesson concepts that actively build mapping skills, data analysis, and environmental awareness.

**1. Mapping the Super-Continents (Locational Knowledge)**
**Geography Focus:** Map skills, hemispheres, climate zones, and identifying major countries.
**The Big Question:** *How do climate and landscape change as we travel from the Arctic Circle to Patagonia?*
**The Lesson Concept**
Pupils grasp the sheer scale of the Americas by mapping key political and environmental boundaries. They learn that "The Americas" isn't just one place, but a collection of distinct climate bands.
**The Activity:** Provide pupils with a blank, large-scale map of North and South America. Using atlases or digital mapping tools, they must locate and label:
**Equator, Tropics of Cancer and Capricorn, and the Arctic Circle.**
**Major physical features:** The Rocky Mountains, The Andes, The Mississippi River, and The Amazon River.
**Major nations:** Canada, USA, Mexico, Brazil, and Chile.
**Geographical Inquiry:** Have children colour-code the map by climate zone (Polar, Temperate, Arid, Tropical). Ask them to draw conclusions: *Why does Chile experience completely opposite seasons to the UK? How does proximity to the Equator affect Brazil's climate?*

**2. Layers of Life: The Amazon Rainforest (Physical Geography)**
**Geography Focus:** Biomes, vegetation belts, and human impact on ecosystems.
**The Big Question:** *Why is the Amazon Rainforest called the 'lungs of our planet', and how is it changing?*
**The Lesson Concept**
Dive deep into South America's most famous physical feature. This lesson explores the distinct layers of the rainforest biome and looks at how human economic activity is altering the landscape.
**The Activity:** Teach the four layers of the rainforest (Emergent, Canopy, Understory, Forest Floor) and how plants/animals adapt to them.
**Data & GIS Inquiry:** Use Google Earth Pro or satellite imagery to look at the "fishbone" patterns of deforestation in the state of Rondônia, Brazil.
**Output:** Pupils create a "Biome Profile" detailing the physical characteristics of the Amazon. They write a geographic report explaining the local and global impact of converting this physical landscape into cattle ranches and soy farms.

**3. Megacities: São Paulo vs. New York City (Human Geography)**
**Geography Focus:** Urbanisation, settlement patterns, land use, and economic activity.
**The Big Question:** *What is life like in a megacity, and how do two American giants compare?*
**The Lesson Concept**
A "megacity" is a metropolitan area with a total population in excess of 10 million people. This comparative study contrasts the human geography of North America's wealthiest financial hub with South America's largest economic powerhouse.
**The Activity:** Compare demographic data, transit systems, and housing maps for New York City and São Paulo.
**The Focus on Contrast:** Look at how land is used. Introduce the concept of vertical living (skyscrapers) and explore the stark socioeconomic contrasts visible in human settlements, such as São Paulo's *favelas* bordering luxury high-rises.
**Output:** Pupils create a comparative "City Infographic" using Venn diagrams to show shared traits (massive subway networks, immigration history, skyscrapers) versus distinct economic and cultural differences.

**4. The Ring of Fire: Volcanic Landscapes (Physical Processes)**
**Geography Focus:** Plate tectonics, earthquakes, volcanoes, and mountain formation.
**The Big Question:** *How have tectonic plates shaped the western spine of the Americas?*
**The Lesson Concept**
The entire western coast of the Americas sits directly on the "Ring of Fire." This lesson explores how the movement of tectonic plates created the massive mountain ranges of the Rockies and the Andes, and why earthquakes are a part of daily life there.
**The Activity:** Use tectonic plate maps to show where the Pacific Plate interacts with the North American and South American plates.
**Case Study Comparison:** Look at a historic volcanic eruption or earthquake event in the Americas (e.g., Mount St. Helens in the USA or the high-altitude volcanic peaks of Ecuador).
**Output:** Children construct a cross-section diagram of a subduction zone along the South American coast, labelling how the Nazca plate sliding under the South American plate forces the Andes mountains upward and feeds active volcanoes.

**Considerations for Implementation**

## History

**Substantive Knowledge**

In KS2 History, **substantive knowledge** for **'The Americas'** typically centres on a non-European society that provides a contrast to British history. The Federation learning theme focus was on the **Maya Civilisation** (c. AD 900), in this learning theme teachers may cover the **Aztecs** or **Incas**. This is the **substantive knowledge** broken down by key historical themes:
**1. Chronology and Overview**
Pupils must understand *when* and *where* these civilisations existed in relation to other historical periods they have studied.

**The Timeline:** Placing the Maya (Classical Period AD 250–900) on a timeline alongside the Maya's contemporaries, such as the Anglo-Saxons or Vikings in Britain.
**Location:** Knowing that these civilisations were located in **Mesoamerica** (modern-day Mexico, Guatemala, Belize, Honduras, and El Salvador) or the **Andean** region (South America).

**2. Social and Political Structure**
Knowledge of how these societies were organised and governed.

**City-States:** Understanding that the Maya were not one single empire but a collection of independent city-states (like Tikal, Palenque, and Chichen Itza) ruled by "God-Kings."
**Class Hierarchy:** Identifying the social pyramid: the King/Nobility at the top, followed by priests, scribes, merchants, artisans, and finally farmers/slaves.
**Crime and Punishment:** Specific laws and the consequences for breaking them within these societies.

**3. Daily Life and Culture**
The "flesh on the bones" of how people lived day-to-day.

**Religion:** The importance of polytheism (belief in many gods, such as the Maize God or the Jaguar God) and the role of ritual sacrifice and pyramids as temples.
**Food and Agriculture:** Knowledge of staple crops—specifically **maize** (corn), beans, and squash (the "Three Sisters")—and the significance of cacao (chocolate).
**Pastimes:** Knowledge of the **Maya Ball Game** (Pok-ta-tok), which had deep religious significance and often ended in sacrifice.

**4. Advancements and Achievements**
The specific intellectual and technological legacies of these civilisations.

**Writing and Numbers:** The use of **hieroglyphs** (glyphs) and a sophisticated number system that included the concept of **zero** (represented by a shell).
**Astronomy and Calendars:** How the Maya tracked the stars and planets to create highly accurate solar calendars.
**Architecture:** The engineering behind massive limestone pyramids, palaces, and advanced irrigation systems.

**5. The "End" of the Civilisations**
Knowledge of why these societies changed or disappeared.

**The Maya Collapse:** Theories behind the decline of the Southern Lowland cities, such as drought, warfare, or environmental exhaustion.
**European Contact:** For the Aztecs or Incas, the substantive facts regarding the arrival of the Spanish Conquistadors (like Hernán Cortés) and the impact of the "Columbian Exchange."

**Key Vocabulary (Substantive Terminology)**
Pupils should be able to define and use:
**Mesoamerica:** The region of Central America where these civilisations flourished.
**Codex:** An ancient manuscript text in book form (plural: *codices*).
**Stela:** An upright stone slab or column typically bearing a commemorative inscription or relief design.
**Maize:** The primary crop and a central deity in Maya culture.

**Disciplinary Knowledge**

In History, **disciplinary knowledge** refers to the "thinking skills" or the "tools of the trade" that historians use to study the past. Rather than just memorising dates (**substantive knowledge**), pupils learn how to investigate, interpret, and argue. For the KS2 learning theme of **'The Americas'**, this usually revolves around

the study of Maya, Aztec, or Inca civilisations, or the impact of European exploration. The previous learning theme was 'The Maya' so links can be made with that learning theme and extend to the Aztec and Inca Civilisations. There are also links with the '**Explorers'** learning theme.

**1. Historical Enquiry and Evidence**
This is the ability to look at "clues" from the past and draw conclusions.

**Primary vs. Secondary Sources:** Distinguishing between an actual Maya stela (primary) and a modern historian's book about the Maya (secondary).
**Archaeological Evidence:** Understanding how we know about the Maya through ruins like Chichen Itza or Tikal, rather than written records alone.
**Inference:** Looking at an artefact, such as an Aztec sacrificial knife or a gold Inca sun disk, and asking: *"What does this tell us about their religious beliefs?"*

**2. Cause and Consequence**
Geographers look at *where*; historians look at *why* things happened and what they led to.

**The Rise and Fall of Civilisations:** Investigating the causes behind the abandonment of Maya cities (e.g., drought, warfare, or over-farming).
**The "Encounter":** Analysing the consequences of European arrival in the Americas (e.g., the introduction of new diseases, the Columbian Exchange, and the fall of the Aztec Empire).

**3. Continuity and Change**
Pupils look at what stayed the same and what shifted over centuries.

**Society and Power:** Comparing how the social hierarchy of the Maya (Kings at the top, farmers at the bottom) is similar or different to the feudal system in Medieval England.
**Technological Progression:** Identifying changes in agricultural techniques, such as the development of *chinampas* (floating gardens) by the Aztecs.

**4. Similarity and Difference**
This involves comparing two different civilisations from the same era or different parts of the world.

**Cross-Continental Comparison:** Comparing the Maya civilisation (c. 900 AD) with Anglo-Saxon or Viking Britain.
**Internal Comparison:** Identifying differences between the civilisations of North America (e.g., Plains Indians or Iroquois) and the vast empires of South America (the Inca).

**5. Historical Interpretation**
This is the understanding that the past can be represented in different ways depending on who is telling the story.

**Perspective:** Recognising that the "discovery" of America is a European perspective, whereas for Indigenous people, it was an invasion or a turning point in a long-existing history.
**Reliability:** Questioning whether Spanish accounts of the Aztecs were biased to make the Spanish conquest seem more "justified."

*Summary Table: Substantive vs. Disciplinary in History*

| Substantive Knowledge (The Facts) | Disciplinary Knowledge (The Skill) |
|---|---|
| The Maya lived in the rainforest. | **How do we know?** By looking at architectural ruins. |
| The Maya developed a calendar. | **Why does it matter?** It shows advanced math/astronomy. |
| Columbus arrived in 1492. | **Was it a "discovery"?** Analysing different perspectives. |

**Learning Objectives**

**Learning objectives** for **'The Americas'** are designed to help pupils move from basic factual recall to historical analysis. Most schools frame these around the **Mayan Civilisation** to meet the "non-European society" requirement of the National Curriculum. These are the **learning objectives** categorised by historical skills:

**1. Chronological Understanding**
These objectives help pupils place the civilisations in the wider context of world history.

**Timeline Placement:** I can place the Maya civilisation on a world timeline and identify which era of British history was happening at the same time (e.g., Anglo-Saxons/Vikings).
**Periodisation:** I can identify the distinct periods of Maya history (Pre-classic, Classic, and Post-classic) and describe key changes between them.

**2. Historical Enquiry and Evidence**
These objectives focus on how we "uncover" the past.

**Artefact Analysis:** I can use pictures of Maya artefacts (e.g., pottery, jade jewellery, or weapons) to make deductions about their daily life and status.
**Evaluating Sources:** I can explain the difference between a primary source (like a Maya stela) and a secondary source (a modern history book) and discuss their reliability.
**Decoding the Past:** I can explore the Maya writing system (hieroglyphs) and explain how the discovery of the "Rosetta Stone of the Maya" helped us understand their history.
**3. Social and Cultural Understanding**
These objectives focus on the s**ubstantive knowledge** of how people lived.

**Societal Structure:** I can describe the hierarchy of Maya society and explain the different roles of kings, nobles, priests, and farmers.
**Religious Beliefs:** I can explain the importance of polytheism in Maya culture and describe the significance of the Maize God and the Jaguar God.
**Technological Achievement:** I can describe the architectural features of a Maya city-state (such as Chichen Itza) and explain how they used astronomy to create calendars.

**4. Cause, Consequence, and Change**
These objectives look at the "why" behind historical events.

**The Maya Collapse:** I can investigate different theories for why the Maya abandoned their cities (e.g., drought, warfare, or deforestation) and evaluate which is most likely.

**Continuity and Contrast:** I can compare the Maya ball game (Pok-ta-tok) with modern sports, identifying the religious and social differences.
**The Encounter:** (If covering the Aztecs/Incas) I can describe the impact of the Spanish conquest on the indigenous populations of the Americas.

**Example "Success Criteria" for a Lesson**
If the objective is: **"To understand the importance of maize in Mayan society,"** the success criteria might look like this:
**Y3/Y4:** I can state that maize was the main food source for the Maya.
**Y4/Y5:** I can explain how the Maya farmed maize using "slash and burn" techniques.
**Y5/Y6:** I can explain the religious link between the Mayan creation story and the Maize God, showing how food and religion were connected.

**Lesson Ideas**

Here is a complete, 6-week Medium-Term Plan for Key Stage 2 History framed around the history of **'The Americas'**, focusing on Mesoamerica (The Maya), the Inca Empire, and the impact of 15th/16th-century European contact. This unit connects core National Curriculum History strands—**Non-European Society Study (The Maya c. AD 900)**, **Ancient Civilisations & Empires (Inca/Aztec)**, and **Historical Conquest & Cultural Encounters**—with ancient cities, written codices, monumental architecture, and primary source analysis. It balances **substantive knowledge** (Maya city-states like Tikal/Chichen Itza, societal hierarchies, writing glyphs, mathematical achievements, the Inca empire in the Andes, roads/machu picchu, and Spanish conquistador contact c. 1492–1532) with **disciplinary knowledge** ("Thinking & Acting Like a Historian"—analysing primary archaeological artefacts, evaluating historical significance, detecting source bias in conquistador accounts, establishing cause and consequence for civilisation declines, and constructing historical arguments).

**Unit Title:** Kingdoms of the Sun: Maya Glyphs, Inca Highways, and the Collision of Two Worlds
**Duration:** 6 Weeks (Approx. 1.5–2 hours per week)
**Theme:** Maya City-States & Intellectual Achievements, Inca Engineering in the Andes, Mesoamerican Daily Life, and European Contact in the Americas.
**Historical & Cultural Contexts:**
***Mesoamerica (Maya c. AD 900):*** Independent city-states (Tikal, Palenque, Chichen Itza), hierarchical society, bark-paper codices, base-20 mathematics, and complex astronomy.
***South America (The Inca Empire c. 1400–1532):*** Tawantinsuyu (Land of the Four Quarters), terraced agriculture, *Quipu* string recording systems, monumental stone masonry (Machu Picchu), and royal road networks.
***The Collision of Worlds (1492–1532):*** Christopher Columbus's 1492 landfall, Spanish conquistadors (Cortés and Pizarro), smallpox epidemics, collapse of indigenous rule, and cultural resistance/legacy.
**Key History Pillars**
**Substantive Knowledge:**
***Chronology & Periodisation:*** Locating Mesoamerican and South American timelines alongside British history (e.g., Classic Maya era contemporary with Anglo-Saxon England; Inca contemporary with the Tudor period).
***Social Structure & Governance:*** Maya city-state kingship (*K'uhul Ajaw*), priest-scholars, artisans, and farmers; Inca imperial centralised rule under the *Sapa Inca*.
***Cultural & Technical Achievements:*** Written bark-paper codices, vigesimal numbers, stone step pyramids, *Quipu* census cords, terrace farming.
***Conquest & Encounter:*** Factors driving European exploration (trade routes, gold, religion); biological impact (smallpox/disease); technological military imbalances; destruction and survival of indigenous cultures.
**Disciplinary Knowledge ("Thinking Like a Historian"):**

***Historical Evidence & Artefact Analysis:*** **Interrogating** primary sources (Maya stone stelae, Spanish letters, archaeological remains) for reliability, origin, and perspective.
***Cause & Consequence:*** Analysing the multi-factorial causes behind the Classic Maya collapse (drought, warfare, overpopulation) and Spanish conquest.
***Similarity & Difference:*** Comparing governance, belief systems, and technology across Maya, Inca, and contemporary European/British societies.
***Historical Significance:*** Evaluating how indigenous American inventions and crops permanently changed global history (The Columbian Exchange).

**Weekly Progression Scheme**
**Week 1: Empires in Time – Chronology & World Timelines (this also has links to the previous learning theme of 'The Maya' so could be used to consolidate learning.**
**History Strand:** Chronology & World Context.
**Substantive Knowledge:**
**LKS2:** Understanding where the Maya fit on a world timeline; placing the Classic Maya period (c. AD 250–900) alongside Anglo-Saxon and Viking Britain.
**UKS2:** Comparing the simultaneous timelines of the Maya, Aztecs, and Incas; contextualising European arrival (1492) during the late Tudor era in Britain.
**Disciplinary Knowledge:**
***Chronological Awareness:*** Mapping parallel regional histories to counter the misconception that the Americas lacked complex civilisation prior to European contact.
**Practical History Activity:**
**LKS2 (Y3/4):** *Parallel History Timeline.* Pupils construct a dual timeline comparing key events in Maya history (building of Tikal/Palenque) directly against Anglo-Saxon and Viking developments in Britain.
**UKS2 (Y5/6):** *The Americas Comparative Chronology Chart.* Pupils map the rise and fall of Maya, Aztec, and Inca civilisations alongside major European historical benchmarks (Norman Conquest, Black Death, Renaissance, Tudor reign).

**Week 2: Lords of the Jungle – Maya City-States & Society**
**History Strand:** Non-European Society Study (Governance & Social Hierarchy).
**Substantive Knowledge:**
**LKS2:** The structure of independent Maya city-states (*Tikal, Calakmul, Copán*); royal kings (*K'uhul Ajaw*); daily life for farmers, traders, and artisans.
**UKS2:** Religious beliefs, human sacrifice, and the sacred ballgame (*Pok-a-Tok*); political rivalry and resource competition between rival city-states; temple pyramid functions.
**Disciplinary Knowledge:**
***Source Analysis (Archaeological Remains):*** Inferring social structure and power dynamics from stone carvings (*stelae*) and city layout plans.
**Practical History Activity:**
**LKS2 (Y3/4):** *Social Structure Pyramid.* Pupils categorise Maya society onto a visual hierarchy, using primary source illustrations from painted murals (e.g., Bonampak) to justify the roles of king, priest, noble, craftsman, and farmer.
**UKS2 (Y5/6):** *Rival City-State Investigation.* Pupils analyse primary architectural site plans of Tikal and Calakmul, writing an archaeological report explaining how urban design demonstrated royal political power.

**Week 3: Written in Stone & Paper – Maya Glyphs & Intellectual Achievements**
**History Strand:** Achievements of Ancient Civilisations (Writing, Science & Math).

**Substantive Knowledge:**
**LKS2:** Maya writing system (syllabic glyphs); bark-paper folded books (*codices*); recording historical dates and royal dynasties.
**UKS2:** Mathematical invention of zero; vigesimal (base-20) calculation; tracking planetary cycles (Venus, solar year) to build highly accurate calendars.
**Disciplinary Knowledge:**
***Evaluating Historical Significance:*** Assessing how written language and mathematical innovation allowed Maya rulers to govern large regions and record history.
**Practical History Activity:**
**LKS2 (Y3/4):** *Codex Page Analysis.* Pupils examine photographs of surviving Maya codices (e.g., Dresden Codex), identifying glyph patterns and recreating a folded bark-paper page detailing a royal event.
**UKS2 (Y5/6):** *Scribe's Decipherment Challenge.* Pupils decode date inscriptions on Maya stone stelae using glyph tables, writing an argument for why writing was reserved primarily for royalty and priests.

**Week 4: Empire of the Cloud Forests – The Incas of the Andes**
**History Strand:** Ancient Empires & Technical Adaptations.
**Substantive Knowledge:**
**LKS2:** Geography of the Inca Empire (*Andes Mountains*); mountain terrace farming; mortarless stone masonry (*Machu Picchu*).
**UKS2:** The *Quipu* system (knotted cords used for accounting/census); the Royal Road network (*Qhapaq Ñan*); centralised resource distribution (*Mita* labour system).
**Disciplinary Knowledge:**
***Environment-Human Interaction:*** Evaluating how the Inca adapted technology to build a vast empire across extreme mountain terrains without a written alphabet.

**Practical History Activity:**
**LKS2 (Y3/4):** *Machu Picchu Architectural Study.* Pupils analyse primary photographic evidence of Inca stonework, answering inquiry questions about how stone joints resisted earthquakes without mortar.
**UKS2 (Y5/6):** *Quipu Deciphering & Economic Analysis.* Pupils examine how Incas recorded census and storehouse data using knotted cord systems, reconstructing a *quipu* model to record simulated imperial farm yields.

**Week 5: The Collision of Two Worlds – Contact, Conquest & Disease**
**History Strand:** Cultural Encounters, Conquest & Change.
**Substantive Knowledge:**
**LKS2:** Christopher Columbus's voyage in 1492; first encounters between Europeans and indigenous peoples; basic motivations for exploration (*gold, land, trade routes*).
**UKS2:** Spanish conquest of Mesoamerica and the Andes (Cortés & Moctezuma; Pizarro & Atahualpa); military factors (steel armour, horses, gunpowder); devastating impact of European diseases (*smallpox*).
**Disciplinary Knowledge:**
***Detecting Bias & Perspective:*** Comparing Spanish conquistador letters with indigenous accounts (e.g., *Florentine Codex*) to identify bias, propaganda, and contrasting viewpoints.
**Practical History Activity:**
**LKS2 (Y3/4):** *First Contact Source Comparison.* Pupils compare two artistic depictions of early encounters (one European, one indigenous), listing differences in how both groups are portrayed.

**UKS2 (Y5/6):** *The Fall of Tenochtitlan Source Audit.* Pupils read translated excerpts from Hernán Cortés's letters alongside Aztec oral histories recorded in the Florentine Codex, evaluating source reliability and point of view.

**Week 6: The Columbian Exchange & Maya Survival – Legacy & Synthesis**
**History Strand:** Continuity, Change & Historical Significance.
**Substantive Knowledge:**
**LKS2:** The Columbian Exchange: movement of crops (*potatoes, maize, tomatoes, cacao, rubber*) and animals between the Americas and Europe/Africa; modern Maya populations living in Central America today.
**UKS2:** The long-term consequences of European colonisation; destruction vs. survival of indigenous languages and traditions; evaluating historical significance of Mesoamerican contributions to modern world agriculture and science.
**Disciplinary Knowledge:**
***Constructing Historical Arguments:*** Formulating a structured historical essay or presentation answering: *"In what ways did ancient American civilisations permanently change the world?"*
**Practical Americas History Conference:**
**LKS2 & UKS2:** *The "Voices of the Ancient Americas" History Expo.*
***Station 1: The Scribe's Desk:*** Displaying decoded Maya codices, glyph stelae rubbings, and number charts.
***Station 2: The Inca Engineering Lab:*** Presenting *quipu* census cords, terrace farming models, and road maps.
***Station 3: The Source & Evidence Room:*** Exhibiting primary source comparative audits of Spanish contact accounts.
***Station 4: The Columbian Exchange Market:*** Mapping how foods from the Americas transformed European diets.
***Plenary:*** Pupils complete an long piece of writing or structured historical presentation evaluating the lasting achievements and historical significance of indigenous American civilisations.

**Assessment Matrix (Progression Indicators)**

| Phase | Working Towards | Expected Standard | Greater Depth |
|---|---|---|---|
| **Lower Key Stage 2** *(Years 3 & 4)* | • Places the Maya vaguely in time but cannot relate it to British history.<br>• Identifies Maya kings but struggles to describe daily life for ordinary farmers.<br>• Recognises glyphs as pictures but struggles to explain their function as writing.<br>• Identifies Columbus but cannot list reasons for European exploration. | • Places the Maya accurately on a world timeline alongside Anglo-Saxon/Viking Britain.<br>• Describes Maya social hierarchy using primary visual evidence from murals and carvings.<br>• Explains how Maya scribes used glyphs and codices to record royal history and dates.<br>• Describes the first meetings between Europeans and indigenous peoples using primary images. | • Explains how chronological overlap reveals that complex civilisations existed globally outside Europe.<br>• Analyses how religious and political authority were combined in Maya kingship.<br>• Evaluates why written codices were critical for royal authority and historical record-keeping.<br>• Identifies differences in perspective between European and indigenous artistic sources. |

| | | | |
|---|---|---|---|
| **Upper Key Stage 2** *(Years 5 & 6)* | • Orders Maya and Inca timelines but struggles to contextualise the 1492 contact era.<br>• Describes Inca terraces but struggles to explain the *quipu* accounting system.<br>• Reads historical sources but accepts Spanish accounts without considering bias.<br>• Lists crops exchanged in 1492 but struggles to explain long-term global impacts. | • Constructs a detailed comparative chronology mapping Maya, Aztec, and Inca eras alongside European benchmarks.<br>• Explains how the Inca used engineering (*quipus*, roads, terraces) to govern a vast mountain empire.<br>• Analyses written primary sources from both Spanish and indigenous perspectives to identify bias.<br>• Evaluates the historical significance of the Columbian Exchange on global diets and economies. | • Formulates arguments on how geographical isolation shaped unique technological developments in the Americas.<br>• Critically evaluates how administrative systems (*Mita*, *quipus*) maintained empire cohesion without writing.<br>• Deconstructs conquistador propaganda, explaining why specific historical narratives were constructed.<br>• Synthesises primary evidence to write a multi-layered essay on cause, consequence, and indigenous survival. |

**Other Information, Ideas and Resources**

Studying **The Americas** in Key Stage 2 History is an eye-opening experience for children. It shifts their historical horizon away from Euro-centric narratives and introduces them to advanced, deeply complex civilisations that thrived long before European contact, alongside the dramatic shared history that followed. These are some curriculum-aligned lesson sequences focusing on historical inquiry, analysing primary sources, and understanding the achievements of early American societies.

**1. Maya Master-Builders: The Mystery of Chichen Itzá**
**Historical Era:** Non-European Society (Classic/Post-Classic Maya)
**The Big Question:** *How did the Maya use astronomy to build their cities?*
**The Lesson Concept**
The Maya were incredible mathematicians, astronomers, and architects. This lesson focuses on **El Castillo** (the pyramid at Chichen Itzá) and how the Maya engineered it to act as a giant calendar aligned perfectly with the sun.
**Inquiry Activity:** Examine photographs and architectural diagrams of El Castillo. Teach pupils about the spring and autumn equinoxes, when the setting sun casts a shadow that looks exactly like a feathered serpent sliding down the pyramid steps.
**Historical Skill:** Analysing archaeological evidence. Children calculate the steps of the pyramid (91 steps per side x 4 sides + 1 top platform = 365) to discover how the Maya tracked the solar year.
**Output:** Pupils create a "Fact File Brochure" for a visitor to Chichen Itzá, explaining how the pyramid proves the Maya were world-class scientists long before modern technology.

**2. The Codex Hunters: Reading Aztec Writing**
**Historical Era:** Non-European Society (The Aztec Empire)
**The Big Question:** *How can we read a history book that has no words?*

**The Lesson Concept**
The Aztecs didn't use an alphabet; they recorded their history, tribute lists, and daily life using **pictograms** in beautiful, folding screen-books called **codices** (singular: codex).
**Inquiry Activity:** Look at primary source pages from the *Codex Mendoza* (which shows Aztec children being disciplined or learning trades) or the *Codex Borbonicus*. Have the children deduce what is happening purely through visual clues.
**Historical Skill:** Interpreting primary sources. Children learn how symbols stood for numbers (a feather for 400, a flag for 20) or concepts (a footprint to show a journey or speaking bubbles to show a teacher talking).
**Output:** Pupils write their own "Day in the Life of a KS2 Pupil" using authentic Aztec-style pictograms on tea-stained paper, challenging a partner to crack their code.

**3. Engineering the Andes: The Inca Road Network**
**Historical Era:** Non-European Society (The Inca Empire)
**The Big Question:** *How did the Inca rule a massive empire without writing or the wheel?*
**The Lesson Concept**
The Inca Empire stretched nearly 2,500 miles along the spine of the rugged Andes Mountains. Without horses, wheels, or a written language, they built a massive empire using sheer engineering genius—specifically the **Qhapaq Ñan** (a 25,000-mile road network) and **Quipus** (knotted string recording devices).
**Inquiry Activity:** Look at how the Inca built terrifying rope suspension bridges across massive canyons and built stone steps up vertical mountainsides. Introduce the *Chasquis*—the elite relay runners who carried messages across the empire.
**Historical Skill:** Cause and effect. Explore how a lack of traditional European technologies forced the Inca to invent completely unique, highly successful alternatives.
**Output:** Give children pieces of coloured yarn. Teach them the basic structure of a *Quipu* (using different knots to represent ones, tens, and hundreds) and have them record census data (e.g., number of people, llamas, or sacks of corn in a fictional village) on their strings.

**4. The Columbian Exchange: How the Americas Changed Your Dinner**
**Historical Era:** The Age of Exploration / Early Modern (Late 15th to 16th Century)
**The Big Question:** *What did a pizza look like before 1492?*
**The Lesson Concept**
This lesson explores the massive historical turning point when the Old World (Europe/Africa/Asia) and the New World (The Americas) collided, resulting in an explosion of swapped crops, animals, and cultures.
**Inquiry Activity:** Present a selection of food items or images (tomatoes, potatoes, chocolate, corn, wheat, cows, chilies). Have pupils guess which ones originally came from Europe and which came from the Americas.
**The Historical Shock:** Reveal that before the Spanish arrived in the Americas, Italy had no tomatoes, Ireland had no potatoes, Switzerland had no chocolate, and India had no chili peppers! Conversely, the Americas had no horses, cows, or wheat.
**Output:** Pupils draw a split-screen dinner plate: "Dinner in Europe Before 1492" vs. "Dinner in Europe After 1492," writing a historical reflection on how global exploration fundamentally changed how the entire world eats.

**Considerations for Implementation**

**Modern Foreign Languages**

**Substantive Knowledge**

In KS2 Modern Foreign Languages, **substantive knowledge** consists of the specific vocabulary, grammar rules, and cultural facts that pupils memorise and recall. When themed around **'The Americas'**, this knowledge usually focuses on **Spanish** (the most widely spoken language across the two continents) or **French** (spoken in Canada and parts of the Caribbean).

**1. Vocabulary (Lexis)**
This is the "word bank" pupils build to describe the region.

**Geography and Nature:** Words for landscape features like *la selva* (the rainforest), *las montañas* (the mountains), *el río* (the river), and *el desierto* (the desert).
**Animals of the Americas:** Learning names for indigenous wildlife such as *el jaguar*, *el tucán*, *la llama*, and *el condor*.
**Directions and Places:** Naming the continents (*América del Norte* and *América del Sur*) and the cardinal points (*norte, sur, este, oeste*).
**Food and Culture:** Vocabulary for traditional foods like *chocolate*, *maíz*, *tortillas*, and *tomate* (noting that many of these are "loan words" from indigenous languages like Nahuatl).

**2. Grammar (Syntax and Morphology)**
This is the factual knowledge of how the language is structured.

**Gender of Nouns:** Knowing that nouns in Spanish/French are masculine or feminine (e.g., *el océano* is masculine, *la isla* is feminine).
**Adjective Agreement:** Knowing that the ending of a colour or size word must change to match the noun (e.g., *el jaguar negro* vs. *la llama negra*).
**High-Frequency Verbs:** Memorising the present tense of "to be" (*ser/estar*) and "to live" (*vivir*) to say things like *"Vivo en Argentina"* (I live in Argentina).

**3. Phonology (Sounds)**
The specific sounds that are unique to the language being studied.

**Spanish Specifics:** Knowing that the 'h' is silent (*hola*), the 'ñ' makes a "ny" sound (*montaña*), and the 'll' makes a "y" sound (*tortilla*).
**French Specifics:** Knowing that the 'h' is usually silent (*haïti*) and recognising nasal vowel sounds.

**4. Intercultural Understanding**
This is factual knowledge about how people live in the Spanish or French-speaking parts of the Americas.

**Spanish-Speaking Countries:** Identifying that Spanish is the official language of over 18 countries in the Americas, not just Spain.
**Cultural Celebrations:** Knowing the facts and dates of major festivals, such as *Día de los Muertos* (Mexico) or *Inti Raymi* (the Inca Sun Festival in Peru).
**Indigenous Influence:** Knowing that many words we use today (like *hurricane, canoe,* and *potato*) come from the indigenous languages of the Americas (Taino, Quechua, etc.).

**Summary Checklist for KS2 Substantive MFL Knowledge**

| Category | Example Knowledge Item |
|---|---|
| **Vocabulary** | I know the Spanish words for five American animals. |
| **Grammar** | I know that adjectives usually come after the noun in Spanish. |
| **Phonics** | I know that 'll' in *pollito* sounds like the 'y' in "yes." |
| **Culture** | I can name three American countries where Spanish is spoken. |

**Disciplinary Knowledge**

In Key Stage 2, **disciplinary knowledge** in MFL refers to the *linguistic tools* and *learning strategies* a pupil uses to decode, internalise, and produce a new language. With the learning theme **'The Americas'**, the language of focus should typically be **Spanish** (due to its dominance in Central and South America) or sometimes **French** (due to Quebec or Haiti). The **disciplinary knowledge** isn't just learning the word for "llama" or "rainforest"; it's understanding how the language works as a system.

**1. Phonology and Sound-Spelling Links**

This is the ability to recognise how sounds are represented in writing, which is vital for reading and pronunciation.

**Sound Patterns:** Recognising that the Spanish 'j' (as in *Jalapeño*) or 'll' (as in *Tortilla*) sounds different from English.
**Accents and Stress:** Understanding how an accent mark in a word like *Bogotá* or *Yucatán* changes the emphasis of the voice.
**Decoding:** Using known sound-letter rules to pronounce unfamiliar names of American countries or geographical features correctly.

**2. Grammatical Awareness (Syntax and Morphology)**

**Disciplinary knowledge** involves understanding the "mechanics" or "engine" of the language.

**Gender and Number:** Recognising that nouns for American animals or places have a gender (e.g., *el jaguar* vs. *la selva*) and that adjectives must agree (e.g., *la selva verde*).
**Word Order:** Understanding that in Spanish or French, the adjective often comes *after* the noun, unlike in English (e.g., "The Blue Mountains" becomes *Las Montañas Azules*).
**Verb Conjugation:** Identifying how a verb ending changes depending on who is doing the action (e.g., *Yo vivo en Chile* vs. *Él vive en Chile*).

**3. Linguistic Strategies (Metacognition)**

This is the knowledge of *how* to be a language learner.

**Cognates and Near-Cognates:** Identifying words that look and sound similar to English to "cheat" your way to understanding (e.g., *continente*, *océano*, *civilisación*, *terrible*).
**Contextual Guessing:** Using illustrations, maps of the Americas, or surrounding words to figure out the meaning of a new sentence.

**Dictionary Skills:** Learning how to look up a word (like *pueblo*) and ensuring you have the right part of speech (noun vs. verb).

**4. Intercultural Understanding**
In MFL, culture is a core **disciplinary** pillar. It is the ability to compare your own life with life in the target language culture.

**Regional Variations:** Understanding that the Spanish spoken in Mexico or Argentina has different vocabulary and accents than the Spanish spoken in Spain.
**Sociolinguistics:** Learning how to address people formally or informally in different American contexts.
**Cultural Traditions:** Analysing how language is used in specific American festivals (e.g., *Día de los Muertos* in Mexico).

**Summary Table: Substantive vs. Disciplinary in MFL**

| Substantive Knowledge (The "What") | Disciplinary Knowledge (The "How") |
|---|---|
| Vocabulary for colours and animals. | Applying **adjective agreement** to describe an animal. |
| Learning the names of American countries. | Using **phonics** to pronounce those names accurately. |
| Knowing that "hola" means "hello." | Understanding **when** to use formal vs. informal greetings. |

**Learning Objectives**

Key Stage 2 MFL, **learning objectives** are designed to build **linguistic competence** (the ability to speak and write) and **intercultural understanding** (awareness of the world). Using **'The Americas'** as a learning theme allows pupils to apply their language skills to a global context beyond Europe. Here are the possible learning objectives:

**1. Listening and Speaking**
These objectives focus on oral fluency and auditory discrimination.

**Identify Geographical Terms:** I can listen to a description of the Americas in the target language and identify key features like *la montaña*, *el río*, or *la selva*.
**Pronounce Place Names:** I can use my knowledge of phonemes (e.g., the Spanish 'ñ' or 'j') to correctly pronounce the names of countries and cities in the Americas.
**Describe Animals:** I can name and describe indigenous American animals using simple adjectives (e.g., *"El tucán es pequeño y colorido"*).
**Engage in Dialogue:** I can ask and answer simple questions about where I live and where I would like to visit in the Americas (e.g., *"¿Dónde vives?"*, *"Vivo en México"*).

**2. Reading and Writing**
These objectives focus on literacy and the "mechanics" of the language.

**Read for Gist:** I can read a short postcard or travel brochure about an American city and identify the main points of information.

**Apply Grammar Rules:** I can write short sentences describing the American landscape, ensuring that adjectives agree with the gender and number of the nouns (e.g., *las islas bonitas*).
**Use Dictionary Skills:** I can use a bilingual dictionary to find the names of specific American crops, like *el maíz* (corn) or *el cacao*.
**Construct Simple Texts:** I can write 3–4 sentences about a chosen country in the Americas, including its name, location, and one physical feature.

**3. Intercultural Understanding**
These objectives focus on the "Global Citizen" aspect of the curriculum.

**Map the Language:** I can identify at least five countries in the Americas where the target language (Spanish or French) is spoken.
**Compare Traditions:** I can identify similarities and differences between a festival in my country and one in the Americas (e.g., Halloween vs. *Día de los Muertos*).
**Recognise Loan Words:** I can identify English words that originated from indigenous American languages via the target language (e.g., *chocolate*, *tomate*, *canoa*).

**4. Grammar and Phonics Focus**
These are the "underpinning" objectives that ensure progress.

**Sound-Spelling Link:** I can recognise and produce the specific sounds of the target language when reading words related to the Americas.
**Verb Usage:** I can use the first and third person of high-frequency verbs (e.g., *vivir* / to live, *ser* / to be) in the context of American geography.

Example "Can-Do" Checklist for a Lesson
If the lesson is about **Mexican Wildlife**, the objectives might look like this:
**I can** name 4 animals found in Mexico in the target language.
**I can** use the correct masculine or feminine article (*el/la*) for each animal.
**I can** say one sentence about where the animal lives (e.g., *"El jaguar vive en la selva"*).

**Lesson Ideas**

Here is a complete, 6-week Medium-Term Plan for Key Stage 2 MFL—tailored for **Spanish** (the primary European language spoken across Central and South America)—framed around the geography, wildlife, food, and culture of **'The Americas'**. This unit connects core National Curriculum MFL strands—**Phonics & Pronunciation**, **Vocabulary Acquisition**, **Grammatical Structures (Gender, Nouns, Adjectives & Verbs)**, and **Oracy & Literacy**—with Spanish-speaking nations of the Americas (*Mexico, Guatemala, Colombia, Peru, Argentina*). It balances **substantive knowledge** (phonics rules, high-frequency vocabulary for animals, habitats, weather, and food, noun gender un/una/el/la, plural agreements, adjective positioning, and verb conjugation in the 1st/3rd person: *es, vive, tiene, me gusta*) with **disciplinary knowledge** ("Thinking & Acting Like a Linguist"—spotting cognates/near-cognates, applying grammatical rules to create original sentences, decoding unfamiliar texts using contextual cues, and understanding socio-cultural linguistic variations).

**Unit Title:** Voces de las Américas: Spanish Language, Wildlife, and Cultures across the New World

**Duration:** 6 Weeks (Approx. 1 hour per week)
**Theme:** Exploring Spanish-Speaking Countries of the Americas, Amazon Rainforest Wildlife, Mexican Culinary Vocabulary, and Andean Climates.
**Linguistic & Cultural Contexts:**
***Linguistic Focus:*** Spanish phonics (j, ñ, ll, z, c), noun gender agreement, adjective positioning, dynamic verbs (*vivir, comer, estar, gustar*), and sentence building.
***Cultural Connections:*** Spanish as a global language; Hispanic American nations (*México, Guatemala, Colombia, Perú, Argentina*); authentic traditional dishes (*tacos, guacamole, empanadas*); indigenous animal species (*el jaguar, el tucán, la llama*).
**Key MFL Pillars**
**Substantive Knowledge:**
***Phonics & Sound-Spelling:*** Key Spanish phonemes: **ñ** (*pampa/montaña*), **j/g** (*jaguar/selva*), **ll** (*llama*), **z/c** (*maíz/océano*), silent **h** (*habitar*).
***Vocabulary:*** Countries/Capitals of the Americas, rainforest/mountain animals, colours, climate adjectives, food/taste nouns, high-frequency connective words (*y, pero, porque*).
***Grammar:*** Definite/indefinite articles (el/la/los/las, un/una); singular/plural noun rules; adjective agreement & position (noun before colour/size adjective); core verb forms: *es* (it is), *vive en* (lives in), *tiene* (has), *me gusta / no me gusta* (I like / don't like).
**Disciplinary Knowledge ("Thinking Like a Linguist"):**
***Cognate Decoding****:* Identifying exact cognates (*el continente, el volcán*) and near-cognates (*la montaña, la jungla*) to decode longer passages.
***Grammatical Pattern Application:*** Applying gender/number rules systematically to build new descriptive phrases without relying on memorised scripts.
***Intercultural Understanding:*** Recognising how regional geography shapes language, vocabulary variations, and cultural identity across the Americas.

**Weekly Progression Scheme**
**Week 1: ¡Bienvenidos a las Américas! – Countries & Phonics**
**MFL Strand:** Phononics, Listening & Locational Vocabulary.
**Substantive Knowledge:**
**LKS2:** Names of key Spanish-speaking countries in the Americas (*México, Guatemala, Colombia, Perú, Argentina*); basic greetings (*¡Hola!, ¿Cómo te llamas?, Vivo en...*); key phonemes **j** (*jaguar*) and **ñ** (*español*).
**UKS2:** Expressing geographical location using the verb *estar* (*México está en América del Norte*); compass directions (*norte, sur, este, oeste*); silent **h** sound (*hablar, hacer*).
**Disciplinary Knowledge:**
***Cognate Recognition:*** Identifying geographic cognates (*el océano, la costa, el continente*) to decode regional descriptions.
**Practical MFL Activity:**
**LKS2 (Y3/4):** *Map Passport Challenge.* Pupils listen to short audio clips of native speakers introducing themselves and their home country in the Americas, stamping their "language passport" by identifying the correct flag and nation.
**UKS2 (Y5/6):** *Geographical Location Broadcast.* Pupils write and present a short spoken weather/location report using compass directions and *estar* (e.g., *"Colombia está en el norte de América del Sur. Es un país grande."*).

**Week 2: Animales de la Selva – Nouns, Gender & Articles**
**MFL Strand:** Noun Gender, Definite/Indefinite Articles & Wildlife.

**Substantive Knowledge:**
**LKS2:** Vocabulary for American rainforest wildlife (*el jaguar, el tucán, la llama, la serpiente, el mono*); understanding masculine (el / un) vs. feminine (la / una) nouns.
**UKS2:** Plural noun transformations (el → los, la → las; adding -s or -es); using *tiene* (it has) and *no tiene* to describe animal features (*tiene plumas / tiene garras*).
**Disciplinary Knowledge:**
***Gender Categorisation:*** Applying the -o (masculine) vs. -a (feminine) rule systematically to sort new nouns.
**Practical MFL Activity:**
**LKS2 (Y3/4):** *Rainforest Gender Sorting Game.* Pupils sort rainforest animal flashcards into masculine (el) and feminine (la) categories, constructing simple sentences using *Es un... / Es una...*
**KS2 (Y5/6):** *Animal Classification Profiles.* Pupils write a 3-sentence animal riddle in Spanish using plural nouns and body features for peers to guess (e.g., *"Son amarillos y negros. Tienen alas y viven en los árboles. ¿Qué son?"* →*Los tucanes*).

**Week 3: Colores y Curióseos – Adjectives & Agreement**
**MFL Strand:** Adjective Agreement, Colour & Word Order.
**Substantive Knowledge:**
**LKS2:** Colour vocabulary (*rojo, azul, verde, amarillo, negro, blanco*); word order rule: placing adjectives **after** the noun in Spanish (*un tucán negro*).
**UKS2:** Adjective agreement for gender and number (*un jaguar amari**llo** / una serpiente amari**lla** / los jaguares amari**llos** / las serpientes amari**llas***); size adjectives (*grande, pequeño*).
**Disciplinary Knowledge:**
***Grammatical Precision:*** Manipulating adjective endings to match noun gender and plural status accurately.
**Practical MFL Activity:**
**LKS2 (Y3/4):** *Colour Spotter Art Description.* Pupils describe colourful South American animal illustrations using correct noun-adjective order (e.g., *"Una rana verde"* instead of *"Una verde rana"*).
**UKS2 (Y5/6):** *Descriptive Wildlife Catalogue.* Pupils produce a mini field guide entry for an Amazonian creature, applying full adjective agreement rules for gender and number (e.g., *"Las guacamayas son aves grandes y rojas."*).

**Week 4: ¿Qué Tiempo Hace en los Andes? – Weather & Habitats**
**MFL Strand:** Verbs, Weather Expressions & Habitats.
**Substantive Knowledge:**
**LKS2:** Weather phrases using *Hace...* (*hace calor, hace frío, hace sol, hace viento*) and *Llueve* (it rains); habitat nouns (*la selva, la montaña, el desierto*).
**UKS2:** Combining weather conditions with habitats using connective *cuando* (when) and verb *vive* (lives); contrast connective *pero* (but).
**Disciplinary Knowledge:**
***Contextual Reading:*** Decoding short regional climate descriptions by combining weather vocabulary with habitat cues.

**Practical MFL Activity:**
**LKS2 (Y3/4):** *Andean Weather Map Presenter.* Pupils use weather flashcards to present a simple forecast for different regions of South America (e.g., *"En la selva hace calor. En las montañas hace frío."*).

**UKS2 (Y5/6):** *Habitat Adaptation Paragraph.* Pupils write a short compound paragraph explaining where animals live based on weather conditions (e.g., *"El cóndor vive en las montañas porque hace frío, pero el jaguar vive en la selva donde hace mucho calor."*).

**Week 5: La Comida de México – Expressing Opinions & Food**
**MFL Strand:** Food Vocabulary, Preferences & Verbs of Opinion.
**Substantive Knowledge:**
**LKS2:** Traditional Mesoamerican food nouns (*el maíz, el tomate, el chocolate, el aguacate, el taco, la fruta*); expressing likes/dislikes (*Me gusta... / No me gusta…*).
**UKS2:** Singular vs. plural opinion verbs (*Me gusta el taco* vs. *Me gusta**n** los tacos*); taste adjectives (*delicioso, sabroso, picante, dulce*); transactional phrasing (*Quisiera... / Por favor / Gracias*).
**Disciplinary Knowledge:**
***Etymological Awareness:*** Identifying Indigenous American loanwords in Spanish and English (e.g., Nahuatl *ahuacatl* → Spanish *aguacate* →English *avocado*).
**Practical MFL Activity:**
**LKS2 (Y3/4):** *Mexican Market Opinion Tasting.* Pupils sample (or view) Mexican foods, voicing simple preferences using opinion phrases (e.g., *"Me gusta el chocolate, pero no me gusta el tomate."*).
**UKS2 (Y5/6):** *Taquería Role-Play & Menu Design.* Pupils design a Spanish food menu with taste adjectives and role-play ordering food at a market stall using polite transactional language (e.g., *"¡Hola! Quisiera dos tacos picantes, por favor. Son deliciosos."*).

**Week 6: El Festival de las Américas – Showcase & Synthesis**
**MFL Strand:** Oracy, Reading Comprehension & Cultural Synthesis.
**Substantive Knowledge:**
**LKS2/UKS2 Synthesis:** Integrating country names, animal descriptions, weather expressions, and food preferences into a continuous spoken presentation and written mini-booklet.
**Disciplinary Knowledge:**
***Linguistic Fluency:*** Synthesising multiple learned grammar structures (articles, adjective agreement, opinion verbs) to communicate effectively in target language contexts.
**Practical Americas Spanish Festival:**
**LKS2 & UKS2:** *The "Fiesta de las Américas" Language Celebration.*
***Station 1: El Estudio de Radio:*** Spoken weather forecasts and geographical introductions recorded as audio clips.
***Station 2: La Guía de la Selva:*** Displaying illustrated Spanish wildlife guidebooks with accurate adjective agreements.
***Station 3: La Taquería Tradicional:*** Live conversational market dialogues ordering traditional Mexican dishes.
***Plenary:*** Pupils read and decode an unseen authentic short text about a child living in Peru, answering reading comprehension questions to demonstrate disciplinary literacy.

**Assessment Matrix (Progression Indicators)**

| Phase | Working Towards | Expected Standard | Greater Depth |
|---|---|---|---|
| **Lower Key Stage 2** *(Years 3 & 4)* | • Pronounces Spanish country names with English phonics patterns.<br>• Names animals but forgets indefinite articles (un/una).<br>• Places colour adjectives before the noun (e.g., *"verde rana"*).<br>• Expresses *Me gusta* but relies on English for food nouns. | • Pronounces key Spanish sounds (**j, ñ, ll**) accurately in country and animal words.<br>• Assigns correct masculine (un/el) and feminine (una/la) articles to animal nouns.<br>• Places colour adjectives **after** the noun accurately (e.g., *"una rana verde"*).<br>• Expresses food likes and dislikes using *Me gusta / No me gusta* with target vocabulary. | • Identifies near-cognates independently when listening to simple spoken descriptions.<br><br>• Constructs original sentences combining animal, colour, and size vocabulary.<br>• Explains the rule for adjective placement in Spanish compared to English.<br>• Extends opinion sentences using the connective *pero* (but). |
| **Upper Key Stage 2** *(Years 5 & 6)* | • Uses single adjective forms without adjusting for plural nouns.<br>• Confuses *es* (is) with *está* (is located) when describing geographical points.<br>• Uses *Me gusta* for plural nouns instead of *Me gustan*.<br>• Reads Spanish text aloud word-by-word without rhythm or correct stress. | • Modifies adjective endings systematically for gender and plural agreement (e.g., *"rojas"*).<br>• Uses *estar* correctly for location and *hacer* for weather expressions.<br>• Distinguishes accurately between *Me gusta* (singular) and *Me gustan* (plural).<br>• Reads short descriptive texts aloud with accurate pronunciation and intonation. | • Detects and self-corrects adjective agreement errors in written drafts independently.<br>• Combines weather, habitat, and animal adaptation clauses into compound sentences using *porque*.<br>• Manipulates transactional phrasing fluently in spontaneous role-play situations.<br>• Decodes complex unseen texts by identifying root words, cognates, and grammatical markers. |

**Other Information, Ideas and Resources**

Integrating **Key Stage 2 MFL** with the learning theme of **'The Americas'** is incredibly authentic. In the National curriculum, the primary languages taught are French and Spanish—and Spanish is the dominant language spoken across Central and South America! If you prefer to teach French, you can seamlessly connect it to Francophone regions like Quebec (Canada), Haiti, or French Guiana. Here are some dynamic, interactive MFL lesson concepts that use the geography, wildlife, and cultures of the Americas to build language proficiency.

**1. El Carnaval de Barranquilla: Describing Costumes (Spanish)**
**Language Focus:** Colours, items of clothing, and adjective agreement (noun + colour).

**The Big Question:** *How do we describe the vibrant explosion of Colombia's biggest carnival?*
**The Lesson Concept**
Colombia's *Carnaval de Barranquilla* is one of the biggest in the world, blending Indigenous, African, and Spanish traditions. Pupils step into the shoes of fashion designers or reporters describing the wild, bright costumes worn during the grand parades.
**The Activity:** Introduce target language vocabulary for clothing items (*una camisa* / a shirt, *un vestido* / a dress, *una máscara* / a mask) and vibrant colours.
**Grammar Focus:** Teach or reinforce that in Spanish, colours change depending on whether the item is masculine or feminine (e.g., *una máscara* ***roja*** vs. *un sombrero* ***rojo***).
**Output:** Pupils draw or colour a spectacular carnival character (like the famous *Marimonda* or *Rey Momo*). They must write three descriptive captions in Spanish detailing what their character is wearing.
*Example:* "Lleva una camisa amarilla, unos pantalones verdes y una máscara azul." (They are wearing a yellow shirt, green trousers, and a blue mask).

**2. Animal Spotting in the Amazon Rainforest (French or Spanish)**
**Language Focus:** Animal nouns, size adjectives (*grand / pequeño*), and the structure "I see..." (*Je vois... / Veo...*).
**The Big Question:** *What can you spot hiding in the canopy?*
**The Lesson Concept**
Take your pupils on a virtual safari through the Amazon Basin. This lesson combines a love for wildlife with essential sentence structure building.
**The Activity:** Teach the names of iconic South American animals in your target language:
*Spanish: el jaguar, el tucán, la serpiente, perezoso* (sloth), *la rana* (frog).
*French: le jaguar, le toucan, le serpent, le paresseux* (sloth), *la grenouille* (frog).
**The Listening Game:** The teacher plays audio clips of rainforest sounds or reads a "jungle diary." When the teacher says, *"En el Amazonas, veo un jaguar grande"* (In the Amazon, I see a big jaguar), children must race to hold up the correct animal flashcard.
**Output:** In pairs, pupils create a "Hide and Seek" flap-book. On the front, they draw a dense rainforest leaf; underneath, they hide an animal. They write the target language clue on top: *"¿Qué ves? Veo una rana verde y pequeña."*

**3. Ordering Food at a Mexican Market (Spanish)**
**Language Focus:** Politeness phrases (*por favor, gracias*), quantities, and transactional speaking (*Quiero... / ¿Cuánto cuesta?*).
**The Big Question:** *Can you successfully buy the ingredients for a traditional feast?*
**The Lesson Concept**
Turn your classroom into a bustling *mercado* in Mexico City. This roleplay lesson gives pupils immediate, practical confidence using transactional language in a real-world American context.
**The Activity:** Introduce vocabulary for traditional Mexican market items: *los tomates, los aguacates* (avocados), *los chiles, el maíz* (corn), and *las limas*. Teach the structures for ordering (*Quiero tres tomates, por favor*) and asking for the price (*¿Cuánto cuesta?*).
**The Roleplay:** Divide the class into *vendedores* (shopkeepers) and *clientes* (customers). Give customers fake Mexican Peso bills and a shopping list of ingredients required to make guacamole or tacos. They must visit different stalls to buy their items entirely in Spanish.
**Output:** Pupils write out a simple, illustrated "Receta" (recipe) shopping list in Spanish, matching numbers to the correct pluralised nouns.

**4. Packing a Suitcase for Canada (French Connection)**
**Language Focus:** Weather expressions (*Il fait froid, il fait beau*), calendar months, and the future/conditional structure "I am going..." (*Je vais...*).
**The Big Question:** *What do you need to pack for a trip to Francophone Quebec?*
**The Lesson Concept**
If your school's target language is French, Quebec provides a brilliant anchor in North America. This lesson explores the extreme seasonal weather shifts in Canada and what items of clothing are required to survive them.
**The Activity:** Revise weather phrases alongside extreme Canadian climates: *Il neige* (It is snowing), *Il fait très froid* (It is very cold), or *Il fait du soleil* (It is sunny).
**The Sorting Task:** Present two suitcases on the board: one for a winter trip to the Quebec Winter Carnival (*Le Carnaval de Québec*) and one for a summer trek around Lac Saint-Jean.
**Output:** Pupils choose a season to visit Canada. They write a short travel postcard to a friend using a structured writing frame:
*"En janvier, je vais au Canada. Il fait très froid et il neige! Dans ma valise, j'ai un manteau noir, un bonnet rouge et des bottes."* (In January, I am going to Canada. It is very cold and snowing! In my suitcase, I have a black coat, a red hat, and boots).

**Considerations for Implementation**

## Music

**Substantive Knowledge**

In KS2 Music, **substantive knowledge** consists of the factual building blocks of music—the specific terminology, the names of instruments, and the defining characteristics of musical genres across the Americas. This knowledge provides the "vocabulary" pupils need before they can apply **disciplinary skills** like composition or appraisal.

**1. Musical Genres and Styles**
Pupils should know the names and "defining sounds" of key musical traditions from North, Central, and South America:

**Samba (Brazil):** Known for high-energy percussion, syncopated rhythms, and its role in Carnival.
**Blues and Jazz (USA):** Characterised by "blue notes," syncopation, and the use of the 12-bar blues structure.
**Andean Folk (Peru/Bolivia/Chile):** Known for its use of specific scales and traditional wind instruments.
**Calypso and Reggae (Caribbean):** Defined by their distinct rhythmic patterns (like the "off-beat" skank in Reggae) and social storytelling.

**2. The Interrelated Dimensions of Music (Vocabulary)**
Pupils must master the technical language used to describe music from the Americas:

**Pulse/Beat:** The steady heartbeat of the music (e.g., the heavy "one" in a Samba *Surdo* drum).
**Rhythm and Syncopation:** Understanding that many American styles use "off-beat" rhythms that don't land exactly on the main pulse.
**Texture:** Knowing how layers of sound work together, such as **Polyrhythm** (many different rhythms playing at once).

**Structure:** Understanding **Call and Response** (a leader plays a phrase and the group answers) or **Cyclic** patterns (rhythms that repeat over and over).

**3. Instrumentation**
Recognising the names and families of instruments native to or iconic within the Americas:

**Percussion (Samba Battery):** The *Surdo* (large bass drum), *Agogo* (double bell), *Tamborim* (small frame drum), and *Chocalho* (shaker).
**Woodwind:** *Panpipes* (Sicu) and the *Quena* (Andean flute).
**String:** The *Banjo* (North America) or the *Charango* (a small Andean lute traditionally made from an armadillo shell).
**Idiophones:** *Steel Pans* (Trinidad and Tobago) and *Maracas*.

**4. History and Cultural Facts**
**Substantive knowledge** also includes the "who, when, and where" of music:

**Musical Fusion:** Knowing that much of the music of the Americas (like Jazz and Samba) was born from the blending of **African rhythms** and **European melodies/harmonies**.
**Purpose of Music:** Identifying that music in the Americas is often functional—used for festivals, religious ceremonies, or as a form of protest and storytelling.
**Notation:** Recognising basic rhythmic notation (crotchets, quavers, rests) used to write down American-inspired motifs.

**Summary Checklist: Substantive Music Knowledge**

| Category | Example of Fact-Based Knowledge |
|---|---|
| **Instruments** | I can name four different drums used in a Brazilian Samba band. |
| **Terminology** | I can define "syncopation" as a rhythm that emphasises the off-beat. |
| **Genre** | I know that Blues music often uses a repeating 12-bar structure. |
| **Culture** | I know that Panpipes are traditionally played in the Andes Mountains. |

**Disciplinary Knowledge**

In Key Stage 2 Music, **disciplinary knowledge** is about understanding how music is created, performed, and analysed. It focuses on the "how" of being a musician: how to listen critically, how to compose with intent, and how to perform with expression. Using **'The Americas'** learning theme provides a rich palette for developing these skills, ranging from the rhythmic complexities of South American samba to the melodic structures of North American blues or indigenous folk music.

**1. Musical Analysis and Appraisal**
This is the ability to listen to music and decode its "ingredients" (the interrelated dimensions of music).
**Identifying Pulse and Rhythm:** Recognising the syncopation and "off-beat" rhythms common in Latin American music (e.g., the *son* clave pattern).
**Analysing Timbre:** Distinguishing between instruments unique to the Americas, such as the *panpipes* (Andes), *steel drums* (Caribbean), or the *banjo* (North America).

**Understanding Texture:** Identifying how layers of sound are built up, particularly in a Samba "batucada" (percussion break).

**2. Composition and Improvisation**
This involves using musical elements to create original pieces inspired by American styles.

**Creating Rhythmic Motifs:** Composing a repetitive rhythmic pattern (ostinato) inspired by Brazilian Carnival music.
**Melodic Construction:** Using a specific scale, such as the **Pentatonic scale** (common in indigenous music) or the **Blues scale**, to create a melody.
**Structural Planning:** Organising a piece of music using structures like **Call and Response**, which is foundational to many musical traditions across the Americas.

**3. Performance and Technique**
This focuses on the physical skills required to make music.

**Rhythmic Accuracy:** Maintaining a steady beat while playing polyrhythms (multiple different rhythms at once) in a group percussion ensemble.
**Vocal Expression:** Exploring the use of the voice in American traditions, such as the chanting styles of Native American music or the soulful "blue notes" of Jazz.
**Instrumental Control:** Developing the technique to play classroom instruments (glockenspiels, drums, or recorders) to recreate American folk melodies.

**4. Historical and Cultural Context**
This is the understanding of how music reflects the time and place in which it was created.

**Tracing Origins:** Understanding how the forced migration of people (the Transatlantic Slave Trade) led to the fusion of African rhythms and European harmonies, creating styles like Jazz, Blues, and Reggae.
**Social Function:** Analysing why music is performed in different American cultures—is it for celebration (Carnival), storytelling (Appalachian folk), or ritual (Inca sun ceremonies)?

**Summary Table: Substantive vs. Disciplinary in Music**

| Substantive Knowledge (The "What") | Disciplinary Knowledge (The "How") |
|---|---|
| Knowing that a *Surdo* is a large drum. | Maintaining a steady **pulse** on the *Surdo* while others play different rhythms. |
| Learning that "Call and Response" is a structure. | **Improvising** a "response" to a teacher's musical "call." |
| Recognising the sound of panpipes. | **Describing** the timbre of the panpipes using musical vocabulary (e.g., breathy, haunting). |

**Learning Objectives**

**Learning objectives** are designed to develop the "musician's ear," the "performer's skill," and the "composer's imagination." Using **'The Americas'** as a learning theme provides a fantastic opportunity to

explore complex rhythms and diverse cultural sounds. **Learning objectives** are categorised by the core musical strands:

**1. Listening, Appraising, and Internalising**
These objectives focus on the pupil's ability to "unpick" the music they hear.

**Identify Musical Dimensions:** I can identify the **pulse** and **syncopation** in a piece of Latin American music (e.g., a Samba or Tango).
**Recognise Timbre:** I can identify and describe the sounds of traditional instruments from the Americas, such as **panpipes**, **steel pans**, or the **banjo**.
**Trace Musical History:** I can explain how different cultures combined to create new styles of music in the Americas (e.g., how African rhythms influenced the birth of Jazz and Blues).
**Critical Appraisal:** I can compare two pieces of music from different parts of the Americas (e.g., a calm Andean folk song vs. a high-energy Brazilian Samba) using musical vocabulary.

**2. Performance and Technical Skill**
These objectives focus on the physical and social act of making music.

**Maintain a Steady Pulse:** I can play a steady beat on a percussion instrument while other members of the group play different rhythmic patterns (**polyrhythms**).
**Vocal Control:** I can sing a traditional folk song from North or South America with expression, maintaining the correct pitch and tempo.
**Ensemble Playing:** I can participate in a "Call and Response" performance, accurately echoing a leader or providing an improvised "answer."
**Instrumental Technique:** I can play a simple melody on a glockenspiel or recorder based on the **pentatonic scale** (common in indigenous American music).

**3. Composition and Improvisation**
These objectives focus on the creative application of musical knowledge.

**Rhythmic Composition:** I can create and write down a four-beat rhythmic **motif** inspired by the sounds of a Brazilian Carnival.
**Improvise with Scales:** I can improvise a short melody using the **Blues scale** or a pentatonic scale over a steady backing track.
**Structure a Piece:** I can work in a group to compose a piece of music that has a clear structure, such as **Binary (A-B)** or **Cyclic** (repeating) forms.
**Use Graphic Notation:** I can create a "sound map" or use graphic notation to represent the different layers of sound in a rainforest-themed composition.

**Example Summary of "Success Criteria"**
To help pupils track their progress, these objectives can be broken down into tiered goals for a single lesson:

| Objective: To perform a Samba rhythm | Success Criteria |
|---|---|
| I can... | Maintain a steady pulse on a drum. |
| I can even... | Play a syncopated rhythm (off-beat) on an Agogo bell. |
| I can especially... | Stay in time while the rest of the class plays a different, overlapping rhythm. |

**Lesson Ideas**

Here is a complete, 6-week Medium-Term Plan for Key Stage 2 Music framed around the rich acoustic, rhythmic, and melodic traditions of **'The Americas'**. This unit connects core National Curriculum Music strands—**Listening & Appraising**, **Interrelated Dimensions of Music** (Pulse, Rhythm, Pitch, Dynamics, Tempo, Timbre, Texture, Structure), **Performance (Vocal & Instrumental)**, and **Composition**—with the distinct sonic landscapes of Central, South, and North America (*Mesoamerican flutes/percussion, Andean panpipes, Afro-Caribbean polyrhythms, and Mexican Mariachi*). It balances **substantive knowledge** (rhythmic notation, ostinatos, pentatonic scales, call-and-response structures, syncopation, polyrhythms, instrumental timbres) with **disciplinary knowledge** ("Thinking & Acting Like a Musician"—improvising within musical constraints, analysing structural choices, evaluating performance quality, and contextualising how music reflects cultural identity).

**Unit Title:** Soundscapes of the Americas: From Andean Peaks to Caribbean Rhythms
**Duration:** 6 Weeks (Approx. 1 hour per week)
**Theme:** Mesoamerican Percussion, Andean Melody, Afro-Cuban Polyrhythms, and Mariachi Ensemble Traditions.
**Musical & Cultural Contexts:**
***Mesoamerica (Maya/Aztec roots):*** Clay whistles, log drums (*teponaztli*), rainsticks, ceremonial pulse.
***Andean Region (Peru/Bolivia):*** Panpipes (*Siku/Zampoña*), pentatonic scales, step-wise melodies, Andean flutes (*Quena*).
***The Caribbean & Coastal South America:*** Son Clave (2:3 and 3:2 rhythms), polyrhythmic layered percussion, call-and-response (*Coro-Pregón*).
***Mexico:*** Mariachi brass/string harmonies, 3/4 vs. 6/8 hemiola time signatures (*Son Jarocho / Son Jalisciense*).
**Key Music Pillars**
**Substantive Knowledge:**
***Interrelated Dimensions:*** Timbre (distinguishing wood, skin, metal, and aerophone sounds), Dynamics (*crescendo/decrescendo*), Tempo, and Texture (monophonic → homophonic → polyphonic layers).
***Notation & Rhythm:*** Reading standard notation (crotchets, paired quavers, crotchet\ rests, dotted crotchets), off-beat syncopation, and 2-3 Son Clave patterns.
***Pitch & Melody:*** 5-note Pentatonic scales (C-D-E-G-A), leap vs. step movement, parallel third harmonies.
**Disciplinary Knowledge ("Thinking Like a Musician"):**
***Critical Appraising****:* Deconstructing musical layers and identifying how instrumentation creates mood and cultural context.
***Rhythmic Independence:*** Maintaining a steady individual ostinato or syncopated beat against competing polyrhythmic layers.
***Collaborative Composition:*** Applying structural forms (such as *Rondo* or *Call-and-Response*) to assemble ensemble pieces.

**Weekly Progression Scheme**
**Week 1: Voices of the Earth – Mesoamerican Timbre & Pulse**
**Music Strand:** Listening, Timbre & Pulse.
**Substantive Knowledge:**
**LKS2:** Understanding *timbre* (identifying acoustic materials: wood, clay, skin, seeds); keeping a steady pulse on tuned/untuned percussion; graphic score notation.
**UKS2:** Dynamic contrast (*pianissimo* to *forte*); using tempo changes (*accelerando*) to build ceremonial intensity; creating polyphonic textures with atmospheric soundscapes.
**Disciplinary Knowledge:**
***Aural Analysis:*** Deconstructing a musical piece to map out how different instrumental timbres evoke physical environments (rainforests, temples).
**Practical Music Activity:**
**LKS2 (Y3/4):** *Rainforest Storm Composition.* Pupils use rainsticks, wooden blocks, and clay/plastic whistles to perform a graphic score replicating an ancient Maya jungle storm, controlling dynamics via a conductor.
**UKS2 (Y5/6):** *Ceremonial Processional.* Pupils compose a multi-layered processional piece using log drums/tubular woodblocks and shakers, manipulating tempo (*accelerando*) and texture to build dramatic tension.

**Week 2: Echoes of the Andes – Pentatonic Panpipes**
**Music Strand:** Pitch, Melody & Instrument Performance.
**Substantive Knowledge:**
**LKS2:** The 5-note *Pentatonic Scale* (C-D-E-G-A); stepwise melodic motion; playing simple repeating melodic ostinatos on glockenspiels/chime bars.
**UKS2:** *Siku* (panpipe) interlocking technique (*Hocketing*—split melody between two performers); reading basic stave/letter notation; counter-melody layers.

**Disciplinary Knowledge:**
***Melodic Construction:*** Understanding why pentatonic scales avoid dissonant semitones, making them foundational to folk traditions globally.
**Practical Music Activity:**
**LKS2 (Y3/4):** *Mountain Peak Ostinato.* Pupils learn and perform a classic Andean pentatonic motif on tuned percussion, maintaining accurate pitch and pulse alongside a steady drone.
**UKS2 (Y5/6):** *Interlocking Panpipe Ensemble.* Pupils work in pairs playing tuned percussion or boom-whackers to perform an interlocking *siku* melody, dividing alternate scale notes between Partner A and Partner B.

**Week 3: The Pulse of the Caribbean – Son Clave & Syncopation**
**Music Strand:** Rhythm, Notation & Syncopation.
**Substantive Knowledge:**
**LKS2:** Off-beat accents; rhythmic syncopation; performing crotchets, paired\ quavers, and rests; mastering the 2-3 Son Clave beat.
**UKS2:** Distinguishing between 3-2 and 2-3 Son Clave; reading notation with dotted rhythms (dotted crotchet + quaver); maintaining rhythm against a counter-metronome.
**Disciplinary Knowledge:**
***Rhythmic Independence:*** Recognising the *Clave* as the "rhythmic backbone" of Afro-Latin music that dictates how all other instrumental parts fit together.
**Practical Music Activity:**

**LKS2 (Y3/4):** *Clave Masterclass.* Pupils learn to clap and play the foundational 2-3 Son Clave rhythm on wooden claves, accompanying a standard Latin pulse track without speeding up.
**UKS2 (Y5/6):** *Syncopated Rhythm Grid.* Pupils read stick notation grids to perform syncopated patterns on congas, cowbells, and claves, maintaining their individual line when layered against a partner pattern.

**Week 4: Island Call & Response – Polyrhythms & Form**
**Music Strand:** Structure, Voice & Ensemble Performance.
**Substantive Knowledge:**
**LKS2:** *Call-and-Response* structure (*Coro-Pregón*); vocal projection and pitch-matching; layering 2 distinct rhythmic ostinatos (2-part texture).
**UKS2:** *Polyrhythms* (simultaneous contrasting rhythms, e.g., 3 against 2); 3-part or 4-part instrumental/vocal ensemble textures; solo improvisational responses.
**Disciplinary Knowledge:**
***Structural Analysis:*** Evaluating how Call-and-Response creates community engagement and allows for musical improvisation within a fixed framework.
**Practical Music Activity:**
**LKS2 (Y3/4):** *Vocal & Percussion Call-Response.* Pupils perform a traditional Afro-Caribbean call-and-response song, where a soloist sings/plays the "Call" and the class responds in tight unison with rhythmic percussion.
**UKS2 (Y5/6):** *4-Part Polyrhythmic Orchestra.* The class builds a 4-part polyrhythmic layer (Clave + Cowbell + Agogô + Conga bass/tone), taking turns stepping out to improvise a 4-bar solo "Call".

**Week 5: Fiesta Mexicana – Hemiola & Mariachi Harmonies**
**Music Strand:** Time Signatures, Harmony & Musical Style.
**Substantive Knowledge:**
**LKS2:** 3/4 (waltz time) vs. 4/4 metre; parallel melodies in thirds; characteristic Mariachi instrumentation (violins, trumpets, guitars, *guitarrón*).
**UKS2:** *Hemiola* rhythm (alternating/overlapping 3/4 and 6/8 feel found in Mexican *Son*); playing or singing in 2-part parallel third harmonies; brass-style fanfare motifs.
**Disciplinary Knowledge:**
***Stylistic Comparison:*** Analysing how European harmonic traditions (guitars, violins, brass) merged with indigenous American rhythms to create modern Latin genres.
**Practical Music Activity:**
**LKS2 (Y3/4):** *Mexican Folk Fanfare.* Pupils play a brass-style parallel melody on chime bars/glockenspiels over a steady 3/4 strummed guitar/ukulele accompaniment.
**UKS2 (Y5/6):** *The Hemiola Challenge.* Pupils practice switching fluidly between a 3/4 accent count (**1**-2-3, **1**-2-3) and a 6/8 accent count (**1**-2-3-**4**-5-6) using body percussion and shaker patterns.

**Week 6: The Great Americas Suite – Finale Performance & Appraisal**
**Music Strand:** Composition Synthesis, Performance & Evaluation.
**Substantive Knowledge:**
**LKS2/UKS2 Synthesis:** Assembling learned motifs, rhythms, and structural forms into a continuous class performance suite (*Mesoamerica → Andes →Caribbean → Mexico*).
**Disciplinary Knowledge:**
***Musical Appraisal & Reflection:*** Evaluating ensemble cohesion, rhythmic accuracy, dynamic balance, and expressive control using formal musical terminology.

**Practical Americas Music Concert:**
**LKS2 & UKS2:** *The "Sounds of the Americas" Suite Showcase.*
***Movement 1 (Mesoamerica):*** Atmospheric graphic score performance with clay sound effects, log drums, and dynamic crescendo.
***Movement 2 (Andes):*** Pentatonic interlocking *Siku* melody on tuned percussion with drone accompaniment.
***Movement 3 (Caribbean):*** Full class 4-part polyrhythmic Clave and Call-and-Response ensemble piece.
***Movement 4 (Mexico):*** Lively Hemiola rhythmic finale with parallel harmonic fanfares.
***Plenary:*** Pupils watch their recorded performance, completing a peer appraisal rubric assessing timing, dynamic balance, and stylistic accuracy.

**Assessment Matrix (Progression Indicators)**

| Phase | Working Towards | Expected Standard | Greater Depth |
|---|---|---|---|
| **Lower Key Stage 2** *(Years 3 & 4)* | • Plays instruments without maintaining a steady underlying pulse.<br>• Identifies loud/quiet but struggles to use formal terms like *crescendo*.<br>• Plays pentatonic scale notes randomly without forming a repeatable motif.<br>• Claps basic rhythms but loses timing when attempting the Son Clave. | • Maintains a steady pulse on untuned percussion within a class ensemble.<br>• Identifies and performs distinct timbres (wood, metal, skin) to match a graphic score.<br>• Performs a simple 5-note pentatonic ostinato accurately on tuned percussion.<br>• Accurately claps and plays a 2-3 Son Clave pattern alongside a pulse track. | • Leads dynamic changes (*crescendo/decrescendo*) as a conductor for an ensemble.<br>• Explains aurally how different instrumental timbres alter the mood of a composition.<br>• Improvises a coherent 4-bar pentatonic melody over a sustained drone.<br>• Maintains an independent Son Clave beat while another group plays a counter-rhythm. |
| **Upper Key Stage 2** *(Years 5 & 6)* | • Struggles to keep their rhythm when performing in a 2-part polyrhythmic texture.<br>• Reads note letters but struggles to follow rhythmic notation values.<br>• Plays interlocking *hocket* melodies with long pauses between notes.<br>• Identifies speed changes but cannot identify time signatures like 3/4 vs 6/8. | • Maintains an independent syncopated rhythm within a 3-part or 4-part polyrhythmic layer.<br>• Reads and performs simple stave/grid notation containing dotted rhythms and rests.<br>• Performs an interlocking *hocket* pentatonic melody smoothly in a pair.<br>• Identifies and demonstrates the rhythmic difference between 3/4 and 6/8 (Hemiola). | • Sustains complex polyrhythmic patterns effortlessly and assists peers in holding timing.<br>• Composes and writes down multi-layered rhythmic scores using standard musical notation.<br>• Improvises stylistically accurate "Call" responses over a complex polyrhythmic groove.<br>• Evaluates performances critically, proposing precise technical adjustments to balance and texture. |

| Other Information, Ideas and Resources |
| --- |
| The music of **The Americas** is an incredible tapestry woven from Indigenous traditions, African rhythms, and European influences. For Key Stage 2, this theme offers a brilliant canvas to explore complex polyrhythms, call-and-response structures, dynamics, and improvisation. Here are four culture-rich, highly practical music lesson concepts that get children playing, composing, and listening across both continents.<br><br>**1. The Samba Batucada: Interlocking Rhythms**<br>**Musical Focus:** Pulse, polyrhythms (multiple rhythms playing at once), structure, and performance gestures.<br>**Cultural Focus:** Carnaval in Rio de Janeiro, Brazil.<br>**The Lesson Concept**<br>Samba *Batucada* is a fast-paced, highly energetic style of African-Brazilian percussion. The magic of Samba lies in how different simple rhythm patterns lock together like a puzzle to create a massive wall of sound.<br>**The Classroom Adaptation:** Map traditional Samba instruments to standard classroom percussion:<br>**Surdo** (large bass drum that keeps the heartbeat pulse) →Use large gym mats beaten with soft mallets, or plastic storage tubs.<br>**Tamborim** (high-pitched, sharp syncopated rhythms) →Use tambourines (with the jingles taped shut) or woodblocks.<br>**Agogô** (two-tone metal bells) → Use triangles or cowbells.<br>**The Activity:** Teach each section a basic 4-beat layer using rhythm mnemonics (e.g., the Surdo plays: *"Step, drop, step, drop"*, while the Agogô plays: *"Fish and chips now"*).<br>**The Master Drummer:** Introduce standard whistle signals or hand signs. One blast means *Stop*, two blasts mean *Get ready*, leading the class to start and stop their interlocking layers as a unified troupe.<br><br>**2. Echoes of the Andes: Constructing a Panpipe Soundscape**<br>**Musical Focus:** Pitch, texture, dynamics, and graphic notation.<br>**Cultural Focus:** Traditional music of Peru, Bolivia, and Ecuador.<br>**The Lesson Concept**<br>Andean music relies heavily on wind instruments like the *Siku* (panpipes) and *Quena* (flute), which mimic the whistling wind and vast open echoes of the mountain ranges.<br>**The Activity:** Listen to traditional Andean melodies (like *El Cóndor Pasa*). Focus heavily on the texture: *How do the high, breathy notes contrast with the deep thrum of the Bombo (bass drum)?*<br>**The Composition:** Have pupils use glockenspiels, recorders, or boomwhackers to create a pentatonic (5-note) mountain melody. Because pentatonic notes always sound good together, children can safely experiment with pitch without creating clashing discords.<br>**Output:** Pupils draw a "Mountain Range Score." They sketch a jagged mountain skyline on paper. Moving from left to right, their instruments must follow the physical line: when the line goes up a peak, their pitch goes higher; when it drops into a valley, the music gets lower and quieter (*diminuendo*).<br><br>**3. Jazz and the Blues: Call-and-Response Improvisation**<br>**Musical Focus:** Improvisation, the blues scale, and Call-and-Response structure.<br>**Cultural Focus:** African-American musical roots in New Orleans, USA.<br>**The Lesson Concept**<br>Born from the historical fusion of African rhythmic traditions and European harmony, Jazz and Blues are foundational to modern American music. This lesson strips away the fear of improvising by using a tight structural framework.<br>**The Activity:** Introduce the concept of "Call-and-Response," where a leader plays a phrase (the call) and the group answers back (the response). |

**The Improvisation Challenge:** Play a steady, swinging 4-chord blues backing track. The teacher (or a confident pupil) makes a "Call" using a simple 4-beat rhythm on a xylophone or a vocal shout.
**The Rules of Engagement:** Individual children take turns creating a completely improvised "Response" on their instrument, but they are only allowed to use three specific notes (e.g., C, E-flat, and F—the heart of the blues scale). This tight restriction gives them total freedom to focus on rhythm and expression without hitting a "wrong" note.

**4. The Native American Powwow Drum: Shared Pulse**
**Musical Focus:** Unison playing, tempo (speed changes), and vocal chanting.
**Cultural Focus:** Indigenous Nations of North America.
**The Lesson Concept**
In Native American culture, the massive central Powwow drum is viewed as the heartbeat of the community. Multiple drummers sit in a circle around a single large drum, singing and striking it in absolute unison.
**The Activity:** Gather the class in a tight circle around a cluster of low-tuned drums (or large upside-down bins).
**The Skill:** Children must match their strikes to a single master pulse, moving from a slow, heavy thud to a fast, rolling rumble. They practice changing the **tempo** (accelerando/ritardando) collectively purely by watching each other's physical arm movements.
**Vocals:** Layer the drumming with basic vocal chants using variations in **dynamics** (loud and soft). Have one half of the room "call" a vocal phrase loudly, and the other half echo it back softly like a distant canyon echo.

**Considerations for Implementation**

**PE**

**Substantive Knowledge**

In KS2 PE, **substantive knowledge** refers to the factual "how-to" of the subject. This includes the specific rules of games, the technical vocabulary for movements, and the foundational facts about how the body functions. When themed around **'The Americas'**, **substantive knowledge** is built through sports and physical traditions that originated in North and South America.

**1. Rules, Strategies, and Tactics**
This is the factual knowledge required to play "American" games effectively and fairly.

**Basketball (USA):** Knowing the rules of dribbling (no double-dribble), the scoring system (2 vs. 3 points), and the concept of "pivoting."
**Softball/Baseball (USA):** Understanding the layout of the diamond, the roles of the pitcher and catcher, and the "strike zone."
**Lacrosse (Indigenous North America):** Knowledge of how to safely carry the ball in the "cradle" and the basic rules of the "crease."
**Tactical Vocabulary:** Terms like *marking*, *interception*, *formation*, and *attacking/defending* space.

**2. Technical Skills and Movement**
The specific physical "vocabulary" of movement required for American-themed activities.

**Dance (Samba/Tango/Line Dancing):**
**Samba:** Learning the "Samba bounce" and the specific footwork (1-and-2 rhythm).
**Line Dancing:** Memorising sequences like the "grapevine," "pivot turn," and "scuff."

**Athletics and Fitness:**
Knowing the correct technique for a "lay-up" or a "chest pass" in Basketball.
Understanding the proper "stance" for batting and "over-arm" vs. "under-arm" throwing in Softball.
**Mesoamerican Games:** Learning about *Pok-ta-tok* (the Maya ball game) and the physical skill of using hips and elbows to move a ball.

**3. Health and Anatomy**
The factual biological knowledge gained through physical exertion.

**The Heart and Lungs:** Knowing that the heart is a pump and identifying that exercise increases heart rate and oxygen intake.
**Muscle Groups:** Identifying major muscles used in American sports, such as the *quadriceps* and *hamstrings* for running in Baseball, or the *deltoids* and *triceps* for shooting in Basketball.
**The Effects of Exercise:** Understanding short-term effects (sweating, red face, increased breathing) and long-term effects (increased stamina and strength).

**4. Cultural and Historical Context of Sport**
Knowledge of the origins and significance of American physical activities.

**Origins:** Knowing that Lacrosse was originally a spiritual and community game played by the Iroquois and other Indigenous nations.
**Festivals:** Knowing that Samba is the foundational dance of the Brazilian Carnival and represents national identity.
**Values:** Understanding the "Spirit of the Game" in American sports like Ultimate Frisbee, which emphasises self-refereeing and fair play.

**Summary Checklist: Substantive PE Knowledge**

| Category | Example of Fact-Based Knowledge |
|---|---|
| **Rules** | I know that you cannot run with the ball in Basketball without dribbling. |
| **Technique** | I know that in a chest pass, my elbows should be out and my thumbs point down. |
| **Vocabulary** | I can define "syncopation" in a dance context as moving off the main beat. |
| **Anatomy** | I can name three changes that happen to my body during a high-intensity dance. |

**Disciplinary Knowledge**

In Key Stage 2 PE, **disciplinary knowledge** refers to the understanding of *how* to be an athlete, a performer, and a fair competitor. It is the "strategic and evaluative" side of PE—learning how to apply skills, analyse performance, and understand the impact of exercise on the body. Using **'The Americas'** learning theme, explores traditional dances (like Samba or Line Dancing), American sports (like Basketball or Baseball), and the physical demands of different terrains (like the Andes or the Amazon).
**1. Strategic Movement and Tactical Awareness**
This is the ability to use space and movement to achieve a goal, common in American-born sports.

**Spatial Awareness:** In games like **Basketball** (USA), understanding how to find "open space" to receive a pass.
**Attack vs. Defence:** Creating strategies to bypass a defender in a game of **Flag Football** or **Lacrosse** (which has Indigenous North American roots).
**Positional Play:** Understanding the specific roles in a team, such as a "pitcher" or "back-stop" in **Rounders/Softball**.

**2. Aesthetic Interpretation and Composition**
This focuses on the "artistry" of movement, often through dance or gymnastics.

**Rhythmic Accuracy:** Matching movements to the complex, syncopated beats of **Samba** (Brazil) or the rhythmic patterns of **Square Dancing** (USA).
**Choreographic Structure:** Using formations and transitions to tell a story or represent an American theme (e.g., creating a group "rainforest" motif through movement).
**Expression:** Using dynamic levels (high/low) and speed (fast/slow) to convey the energy of a Carnival or the stealth of a Jaguar.

**3. Performance Analysis and Evaluation**
This is the "critical eye" of the athlete—knowing what a good performance looks like and how to improve.

**Peer Observation:** Watching a classmate perform a "lay-up" in Basketball and offering constructive feedback based on specific criteria (e.g., "use the backboard").
**Self-Correction:** Adjusting your own technique, such as the grip on a bat in **Softball**, after a missed strike.
**Comparative Evaluation:** Comparing your personal best in a "Mountain Trek" fitness challenge to previous attempts to measure progress.

**4. Understanding Health and Fitness**
This involves the physiological knowledge of what happens to the body during physical activity.

**Impact of Exercise:** Monitoring heart rate and breathing after a high-energy South American dance routine.
**Warm-up and Cool-down:** Understanding *why* we must prepare our muscles before a vigorous game of **Ultimate Frisbee**.
**Environmental Adaptation:** Learning how athletes in the Americas adapt to different climates, such as the challenges of playing at high altitudes in the Andes.

**Summary Table: Substantive vs. Disciplinary in PE**

| Substantive Knowledge (The "What") | Disciplinary Knowledge (The "How/Why") |
|---|---|
| Knowing the rules of Basketball. | Applying a **tactical play** to score a basket. |
| Learning a specific Samba step. | **Evaluating** the fluidity and rhythm of a dance. |
| Knowing that exercise makes the heart beat faster. | Explaining **why** a faster heart rate is necessary for high-intensity activity. |

**Learning Objectives**

In KS2 PE, **learning objectives** transition from basic movement to the application of skills in complex situations. Using **'The Americas'** learning theme allows you to combine competitive sports (USA/Canada)

with expressive movement and dance (Latin America/Caribbean). These are the **learning objectives** categorised by the core PE strands:

**1. Games and Team Sports (North American Focus)**

These objectives focus on the skills and tactics required for sports like Basketball, Softball, or Flag Football.

**Master Technical Skills:** I can execute a range of passes in Basketball (chest, bounce, overhead) with increasing accuracy and power.
**Apply Tactical Awareness:** I can identify and move into "open space" to support a teammate during a game of Ultimate Frisbee or Lacrosse.
**Develop Striking and Fielding:** I can coordinate my hand-eye movements to strike a ball with a bat in Softball and choose the correct base to throw to when fielding.
**Understand Rules:** I can play within the official rules of an American-born sport and explain the role of an official or referee.

**2. Dance and Expressive Movement (Latin American Focus)**

These objectives focus on rhythm, choreography, and performance.

**Maintain Rhythmic Accuracy:** I can perform a sequence of **Samba** or **Salsa** steps in time with a syncopated musical beat.
**Choreograph and Compose:** I can work in a small group to create a "Carnival" routine that includes different levels, speeds, and transitions.
**Interpret Themes:** I can use my body to represent the animals or environment of the **Amazon Rainforest**, using high and low movements to show different "layers" of the forest.
**Evaluate and Refine:** I can watch a peer's dance performance and provide feedback using specific terms like *timing, extension,* and *expression*.

**3. Athletics and Outdoor Adventure**

These objectives focus on personal bests and navigating challenges, often themed around the varied American landscape.

**Analyse Pace:** I can adjust my running speed to complete a "Mountain Trek" (cross-country) challenge, understanding how to conserve energy.
**Demonstrate Power and Control:** I can use the correct technique for jumping and throwing, aiming to improve my personal best in a "Pan-American Games" athletics day.
**Problem Solve:** I can work as part of a team to solve an outdoor navigation challenge (using maps of "The Americas") to find specific "waypoints" or landmarks.

**4. Health and Fitness**

These objectives link physical activity to the biological facts of the body.

**Monitor Physical Response:** I can describe the physical changes in my body (heart rate, temperature, breathing) after a high-intensity **Zumba** or **Line Dancing** session.
**Explain Warm-ups:** I can lead a small group through a warm-up routine and explain why it is necessary to prevent injury before playing a competitive game like Basketball.

**Example "Success Criteria" for a Lesson**

If the objective is: **"To develop the 'Samba Bounce' and rhythmic footwork,"** the success criteria might be:

**Y3/Y4:** I can keep a steady beat while moving my feet.
**Y4/Y5:** I can perform the "1-and-2" step pattern with a visible "bounce" in my knees.
**Y5/Y6:** I can maintain the rhythm while adding coordinated arm movements and staying in formation with my group.

**Lesson Ideas**

Here is a complete, 6-week Medium-Term Plan for Key Stage 2 Physical Education framed around the movement traditions, tactical invasion games, athletic challenges, and dance styles of **'The Americas'**. This unit connects core National Curriculum PE strands—**Dance & Expressive Movement**, **Invasion & Tactical Games**, and **Athletic Mechanics & Running/Passing Mechanics**—with Mesoamerican ballgames (*Pok-a-Tok*), Native American lacrosse roots, Andean mountain endurance running, and traditional Latin dance styles (*Salsa, Capoeira, and Samba*). It balances **substantive knowledge** (biomechanical form, tactical positioning, rhythm syncopation, spatial awareness, defensive/offensive rules, passing angles, and physiological pacing) with **disciplinary knowledge** ("Thinking & Acting Like an Athlete/Coach"—evaluating movement efficiency, analysing tactical decisions, choreographing structured movement phrases, applying biomechanical feedback, and evaluating performance quality).

**Unit Title:** Movement of the Americas: From Mesoamerican Courts to Rhythmic Capoeira
**Duration:** 6 Weeks (Approx. 1 to 1.5 hours per week)
**Theme:** Mesoamerican Ballgame Tactics, Native American Teamwork, Andean Pacing, and Latin American Dance Mechanics.
**Athletic & Cultural Contexts:**
***Mesoamerica (Pok-a-Tok):*** Hip-striking mechanics, keeping the ball airborne without hands/feet, spatial positioning, deflection tactics.
***North America (Native American Lacrosse / Tewaarathon):*** **Cradle** mechanics, spatial invading, rapid passing pathways, transition defence.
***South America (Capoeira & Salsa):*** Martial arts footwork (*Ginga*), evasive fluid movement, syncopated rhythm, balance shifts, partner coordination.
***Andean Highlands (Chaski Runners):*** High-altitude endurance mechanics, relay pacing, efficient stride cadences, team handoffs under fatigue.

**Key PE Pillars**
**Substantive Knowledge:**
***Biomechanical Mechanics:*** Low centre of gravity for balance and rapid direction changes; body alignment for non-traditional ball strikes (hips/thighs); arm-drive efficiency in distance running.
***Tactical Gameplay:*** Invasion principles (creating width, drawing defenders, fast break transitions, defensive marking/intercepting angles).
***Rhythm & Choreography:*** Performing 8-count movement phrases, syncopated footwork, fluid weight transfers, maintaining tempo within a group ensemble.
**Disciplinary Knowledge ("Thinking Like an Athlete & Coach"):**
***Performance Analysis:*** Video/peer observation to evaluate biomechanical form, stroke accuracy, and spatial awareness.
***Tactical Evaluation:*** Analysing game footage or live drills to adapt defensive or offensive strategies based on opponent positioning.
***Reflective Feedback:*** Applying physical coaching cues (e.g., *"bend knees, widen base"*) to self-correct during skill execution.

**Weekly Progression Scheme**

**Week 1: Court of the Sun – Pok-a-Tok Mechanics & Ball Control – this lesson may have been taught during 'The Maya' learning theme so can either be used as a re-cap of skills lesson or can be swapped for a different lesson (see Other Ideas, Resources and Information)**
**PE Strand:** Non-Standard Striking, Balance & Low Base Control.
**Substantive Knowledge:**
**LKS2:** Striking foam balls using only hips, thighs, and torso; maintaining a wide, low balance base; tracking ball trajectory.
**UKS2:** Calculating rebound angles off target zones; directional deflection control using body tilt; maintaining movement flow without stopping the ball.
**Disciplinary Knowledge:**
***Biomechanical Evaluation:*** Identifying how dropping the centre of gravity improves lateral reaction speed and striking power.
**Practical PE Activity:**
**LKS2 (Y3/4):** *Hip & Thigh Volley Rally.* In pairs, pupils keep a soft foam ball airborne inside a grid zone using only their hips and upper thighs, counting consecutive successful strikes.
**UKS2 (Y5/6):** *Mesoamerican Rebound Challenge.* Groups play a 3v3 court game where points are scored by striking a low-bounce ball against target wall zones using hip/thigh deflections while opponents attempt to intercept.

**Week 2: Native Trails – Tactical Invasion & Rapid Passing**
**PE Strand:** Invasion Game Tactics, Passing Pathways & Movement Off the Ball.
**Substantive Knowledge:**
**LKS2:** Catching and chest-passing on the move; dodging into open space; defensive tracking (man-to-man marking).
**UKS2:** Creating passing triangles; fast-break transitions; using quick shoulder fakes to displace defenders before releasing a pass.
**Disciplinary Knowledge:**
***Tactical Analysis:*** Evaluating when to execute a direct forward pass versus cycling possession backward to maintain spatial control.

**Practical PE Activity:**
**LKS2 (Y3/4):** *Trail Invaders 4v2.* Attackers attempt to move a small soft ball down a narrow grid zone into a endzone using quick short passes without being tagged by two central defenders.
**UKS2 (Y5/6):** *Rapid Transition Court Game.* A fast-paced invasion game where teams must complete 4 passes using designated receiving zones before shooting into a target circle, analysing peer offensive positioning.

**Week 3: Chaski Mountain Runners – Pacing & Relay Efficiency**
**PE Strand:** Athletics, Pacing Dynamics & Team Handoffs.
**Substantive Knowledge:**
**LKS2:** Distinguishing between sprinting and middle-distance pacing; arm-drive technique (90° elbow bend); smooth baton/beanbag handoffs.
**UKS2:** Managing energy systems across varied tempo intervals; acceleration timing during a blind/up-speed handoff; pacing strategies for group endurance challenges.
**Disciplinary Knowledge:**
***Physiological Reflection:*** Monitoring heart rate recovery and understanding how regulated breathing sustains physical output.

**Practical PE Activity:**
**LKS2 (Y3/4):** *Andean Messenger Relay.* Teams complete an interval endurance relay course, focusing on maintaining steady stride cadences and matching speed during beanbag exchanges.
**UKS2 (Y5/6):** *The Imperial Chaski Pace Challenge.* Pupils calculate and execute specific lap pacing targets using stopwatch feedback, analysing how pacing affects continuous team relay efficiency.

**Week 4: Martial Rhythm – Capoeira Footwork & Balance Evasion**
**PE Strand:** Dance / Martial Movement, Fluidity, Balance & Core Stability.
**Substantive Knowledge:**
**LKS2:** The foundational *Ginga* step (triangular foot movement rhythm); executing controlled low dodges (*Esquiva*); maintaining core balance.
**UKS2:** Combining *Ginga* with sweeping evasions and fluid weight shifts; non-contact movement dialogues (reacting to a partner's attack/dodge in time).
**Disciplinary Knowledge:**
***Choreographic Dialogue****:* Understanding how non-verbal body language and visual focus create reactive movement patterns between two athletes.
**Practical PE Activity:**
**LKS2 (Y3/4):** *Ginga & Esquiva Sequence.* Pupils learn the 4-count *Ginga* footwork step, adding a low sideways dodge (*Esquiva*) on command while keeping eyes locked on a partner.
**UKS2 (Y5/6):** *Capoeira Roda Dialogue.* In a circular formation (*Roda*), pairs perform a continuous non-contact movement sequence where Partner A initiates a high fluid leg pass and Partner B smoothly dodges beneath it into a *Ginga* reset.

**Week 5: Rhythm of the Tropics – Latin Dance Syncopation & Spatial Formations**
**PE Strand:** Dance, Syncopation, Dynamic Control & Group Formations.
**Substantive Knowledge:**
**LKS2:** Basic 8-count Salsa/Samba footwork steps; moving in unison with a partner; changing speed/direction on beat transitions.
**UKS2:** Syncopated footwork patterns; choreographing group transitions between canon, unison, and mirror formations; expressive dynamic control (*sharp vs. fluid*).
**Disciplinary Knowledge:**
***Choreographic Evaluation:*** Assessing how varying levels (low, medium, high) and group spatial structures enhance the visual impact of a performance.
**Practical PE Activity:**
**LKS2 (Y3/4):** *8-Count Latin Phrase.* Pupils combine forward/backward salsa basic steps with side taps, performing in synchronized pairs to a steady 120 BPM drum beat.
**UKS2 (Y5/6):** *Samba Group Formation Challenge.* In groups of 4–6, pupils compose a 32-count dance phrase incorporating canon timing, spatial shifts, and clear level variations.

**Week 6: The Americas Athletic & Dance Showcase – Finale & Coaching Analysis**
**PE Strand:** Performance Synthesis, Tactical Gameplay & Peer Coaching.
**Substantive Knowledge:**
**LKS2/UKS2 Synthesis:** Demonstrating refined balance, tactical passing, endurance pacing, and rhythmic choreography within a multi-station athletic festival.
**Disciplinary Knowledge:**
***Peer Coaching & Performance Analysis:*** Utilising formal coaching rubrics to analyse biomechanical execution, game strategy, and rhythmic accuracy in peer performances.

**Practical Americas PE Festival:**
**LKS2 & UKS2:** *The "Games of the Americas" Festival.*
***Station 1 (Mesoamerica):*** Pok-a-Tok court tournament evaluating hip-striking angles and low-base control.
***Station 2 (Invasion Trails):*** Fast-paced 4v4 invasion games assessing spatial passing off the ball.
***Station 3 (Andean Tracks):*** Team interval relay challenge tracking lap time consistency and handoff accuracy.
***Station 4 (Latin Stage):*** Group performance of Capoeira dialogues and Latin dance routines.
***Plenary:*** Pupils complete a peer coaching reflection sheet, providing constructive feedback on biomechanical form and tactical performance.

**Assessment Matrix (Progression Indicators)**

| Phase | Working Towards | Expected Standard | Greater Depth |
|---|---|---|---|
| **Lower Key Stage 2** *(Years 3 & 4)* | • Loses balance frequently when trying to strike a ball with hips/thighs.<br>• Runs into crowded spaces during invasion drills instead of finding open space.<br>• Sprints at full speed instantly during relay runs, tiring out quickly.<br>• Struggles to keep step timing to an 8-count beat during basic dance drills. | • Maintains a stable low base when deflecting a soft ball using hips and thighs.<br>• Moves into open space to receive passes and tracks opponents defensively.<br>• Regulates running pace during endurance challenges and completes smooth handoffs.<br>• Performs 8-count dance phrases (*Ginga / Salsa*) in time with music. | • Controls deflection trajectory with intention to send the ball into specific court zones.<br>• Anticipates passing options, making quick tactical decisions to bypass defenders.<br>• Analyses peer pacing form, offering actionable cues on arm-drive and stride cadence.<br>• Demonstrates expressive dynamic control and seamless transitions between dance steps. |
| **Upper Key Stage 2** *(Years 5 & 6)* | • Directs hip strikes randomly without adjusting body orientation.<br>• Holds onto the ball too long in invasion games, allowing defenders to close in.<br>• Accelerates erratically during relay handoffs, resulting in missed beanbag passes.<br>• Performs martial/dance movements stiffly without fluid weight transfers. | • Calculates rebound angles and executes controlled directional hip/thigh deflections.<br>• Creates passing triangles and uses rapid transition passes to break defensive lines.<br>• Executes accelerated handoffs within designated zones based on team pacing targets.<br>• Choreographs and performs multi-part movement dialogues | • Adapts court position dynamically to cover team weaknesses and dominate space.<br>• Evaluates team tactical efficiency during games, adjusting offensive formations independently.<br>• Designs pacing strategies tailored to varying group endurance profiles.<br>• Critically evaluates choreographic spatial formations, refining group synchronization and levels. |

| | | | |
|---|---|---|---|
| | | (Capoeira) with fluid balance shifts. | |

**Other Information, Ideas and Resources**

Integrating **Key Stage 2 PE** with the learning theme of **'The Americas'** is a brilliant way to explore culture, geography, and history through active movement. From the ancient ball courts of Mesoamerica to the high-tempo sports born in North American cities, these ideas target teamwork, agility, rhythm, and tactical thinking. Here are four dynamic, curriculum-linked PE lesson concepts that transform American traditions and sports into structured classroom physical activities.

**1. El Juego de Pelota: The Ancient Maya Ballgame (Games & Agility)**
**PE Focus:** Invasion games, spatial awareness, shielding, and body control (restricted movement).
**The Big Question:** *Can you keep a ball moving without using your hands or feet?*
**The Lesson Concept**
Dating back over 3,000 years, the Mesoamerican ballgame (*Pok-ta-tok* or *Ulama*) was played by the Maya and Aztecs. The extreme twist? Players were strictly forbidden from using their hands or feet; they had to keep a heavy rubber ball in the air using only their **hips, elbows, and knees**.
**The Classroom Adaptation:** Use a soft, lightweight playground ball or a large balloon to ensure safety and success.
**The Activity:** Set up mini-courts with a central line (or a low net). In small teams, pupils must pass the ball over the line to score. They are only allowed to strike or bounce the ball using their hips, thighs, or elbows.
**Physical Skill:** This builds exceptional core stability, balance, and coordination. Pupils learn to drop their centre of gravity to bump the ball upward using their hips.

**2. Inventing Basketball: The Springfield Challenge (Invasion Games)**
**PE Focus:** Tactical passing, finding space, pivoting, and offensive/defensive transitions.
**The Big Question:** *How did a rainy day in Massachusetts lead to the birth of a global sport?*
**The Lesson Concept**
In 1891, Canadian-American instructor James Naismith invented basketball in Springfield, USA, using two peach baskets and a soccer ball to keep his pupils active indoors during a harsh winter. This lesson focuses on the foundational rule that revolutionised invasion games: **you cannot run while holding the ball**.
**The Activity:** Play a modified version of "Netball-Basketball" where dribbling is removed entirely to emphasise tactical teamwork.
**The Rules:** Once a player catches the ball, they must freeze and can only **pivot** on one foot. To move the ball down the court toward the target (a hoop or a designated catcher in a zone), they must execute crisp chest passes, bounce passes, or overhead passes to teammates running into open space.
**Tactical Focus:** Attackers learn to make quick "V-cuts" to lose their defenders, while defenders practice tight man-to-man marking and intercepting lines.

**3. The New York Street Game: Handball & Rounders Fusion (Striking & Fielding)**
**PE Focus:** Hand-eye coordination, striking a moving ball with accuracy, tracking, and base-running.
**The Big Question:** *How do we use tactical angles to out King our opponents?*
**The Lesson Concept**
Before big stadiums existed, children in American cities like New York developed iconic street games using whatever space they had—like *Stickball* or *Handball* played against brick apartment walls. This lesson blends traditional American baseball/softball concepts with accessible street-game striking.

**The Activity:** Set up a diamond batting field (like Rounders). Instead of using a bat, the batter stands at home plate and **strikes a tennis ball or soft foam ball directly with their open palm** (either dropping and hitting it themselves, or hitting a slow underarm throw from a pitcher).
**Fielding Focus:** Once struck, the batter sprints around the bases. The fielding team cannot run with the ball; they must throw it cleanly to the base-player to get the runner "out."
**Skill Takeaway:** Striking with the hand bridges the gap for children who struggle with bat-to-ball contact, shifting the educational focus to throwing accuracy and rapid base-running decisions.

**4. Varsity Cheer and Stunt: Synchronised Formations (Dance & Gymnastics)**
**PE Focus:** Jump precision, synchronisation, rhythmic movement, and counter-balance shapes.
**The Big Question:** *How do we combine strength and rhythm to build a high-energy team formation?*
**The Lesson Concept**
Cheerleading started in US universities and has evolved into an incredibly athletic sport combining gymnastics, dance, and collaborative stunts. This lesson focuses on crisp, sharp body positions, rhythm, and safe group balances.
**The Activity:** Teach the class the core visual arm positions used in cheer routines (the High-V, Low-V, T-motion, and K-motion). These movements must be executed with explosive tightness, not loose arms.
**The Component Challenge:** In groups of 4 to 6, pupils must choreograph a short routine to an 8-beat counts track. The routine must include:
Four synchronised arm motions.
A unified jump (e.g., a star jump landing softly with bent knees).
A safe, low-level **group counterbalance shape** (e.g., two outer partners leaning away holding hands with central anchor partners).
**Output:** Teams perform their energetic, perfectly timed routines for the rest of the class, focusing on posture and performance presence.

**Considerations for Implementation**

**Science**

**Substantive Knowledge**

In KS2 Science, **substantive knowledge** consists of the core facts, concepts, and models that pupils must learn. Using **'The Americas'** learning theme provides a rich backdrop for topics like biodiversity, adaptation, and environmental change. The curriculum is typically organised into several key areas of scientific study:

**1. Living Things and Their Habitats**
This is often the core focus when studying the Americas, especially the Amazon Rainforest and the Galápagos Islands.

**Classification:** Identifying the characteristics of the five main groups of vertebrates (mammals, birds, reptiles, amphibians, and fish) and invertebrates using American examples (e.g., the Blue Morpho butterfly or the Anaconda).
**Life Cycles:** Knowing the distinct life cycles of American animals, such as the metamorphosis of a Central American Red-eyed Tree Frog or the life cycle of a Monarch Butterfly during its migration across North America.
**Micro-habitats:** Understanding the layers of the rainforest (emergent, canopy, understory, and forest floor) and the specific conditions that support life in each.

**2. Animals, Including Humans (Nutrition and Senses)**
**Food Chains and Webs:** Understanding the roles of producers, consumers, predators, and prey within an American ecosystem.

*Example:* Grass (producer) → Grasshopper (primary consumer) → Bullfrog (secondary consumer) → Red-tailed Hawk (tertiary consumer).
**Teeth and Digestion:** Comparing the dentition of American herbivores (like the Manatee) with carnivores (like the Jaguar) to understand how their bodies are adapted to their diet.

**3. Evolution and Inheritance**
The Americas (specifically South America and the Galápagos) are the birthplace of the theory of evolution.

**Adaptation:** Knowing specific physical and behavioural traits that allow plants and animals to survive in American biomes.
*Cacti in the Sonoran Desert:* Spines to reduce water loss and thick stems to store water.
*Sloths in the Amazon:* Camouflage and slow metabolism to avoid predators.
**Fossils:** Understanding how fossils found in the Americas, such as the Megatherium (giant ground sloth) or the Triceratops, provide evidence for living things that inhabited the earth millions of years ago.

**4. Plants**
**Growth and Survival:** Understanding the requirements for plant life (light, water, nutrients, and space) and how these vary across the Americas—from the nutrient-poor soil of the rainforest to the dry conditions of the Atacama Desert.
**Reproduction:** Knowing how different American plants disperse seeds (e.g., the coconut palm using water or the cacao tree using animals).

**5. Summary Table: American Examples in Science**

| Topic | Key Substantive Fact |
|---|---|
| **Classification** | The **Axolotl** (Mexico) is an amphibian that retains its gills throughout its life. |

| | |
|---|---|
| **Adaptation** | **Darwin's Finches** evolved different beak shapes to eat different foods on different islands. |
| **Climate Change** | Rising temperatures affect the **migration patterns** of North American birds. |
| **States of Matter** | How the water cycle functions in the **Amazon Basin**, creating its own "river in the sky." |

**Key Vocabulary (Substantive Terminology)**
**Biome:** A large naturally occurring community of flora and fauna (e.g., Tundra, Rainforest).
**Metamorphosis:** The process of transformation from an immature form to an adult (e.g., frog/butterfly).
**Producer:** An organism that produces its own food, usually through photosynthesis.
**Inheritance:** The process by which genetic information is passed from parent to offspring.

**Disciplinary Knowledge**

In Key Stage 2 Science, **disciplinary knowledge** (often referred to as "Working Scientifically") focuses on the methods and skills scientists use to answer questions about the world. When applied to the learning theme of **'The Americas'**, pupils don't just learn about the animals or plants found there; they learn how to categorise them, observe their life cycles, and investigate how they have adapted to extreme American environments.

**1. Comparative Classification**
Scientists group living things based on shared characteristics. In the context of the Americas, this involves looking at the vast biodiversity of the two continents.

**Taxonomy:** Using and creating classification keys to identify animals from the Amazon Rainforest versus the North American Prairies.
**Criteria Selection:** Deciding which physical features (e.g., gills vs. lungs, scales vs. fur) are most useful for grouping American fauna like the Axolotl, the Bald Eagle, or the Capybara.

**2. Evidence-Based Observation (Life Cycles)**
This involves observing and comparing the developmental stages of organisms found across the Americas.

**Pattern Seeking:** Comparing the life cycle of a mammal (like a Jaguar) with an amphibian (like a Red-eyed Tree Frog) or a bird (like a Macaw).
**Researching Distant Environments:** Using secondary sources (videos, data, and text) to observe life cycles that cannot be seen in the local UK environment.

**3. Investigating Adaptations and Evolution**
**Disciplinary knowledge** here is about understanding *why* organisms look and behave the same way in response to their environment.

**Variable Analysis:** Investigating how different environments in the Americas (the freezing Andes vs. the humid Amazon) lead to different evolutionary adaptations.
**Fair Testing:** Setting up experiments to see how different "beak shapes" (simulating Darwin's Finches from the Galápagos Islands) affect the ability to gather different types of food.

**4. Data Interpretation and Environmental Impact**
This involves analysing how human and natural changes in the Americas affect living things.

**Interpreting Climate Data:** Looking at temperature and rainfall charts from the Atacama Desert to predict what kind of plants could survive there.
**Argumentation:** Using scientific evidence to debate the impact of deforestation in the Amazon on global oxygen levels and local food chains.
**Constructing Food Webs:** Modelling the flow of energy in an American ecosystem (e.g., the Great Plains) and predicting the consequence if a predator like the Grey Wolf is removed.

**Summary Table: Substantive vs. Disciplinary in Science**

| Substantive Knowledge (The Facts) | Disciplinary Knowledge (The Skill) |
|---|---|
| Knowing that a Toucan lives in the canopy. | **Explaining** how its beak is an adaptation for eating fruit. |
| Knowing the stages of a frog's life cycle. | **Comparing** the life cycle of an American Bullfrog to a UK Common Frog. |
| Naming the parts of a plant. | **Setting up an enquiry** to see how much water a desert cacti needs vs. a fern. |

**Learning Objectives**

In KS2 Science, the learning theme of **'The Americas'** is most effectively taught through the lenses of **Classification, Adaptation, and Ecology**. Because the Americas contain almost every type of biome on Earth—from the Arctic Tundra to the Amazon Basin—they provide a perfect laboratory for these objectives. Here are the possible **learning objectives** categorised by the National Curriculum strands:

**1. Living Things and Their Habitats**
These objectives focus on grouping organisms and understanding their environments.

**Master Classification:** I can use a classification key to group animals from the Americas into vertebrates (mammals, birds, reptiles, amphibians, fish) and invertebrates.
**Compare Life Cycles:** I can describe and compare the life cycles of an American mammal (e.g., a Sea Otter) and a South American amphibian (e.g., a Poison Dart Frog).
**Identify Habitat Impacts:** I can research and explain how human-induced changes in the Americas, such as deforestation or melting glaciers, impact the survival of local species.

**2. Evolution and Inheritance**
The Americas offer the world's most famous case studies for evolution (Darwin's Finches and the Galápagos).

**Explain Adaptation:** I can identify how animals and plants in the Americas have adapted to suit their environment (e.g., the thick skin of a Saguaro cactus or the camouflage of a Jaguar).
**Understand Evolution:** I can explain how the variation in beak shapes of finches on the Galápagos Islands helped them survive on different food sources.
**Analyse Fossils:** I can describe how fossils provide evidence of prehistoric life in the Americas, such as the Megatherium (giant sloth) or North American dinosaurs.

**3. Animals, Including Humans**
These objectives focus on the "mechanics" of life through American food webs.

**Construct Food Chains:** I can identify producers, predators, and prey within a specific American ecosystem, such as the Everglades or the Great Plains.
**Analyse Nutrition:** I can describe the different types of teeth in American carnivores, herbivores, and omnivores and explain how they relate to their diet.
**Model Energy Flow:** I can create a complex food web for the Amazon Rainforest and predict what would happen if a "keystone species" (like the Jaguar) were removed.

**4. Working Scientifically (Disciplinary Focus)**
These objectives relate to the "process" of science.

**Plan a Fair Test:** I can design an investigation to see which type of "beak" (using different tools) is most effective at picking up different types of "seeds" (simulating Darwin's observations).
**Record and Analyse Data:** I can use a digital rain gauge or thermometer to compare "live" weather data from a city in the UK with a city in the Americas (e.g., Manaus in the Amazon).
**Draw Conclusions:** I can use secondary evidence to explain how the water cycle works within the Amazon Basin and why it is often called a "weather machine."

**Example Lesson Success Criteria**
If the objective is: **"To understand how desert plants are adapted to their environment,"** the success criteria might be:
**I can** name the three basic requirements for plant growth.
**I can** explain how a cactus stores water in its stem.
**I can** describe how spines (instead of leaves) prevent water loss through transpiration.

**Lesson Ideas**

Here is a complete, 6-week Medium-Term Plan for Key Stage 2 Science framed around the varied ecosystems, unique fauna, adaptations, and natural resources of **'The Americas'**. This unit connects core National Curriculum Science strands—**Living Things & Their Habitats**, **Animals Including Humans (Nutrition, Circulation & Adaptations)**, **States of Matter**, and **Materials & Properties**—with the Amazon Rainforest, the Andes Mountains, Mesoamerican agriculture, and Central American volcanic landscapes. It balances **substantive knowledge** (classification keys, food webs, evolutionary adaptations, bio-geography, xylem water transport, structural properties of rubber, and soil chemistry) with **disciplinary knowledge** ("Working Scientifically"—constructing dichotomous keys, designing fair tests, conducting comparative tests, controlling variables, interpreting environmental data, and formulating evidence-based conclusions).

**Unit Title:** Ecosystems of the Americas: From Rainforest Canopy to Mountain Peaks
**Duration:** 6 Weeks (Approx. 1.5 to 2 hours per week)
**Theme:** Amazonian Bio-Diversity & Classification, Extremophile Adaptations, Plant Transport in Cacao/Maize, and Material Science of Natural Rubber.
**Scientific & Geographic Contexts:**
***Amazon Rainforest (Brazil/Peru):*** Canopy stratification, food webs, micro-climates, bio-diversity, and dichotomous classification keys.
***Andes Mountain Range (Peru/Chile):*** Low-oxygen adaptations, insulation properties of alpaca wool, extremophile plant survival.

***Mesoamerican Flora (Mexico/Central America):*** **Plant** vascular systems (xylem/phloem), germination conditions for maize/cacao, soil nutrients.
***Amazonian Rubber Trees (Hevea brasiliensis):*** States of matter, cross-linking polymers, elasticity, waterproofing, and physical property testing.

**Key Science Pillars**
**Substantive Knowledge:**
***Classification & Habitats:*** Grouping organisms into vertebrates (mammals, reptiles, amphibians, birds, fish) and invertebrates using classification keys; food chain producer-consumer dynamics.
***Adaptation & Evolution:*** Physical and behavioural adaptations aiding survival in distinct biomes (e.g., toucan beak thermoregulation, jaguar camouflage, alpaca haemoglobin efficiency).
***Plant Physiology:*** Water transport through xylem vessels; photosynthesis prerequisites (light, carbon dioxide, water, minerals); seed dispersal mechanisms.
***Material Science & States of Matter:*** Reversible vs. irreversible chemical changes; physical properties of natural vs. synthetic polymers; liquid latex to solid rubber vulcanization.
**Disciplinary Knowledge ("Working Scientifically"):**
***Classification & Identification:*** Designing and testing branching dichotomous keys based on observable physical characteristics.
***Fair Testing & Variable Control:*** Planning investigations by identifying independent, dependent, and controlled variables (e.g., testing natural thermal insulators or plant transport rates).
***Data Collection & Graphical Analysis:*** Measuring, recording, and plotting environmental variables (humidity, light intensity, transpiration rates) over time.
***Scientific Reasoning:*** Evaluating evidence to draw conclusions about how environmental changes threaten interconnected food webs.

**Weekly Progression Scheme**
**Week 1: Amazonian Layers – Classification & Dichotomous Keys**
**Science Strand:** Living Things & Their Habitats (Classification & Keys).
**Substantive Knowledge:**
**LKS2:** Grouping Amazonian animals into vertebrate classes (poison dart frog, jaguar, toucan, caiman, piranha); understanding habitat layers (emergent, canopy, understory, forest floor).
**UKS2:** Constructing multi-stage dichotomous keys using physical traits; classifying rainforest invertebrates (bullet ants, morpho butterflies, arachnids) based on anatomical features.
**Disciplinary Knowledge:**
***Working Scientifically:*** Formulating unambiguous, yes/no structural questions to sort and identify unseen organisms accurately.
**Practical Science Investigation:**
**LKS2 (Y3/4):** *Rainforest Layer Sorting & Key Challenge.* Pupils sort specimen cards of Amazonian animals into habitat layers and construct a simple branching key based on body coverings and limb structures.
**UKS2 (Y5/6):** *Amazonian Invertebrate Dichotomous Key.* Pupils examine micro-photographs of Amazonian insects and arachnids, designing a rigorous multi-tier classification key to identify unknown specimens.

**Week 2: Webs of the Jungle – Food Chains, Energy & Interdependence**
**Science Strand:** Living Things & Their Habitats / Animals Including Humans.
**Substantive Knowledge:**
**LKS2:** Food chains in the Amazon; identifying producers, primary consumers, secondary consumers, and apex predators; herbivore vs. carnivore dentition.

**UKS2:** Interconnected food webs; energy transfer efficiency between trophic levels; analysing the cascading ecosystem impacts of deforestation or apex predator removal.
**Disciplinary Knowledge:**
***System Modelling:*** Predicting and mapping the downstream consequences on secondary populations when a single food web variable is removed.
**Practical Science Investigation:**
**LKS2 (Y3/4):** *Dentition & Diet Inference.* Pupils examine cast models or photos of Amazonian animal skulls (e.g., capybara vs. jaguar), predicting their place in the food chain based on tooth structure.
**UKS2 (Y5/6):** *Ecosystem Disruption Simulation.* Groups construct a full Amazonian food web, then model mathematical population collapses when deforestation removes key primary producers (e.g., Brazil nut trees).

**Week 3: Altitude Survival – Evolutionary Adaptations in the Andes**
**Science Strand:** Evolution & Inheritance / Animals Including Humans.
**Substantive Knowledge:**
**LKS2:** Physical adaptations of Andean animals (alpaca wool for insulation, vicuña agility on steep terrain, condor wingspan for thermal gliding).
**UKS2:** Physiological adaptations for survival at high altitudes (low oxygen levels, increased red blood cell count, thermoregulation); natural selection mechanisms over generations.
**Disciplinary Knowledge:**
***Fair Testing (Thermal Insulation):*** Designing a controlled experiment to measure heat retention across different natural and synthetic insulating materials.
**Practical Science Investigation:**
**LKS2 (Y3/4):** *Insulation Material Comparative Test.* Pupils wrap test tubes of warm water in wool, cotton, and synthetic fibres, using dataloggers/thermometers to record cooling rates over 20 minutes.
**UKS2 (Y5/6):** *Bird Wing Aspect Ratio & Gliding Experiment.* Pupils build paper glider models with varying wingspans modelled after the Andean Condor vs. Amazonian Hummingbird, measuring lift duration and glide distance.

**Week 4: Veins of the Cacao Plant – Vascular Systems & Transpiration**
**Science Strand:** Plants (Functions of Parts, Water Transport).
**Substantive Knowledge:**
**LKS2:** Functions of roots, stems, leaves, and flowers in Mesoamerican crops (cacao, maize); the role of roots in water absorption and soil stability.
**UKS2:** Mechanics of xylem and phloem transport; transpiration pull driven by stomatal evaporation; factors affecting transpiration rate (temperature, humidity).
**Disciplinary Knowledge:**
***Observation Over Time:*** Tracking capillary action and liquid transport speeds through plant stems using colorimetric indicators.
**Practical Science Investigation:**
**LKS2 (Y3/4):** *Root Stability & Soil Erosion Test.* Pupils model torrential rainforest rainfall on planted trays versus bare soil trays, measuring runoff volume and soil retention.
**UKS2 (Y5/6):** *Transpiration Rate Investigation.* Pupils place celled celery/white carnations (acting as model cacao plants) into dyed water under varying environmental conditions (fan wind, lamp heat), measuring dye travel height in xylem vessels over time.

**Week 5: Elasticity of the Forest – Material Properties of Latex & Rubber**
**Science Strand:** Properties & Changes of Materials / States of Matter.
**Substantive Knowledge:**
**LKS2:** Comparing physical properties of materials (hardness, flexibility, elasticity, waterproofing); identifying natural rubber (*Hevea brasiliensis*) vs. synthetic plastics.
**UKS2:** Reversible state changes (liquid latex drying) vs. irreversible chemical cross-linking (vulcanization); tensile strength and polymer elasticity under load.
**Disciplinary Knowledge:**
***Comparative Testing:*** Measuring force vs. stretch extension to evaluate material elasticity systematically.
**Practical Science Investigation:**
**LKS2 (Y3/4):** *Waterproofing & Flexibility Audit.* Pupils test untreated fabric versus latex/rubber-coated fabric samples for water permeability and flexibility for rainforest boots.
**UKS2 (Y5/6):** *Tensile Strength & Elastic Limit Test.* Pupils apply increasing loads (masses) to natural rubber bands and synthetic polymers, measuring extension, return points, and breaking thresholds to plot stress-strain curves.

**Week 6: The Americas Science Expedition – Synthesis & Peer Symposium**
**Science Strand:** Working Scientifically Synthesis & Scientific Communication.
**Substantive Knowledge:**
**LKS2/UKS2 Synthesis:** Integrating knowledge of classification, evolutionary adaptation, plant transport systems, and material properties into a comprehensive ecological report.
**Disciplinary Knowledge:**
***Scientific Communication:*** Presenting empirical findings using tables, line graphs, labelled diagrams, and evidence-based justifications to answer overarching scientific inquiries.
**Practical Americas Science Symposium:**
**LKS2 & UKS2:** *The "Ecosystems of the Americas" Science Conference.*
***Station 1: The Bio-Diversity Lab:*** Exhibiting student-designed dichotomous keys and Amazonian invertebrate classification charts.
***Station 2: The Adaptations Observatory:*** Demonstrating insulation cooling data graphs and glider aspect-ratio findings.
***Station 3: The Botanical Physiology Rig:*** Presenting xylem dye movement data under varying environmental variables.
***Station 4: The Material Testing Bench:*** Displaying elasticity and tensile strength data for natural latex rubber polymers.
***Plenary:*** Pupils write a synthesis response evaluating: *"How do the unique physical environments of the Americas drive the structural adaptations of its plants and animals?"*

**Assessment Matrix (Progression Indicators)**

| Phase | Working Towards | Expected Standard | Greater Depth |
|---|---|---|---|
| **Lower Key Stage 2** *(Years 3 & 4)* | • Sorts animals into broad groups (e.g., land/water) without using formal classes.<br>• Identifies simple food chains but misinterprets | • Classifies Amazonian animals into accurate vertebrate classes using keys.<br>• Constructs accurate rainforest food chains, | • Creates multi-tiered branching keys using non-obvious anatomical criteria.<br>• Explains the impact on primary consumers if |

| | | | |
|---|---|---|---|
| | arrow directions (energy flow).<br>• Observes that plants need water but cannot explain root or stem functions.<br>• Measures temperature reading errors on standard liquid thermometers. | identifying producers and consumers.<br>• Explains how roots absorb water and stems transport it to leaves.<br>• Conducts a fair insulation test, keeping variables constant and recording data accurately. | producer populations decrease.<br>• Links stem transport directly to environmental factors like heat and light.<br>• Identifies anomalies in cooling data and suggests precise procedural refinements. |
| **Upper Key Stage 2** *(Years 5 & 6)* | • Constructs dichotomous keys using subjective traits (e.g., *"is cute"*).<br>• Identifies animal adaptations but treats them as conscious choices.<br>• Understands xylem transport but struggles to explain transpiration mechanics.<br>• Tests rubber stretch without controlling starting band dimensions or mass increments. | • Builds error-free dichotomous keys using objective structural characteristics.<br>• Explains how high-altitude adaptations evolved via natural selection over generations.<br>• Explains transpiration pull and xylem transport using accurate vocabulary.<br>• Tests tensile strength systematically, plotting mass vs. extension on line graphs. | • Evaluates the efficiency of classification keys, identifying edge-case misclassifications.<br>• Synthesises physiological and anatomical data to predict survival in extreme biomes.<br>• Analyses how environmental factors (humidity, wind) alter transpiration rates mathematically.<br>• Explains polymer cross-linking differences between natural latex and vulcanized rubber. |

**Other Information, Ideas and Resources**

Connecting **Key Stage 2 Science** to the learning theme of '**The Americas'** allows you to explore unique landscapes, rare species, and rich natural history. The Americas contain everything from the world's driest desert (Atacama) to its largest tropical rainforest (Amazon), providing an ideal canvas for learning about ecosystems, adaptations, geological processes, and classification. Here are four highly interactive, curriculum-linked science lesson concepts tailored for Year 3 through Year 6.

**1. Desert vs. Rainforest: Extreme Plant Adaptations (Living Things)**
**Science Domain:** Evolution and Inheritance / Living Things and their Habitats
**The Big Question:** *How do American plants survive in places with too much water versus no water at all?*

**The Lesson Concept**
Contrast two iconic American landscapes: the **Sonoran Desert** (North America) and the **Amazon Rainforest** (South America). Pupils investigate how plants have evolved completely opposite survival mechanisms to handle their local water conditions.
**The Investigation:** Look at the adaptations of two specific plants:
**The Saguaro Cactus:** Features a thick waxy skin to trap moisture, expandable ribs to store water, and sharp spikes instead of leaves to stop evaporation and deter hungry animals.
**Rainforest Trees:** Feature "drip-tips" (pointed leaf ends that channel heavy rain off quickly to stop mould growth) and giant "buttress roots" that snake across the shallow jungle floor to keep the tall trees from toppling over.
**Output:** Pupils act as botanical explorers. They sketch and annotate a split-page diagram of a cactus and a rainforest plant, using specific scientific vocabulary to label exactly *how* each feature keeps the plant alive in its respective American biome.

**2. Amazonian Bio-Blitz: Classification Keys (Living Things)**
**Science Domain:** Living Things and their Habitats (Classification)
**The Big Question:** *How do scientists organise the millions of unique creatures living in the Americas?*
**The Lesson Concept**
The Americas are home to some of the most specialised wildlife on Earth. In this lesson, pupils use the Linnaean classification system or branching keys to sort and identify remarkable American species.
**The Activity:** Provide pupils with data cards for a mix of famous American animals: the **Axolotl** (amphibian), **Jaguar** (mammal), **Harpy Eagle** (bird), **Poison Dart Frog** (amphibian), **Galapagos Marine Iguana** (reptile), and the **Bull shark** (fish).
**The Challenge:** Pupils must design a sorting system or a branching "Yes/No" identification key to help an amateur explorer identify an unknown creature they've just spotted in the wild.
**Key Learning:** Children must move past surface-level traits (e.g., "it is cute") and focus entirely on anatomical, observable characteristics (e.g., *"Does it have a backbone? Is it cold-blooded? Does it breathe through gills or lungs?"*).

**3. Shocking Adaptations: The Amazon Electric Eel (Electricity)**
**Science Domain:** Electricity / Animals including Humans
**The Big Question:** *How does a biological creature generate enough electricity to power a lightbulb?*
**The Lesson Concept**
The **Electric Eel** (*Electrophorus electricus*), native to the murky waters of the Amazon and Orinoco river basins, is a fascinating bridge into the study of physics and electricity.
**The Science:** Teach pupils that the eel's body contains thousands of specialised cells called *electrocytes* that act like a massive stack of tiny, living batteries connected in a series circuit. When the eel hunts or defends itself, it unleashes a shock of up to 600 volts.
**The Activity:** Use standard classroom circuit components (cells, wires, buzzers, bulbs) to model the eel's internal structure. Show how connecting cells in a series circuit increases the total voltage output, just like the eel's stacked electrocytes.
**Output:** Pupils draw a detailed scientific circuit diagram representing the electric eel's body, labelling the path of the current and explaining the difference between standard human-made electricity and bio-electromagnetism.

**4. Chocolate: From Bean to Bar (States of Matter)**
**Science Domain:** States of Matter / Reversible and Irreversible Changes
**The Big Question:** *How do temperature changes transform a bitter American bean into a smooth solid treat?*
**The Lesson Concept**
Chocolate is one of the Mesoamerican ancient world's greatest gifts to humanity, originally cultivated by the Maya and Aztecs. This lesson uses chocolate to investigate heating, cooling, melting points, and physical states of matter.

**The Investigation:** Look at how chocolate changes states when thermal energy is applied or removed.
Solid chocolate has a fixed shape and volume.
When heated to its specific melting point (roughly 30°C to 36°C, which is why it conveniently melts right in your hand or mouth!), it absorbs heat energy and turns into a fluid liquid, taking the shape of whatever container it is poured into.
**Experiment Focus:** Is melting chocolate a reversible or irreversible change? Pupils observe that cooling liquid chocolate turns it back into a solid, proving it is a **reversible physical change**—unlike baking a cake or burning wood, which are irreversible chemical changes.
**Output:** Children write a scientific process report titled "The Physics of Fudge," using particle diagrams to show how the molecules in chocolate behave when they are locked tightly as a solid versus sliding past one another as a liquid.

**Considerations for Implementation**

**English**

**Book/Text Ideas**

**Suggested book list – but not limited to the selection below:**

https://www.booksfortopics.com/world-civilisations

**Fiction:**
Kidnap on the California Comet by M. G. Leonard & Sam Sedgman & Elisa Paganelli Chapter book
The Accidental President by Tom McLaughlin Chapter book
Little Bird Lands by Karen McCombie Chapter book
Trouble in New York by Sylvia Bishop Chapter book
Front Desk by Kelly Yang & Maike Plenzke Chapter book
Holes by Louis Sachar Chapter book
The Crow's Tale by Naomi Howarth Picture book
Snow White in New York by Fiona French Picture book

**Non-Fiction:**
The History detective Investigates: Mayan Civilisation by Clare Hibbert
A Question of History: Why were Mayan games so deadly? And other questions about the Maya by Tim Cooke
History in Infographics: The Maya by Jon Richards
Daily Life in the Maya Civilisation by Nick Hunter
DKfindout! Maya, Incas, and Aztecs by DK
History in Infographics: The Maya by Jon Richards
Rainforest Warrior by Anita Ganeri & Margaux Carpentier Picture book
Ada's Violin: The Story of the Recycled Orchestra of Paraguay by Susan Hood & Sally Wern Comport Picture book
Pele by Maria Isabel Sanchez Vegara & Camila Rosa Picture book
Expedition Diaries: Amazon Basin by Simon Chapman
Where On Earth?: South America by Shallini Vallepur
Info Buzz: Argentina by Izzi Howell
Brazil: The Land and the People by Susie Brooks
Continents Uncovered: South America by Rob Colson & Josy Bloggs
Cities Of The World: South America Liz Gogerly, Rob Hunt & Victor Beuren
Amazon River by Sangma Francis  Romolo D'Hipolito

| Substantive Knowledge |
| --- |
| In KS2 English, **substantive knowledge** consists of the "building blocks" of language: the specific vocabulary, grammatical rules, punctuation marks, and structural frameworks that pupils must memorise and recall. When the curriculum is themed around **'The Americas'**, this knowledge is applied to specific historical, geographical, and cultural contexts.<br><br>**1. Vocabulary (Lexis and Semantics)**<br>This is the factual "word bank" pupils acquire to discuss the theme accurately.<br><br>**Tier 3 (Subject-Specific) Vocabulary:** Learning the meaning and spelling of words related to the theme, such as *civilisation, biodiversity, conquistador, peninsula, indigenous,* and *equator*.<br>**Morphology:** Understanding the origins of words (e.g., how many words like *hurricane* or *chocolate* have roots in indigenous American languages).<br>**Synonyms and Antonyms:** Building lists of descriptive words to avoid repetition when describing American landscapes (e.g., replacing "big" with *vast, immense,* or *monumental*).<br><br>**2. Grammar and Punctuation**<br>The factual "rules of the road" for writing.<br><br>**Sentence Structures:** Knowing the difference between simple, compound, and complex sentences.<br>**Tense:** Mastery of past, present, and perfect tenses (e.g., using the past tense for a biography of Christopher Columbus vs. the present tense for a travel guide to Brazil).<br>**Punctuation:** Knowing how to use commas to clarify meaning, colons to introduce lists of American exports, and inverted commas for direct speech in a narrative set in the Amazon.<br>**Standard English:** Recognising the difference between informal "text speak" and the formal "Standard English" required for a piece of writing on Mayan architecture.<br><br>**3. Text Structure and Genre Features**<br>The "ingredients" that make a specific type of writing recognisable.<br><br>**Non-Chronological Reports:** Knowing they require a title, subheadings, an introductory paragraph, and factual bullet points.<br>**Persuasive Writing:** Knowing the "AFOREST" toolkit (Alliteration, Facts, Opinions, Rhetorical questions, Emotive language, Statistics, Three (rule of)).<br>**Narrative:** Understanding the "Story Mountain" (Introduction, Build-up, Climax, Resolution, Ending).<br><br>**4. Oracy: Linguistic and Cognitive Facts**<br>The knowledge required to speak and listen effectively.<br><br>**Rhetorical Devices:** Learning the facts about how to hook an audience, such as using a "power of three" in a speech about saving the rainforest.<br>**Phonological Awareness:** Learning the correct pronunciation of technical terms and place names (e.g., *Popocatépetl* or *Tegucigalpa*).<br>**Active Listening Rules:** Knowing the social "rules" of a debate, such as making eye contact and not interrupting. |

**Summary Checklist: Substantive English Knowledge**

| Strand | Example of Fact-Based Knowledge |
|---|---|
| **Reading** | I can define the term "inference" and explain it means reading between the lines. |
| **Writing** | I know that a **fronted adverbial** must be followed by a comma. |
| **Grammar** | I know that a **relative clause** begins with a relative pronoun like *who, which,* or *that*. |
| **Oracy** | I can name three ways to use my voice to create suspense (pitch, pace, and volume). |

**Disciplinary Knowledge**

In KS2 English, **disciplinary knowledge** is the understanding of *how* we use language to achieve a specific purpose. It moves beyond just knowing words (**substantive**) to knowing how to manipulate grammar, structure, and tone to influence an audience. Using **'The Americas'** as a learning theme provides high-interest contexts—from the persuasive arguments of environmentalists in the Amazon to the atmospheric descriptions of Maya/Inca/Aztec ruins.

**1. Reading: The "Reader's Lens"**
This is the ability to deconstruct a text to understand how the author creates meaning.

**Inference and Deduction:** Using clues in a text about the Americas (e.g., an explorer's diary) to infer how the character is feeling or what the environment is like without being told directly.
**Authorial Intent:** Identifying *why* a writer chose certain words to describe the Andes or a bustling New York street. Why use "looming" instead of "tall"?
**Critical Literacy:** Recognising the difference between fact and opinion in a travel brochure for Mexico versus an investigative report on rainforest deforestation.
**Structural Analysis:** Understanding how information is organised in non-fiction texts about the Americas (e.g., using subheadings, glossaries, and captions effectively).

**2. Writing: The "Writer's Craft"**
This is the ability to make intentional choices about grammar and structure to suit a specific genre.

**Transcription and Composition:** Organising ideas into logical paragraphs when writing a report on "The Rise of the Maya."
**Grammatical Control:** Using fronted adverbials to create atmosphere (e.g., *"Beyond the emerald canopy, the temple rose..."*) or using modal verbs to express degrees of certainty in a persuasive letter about climate change.
**Audience and Purpose:** Adapting the "voice" of the writing. Writing a formal letter to a South American government regarding conservation requires a different disciplinary approach than writing a narrative poem about a Jaguar.
**Editing and Refining:** The "historian-as-writer" skill—checking that technical vocabulary (e.g., *conquistador, biodiversity, equinox*) is used accurately and spelled correctly.

**3. Oracy: The "Speaker's Rhetoric"**
This is the ability to communicate ideas effectively and listen critically to others.

**Formal Presentation:** Using a "presentational voice" to deliver a speech on the importance of the Amazon Rainforest, focusing on eye contact, projection, and intonation.
**Collaborative Discussion:** Engaging in a "Socratic Seminar" or debate regarding the ethics of tourism in the Galápagos, using sentence starters like *"Building on your point..."* or *"I respectfully disagree because..."*
**Active Listening:** Summarising a peer's argument about whether the Maya "disappeared" or simply moved, showing engagement through body language and follow-up questions.
**Role Play:** Adopting a persona (e.g., a 16th-century explorer or a modern-day farmer in Brazil) to explore different perspectives through "Hot Seating."

**Summary Table: Substantive vs. Disciplinary in English**

| **Substantive Knowledge (The "What")** | **Disciplinary Knowledge (The "How/Why")** |
|---|---|
| Knowing what a "fronted adverbial" is. | **Using** one to create a sense of place in a rainforest description. |
| Knowing facts about the Maya. | **Synthesising** those facts into a coherent, non-chronological report. |
| Learning the definition of "persuasion." | **Applying** rhetorical questions and emotive language in a speech. |

## Learning Objectives

The learning theme of **'The Americas'** offers a dramatic backdrop for developing literacy skills. **Learning objectives** are designed to move pupils from literal understanding to deeper analysis and sophisticated expression.

**1. Reading: Analysis and Comprehension**
These objectives focus on how pupils process information from fiction and non-fiction texts.

**Retrieve and Record:** I can find and record specific facts about the Maya or the Amazon Rainforest from a non-chronological report.
**Infer and Deduce:** I can use "clues" in a story set in the Americas (e.g., *Journey to the River Sea*) to infer a character's feelings or motives.
**Identify Language Features:** I can identify how an author uses figurative language (similes, metaphors, personification) to describe the American landscape.
**Evaluate Structural Choices:** I can explain how the use of subheadings, captions, and glossaries helps a reader navigate a geography book about South America.

**2. Writing: Composition and Grammar**
These objectives focus on the "writer's craft"—making intentional choices to impact the reader.

**Adapt Form and Style:** I can write a formal persuasive letter to a world leader about the conservation of the Amazon, using an appropriate tone and emotive language.
**Organise Complex Ideas:** I can plan and write a multi-paragraph non-chronological report on an American civilisation, using fronted adverbials to transition between topics.
**Vary Sentence Structure:** I can use relative clauses (e.g., *"The Amazon River, which is the second longest in the world, flows through Peru and Brazil..."*) to add detail to my writing.
**Edit and Proofread:** I can evaluate my own writing for "The Americas" project, checking for the correct use of technical vocabulary and consistent tense.

**3. Oracy: Speaking and Listening**
These objectives focus on the social and cognitive aspects of communication.

**Present with Confidence:** I can deliver a formal presentation about a chosen American state or country, using intonation, volume, and eye contact to engage my audience.
**Engage in Debate:** I can participate in a structured debate regarding the "Discovery of America," using evidence to support my points and responding politely to opposing views.
**Adopt a Persona:** I can use "hot seating" to take on the role of a historical figure (e.g., a Maya King or an explorer) and answer questions in character.
**Collaborate and Listen:** I can summarise the main points made by my peers during a group discussion about American biomes.

**Example "Success Criteria" for a Writing Unit**
If the objective is: **"To write an atmospheric narrative set in the Amazon Rainforest,"** the success criteria might be:
**Y3/Y4:** I can use expanded noun phrases to describe the setting (e.g., *"the thick, emerald-green canopy"*).
**Y4/Y5:** I can use personification to bring the forest to life (e.g., *"the vines strangled the ancient trees"*).
**Y5/Y6:** I can use varied sentence openers and "show, don't tell" techniques to build suspense as my character moves through the forest.

**Lesson Ideas**

Here is a complete, 6-week Medium-Term Plan for Key Stage 2 English—integrating **Oracy, Reading, and Writing**—framed around the diverse landscapes, oral storytelling traditions, biodiversity, and rich civilisation histories of **'The Americas'**. This unit connects core National Curriculum English strands—**Reading Comprehension (Inference, Vocabulary & Textual Structure)**, **Writing Composition (Audience, Purpose & Genre Dynamics)**, **Grammar, Punctuation & Spelling (GPS)**, and **Oracy (Formal Debate, Performance & Spoken Rhetoric)**—with mentor texts spanning Mesoamerican mythology, Amazonian non-fiction, and narrative poetry. It balances **substantive knowledge** (genre conventions, figurative language, expanded noun phrases, relative clauses, cohesive devices, tense manipulation, formal vocabulary, and rhetorical frameworks) with **disciplinary knowledge** ("Thinking & Acting Like a Critical Reader, Writer, and Speaker"—evaluating authorial intent, analysing linguistic choices, tailoring tone for audience, structuring compelling arguments, and refining spoken delivery through vocal cadence and gesture).

**Unit Title:** Chronicles of the New World: From Maya Myths to Amazonian Voices
**Duration:** 6 Weeks (Approx. 4 to 5 hours per week)

**Theme:** Mesoamerican Mythological Narratives, Amazon Rainforest Non-Chronological Reports, Environmental Oracy Debates, and Andean Narrative Poetry.

**Textual & Literary Contexts:**

***Mesoamerican Mythology:*** Creation stories from the *Popol Vuh* (The Hero Twins, Maya underworld *Xibalba*), featuring rich descriptive prose and figurative language.

***Amazon Biodiversity Non-Fiction:*** Information texts detailing rainforest stratification, endangered species, and indigenous ecological stewardship.

***Persuasive Rhetoric & Oracy:*** Formal debates on deforestation, land rights, and conservation in Central and South America.

***Andean & Desert Poetry:*** Narrative verse exploring the peaks of the Andes and the mystery of the Nazca Lines using imagery, rhythm, and structural shifts.

**Key English Pillars**

**Substantive Knowledge:**

***Reading:*** Textual structures (cause/effect in non-fiction, mythic narrative arcs); tier 2/3 vocabulary acquisition; authorial techniques (metaphor, personification, imagery).

***Writing:*** Fronted adverbials, expanded noun phrases with prepositional clauses, relative clauses (*who, which, where*), passive voice for formal non-fiction, modal verbs for persuasion, and cohesive paragraph transitions.

***Oracy:*** Rhetorical devices (triads/rule of three, emotive language, rhetorical questions), vocal modulation (pitch, pace, pause), and active listening protocol.

**Disciplinary Knowledge ("Thinking Like a Reader, Writer & Speaker"):**

***Critical Reading:*** Unpacking authorial intent; evaluating how word choice manipulates reader emotion; comparing cross-textual themes.

***Crafting Text:*** Choosing vocabulary deliberately for register and impact; editing recursively for clarity, cohesive flow, and reader engagement.

***Rhetorical Oracy:*** Adapting spoken register for formal debate; evaluating counterarguments dynamically; using gesture and posture to command an audience.

**Weekly Progression Scheme**

**Week 1: Myths of the Sacred Maize – Maya Legend & Narrative Writing – this may have already been covered during 'The Maya' learning theme so could be changed for another set of lesson (see 'Other Ideas, Resources and Information).**

**English Focus:** Narrative Writing & Mythic Conventions.

**Mentor Text / Stimulus:** Excerpts from the *Popol Vuh* (The Creation of Humans from Maize / Hero Twins in Xibalba).

**Substantive Knowledge:**

**LKS2:** Narrative structure (orientation, build-up, dilemma, resolution); fronted adverbials of time and place; expanded noun phrases for vivid setting description.

**UKS2:** Relative clauses using *who, which, where, whose*; manipulating sentence length for tension; personification and sensory imagery.

**Disciplinary Knowledge:**

***Reading:*** Inferring character motivation from mythic dialogue and action.

***Writing:*** Crafting atmosphere intentionally through sensory vocabulary selection.

**Practical Oracy & Writing Tasks:**

**Oracy:** *Hot-seating the Hero Twins.* Pupils adopt roles of One Hunahpu or Xibalba underworld lords, answering peer questions using formal, dramatic spoken register.
**LKS2 Writing Outcome:** A setting description of the dark Maya underworld using fronted adverbials and expanded noun phrases (e.g. *"Deep within the jagged cavern, ancient limestone pillars glinted like bone."*).
**UKS2 Writing Outcome:** A complete 5-stage mythic narrative detailing a hero's trial, incorporating relative clauses and varied sentence structures for atmospheric tension.

**Week 2: Voices of the Jungle – Amazonian Non-Chronological Reports**
**English Focus:** Informational Non-Fiction & Textual Structure.
**Mentor Text / Stimulus:** *The Great Kapok Tree* by Lynne Cherry & authentic Amazonian biome field reports.
**Substantive Knowledge:**
**LKS2:** Subheadings, organisational devices, paragraphing around a theme, conjunctions for causation (*because, as a result, due to*).
**UKS2:** Passive voice for objective register (e.g., *"The canopy is inhabited by..."*); technical Tier 3 vocabulary; bulleted summaries and formal linking adverbs (*furthermore, consequently*).
**Disciplinary Knowledge:**
***Reading:*** Skimming and scanning long texts to extract key data; evaluating how layout aids reader navigation.
***Writing:*** Maintaining an authoritative, objective tone across multi-paragraph structures.
**Practical Oracy & Writing Tasks:**
**Oracy:** *Expert Broadcast Presentations.* In pairs, pupils present a 60-second televised "documentary segment" explaining an Amazonian layer using technical vocabulary and clear vocal pacing.
**LKS2 Writing Outcome:** A non-chronological report on a specific Amazonian creature (e.g., The Jaguar), organised under clear subheadings with causal conjunctions.
**UKS2 Writing Outcome:** A formal, double-page informational report on Amazonian Ecosystems incorporating passive voice, technical glossaries, and embedded relative clauses.

**Week 3: The Great Amazon Debate – Persuasive Oracy & Argumentation**
**English Focus:** Formal Oracy, Rhetoric & Persuasive Writing.
**Mentor Text / Stimulus:** Speeches on Amazonian conservation, indigenous land stewardship letters, and agricultural development briefs.
**Substantive Knowledge:**
**LKS2:** Rhetorical questions; persuasive adjectives; modal verbs of possibility (*should, must, could*); organising ideas into point-and-evidence paragraphs.
**UKS2:** The rule of three (triads); emotive appeal balanced with statistical evidence; counter-argument rebuttal markers (*while some argue..., evidence demonstrates...*).
**Disciplinary Knowledge:**
***Oracy Rhetoric:*** Modulating tone, volume, and posture to persuade a critical audience; active listening to formulate instant rebuttal.
***Writing:*** Writing with clear audience awareness to alter opinion or policy.
**Practical Oracy & Writing Tasks:**
**Oracy:** *Formal Parliamentary Style Debate.* Motion: *"This House believes that all commercial activity in the Amazon Rainforest should be immediately banned."* Pupils take assigned roles (indigenous leaders, environmentalists, local farmers, global trade envoys) applying formal speech protocols.
**LKS2 Writing Outcome:** A persuasive speech transcript advocating for rainforest protection using modal verbs and direct address (e.g., *"We must act now before these unique creatures vanish forever."*).

**UKS2 Writing Outcome:** A formal persuasive letter to global leaders incorporating counter-argument structures, statistics, and emotive triads.

**Week 4: Flight of the Condor – Andean Narrative & Imagery Poetry**
**English Focus:** Poetry, Figurative Language & Performance.
**Mentor Text / Stimulus:** Verse inspired by the Andes, Incan mountain trails, and Pablo Neruda's nature poems.
**Substantive Knowledge:**
**LKS2:** Similes, metaphors, alliteration, stanza structures, and rhythmic patterns.
**UKS2:** Extended metaphors, personification of natural elements, free verse layout, and shifting poetic perspectives (e.g., from ground observer to soaring condor).
**Disciplinary Knowledge:**
***Reading:*** Analysing how figurative choices create symbolic depth beyond literal meaning.
***Writing/Oracy:*** Experimenting with line breaks and vocal cadence to alter performance tempo.
**Practical Oracy & Writing Tasks:**
**Oracy:** *Choral Poetry Recital.* Groups perform a choral reading of an Andean poem, using dynamic changes (*crescendo/decrescendo*), canon voices, and physical gestures to mirror mountain weather.
**LKS2 Writing Outcome:** A 4-stanza sensory poem describing an Andean mountain journey, featuring similes and precise alliterative verbs.
**UKS2 Writing Outcome:** An extended free-verse poem written from the perspective of an Andean Condor, employing extended metaphors, personification, and deliberate enjambment.

**Week 5: The Lost City of Stone – Historical Diary & Journalistic Recount**
**English Focus:** Recount Writing, Shift in Register & Perspective.
**Mentor Text / Stimulus:** Reconstructed primary journal entries from early explorers reaching Machu Picchu / Maya ruins alongside indigenous historical accounts.
**Substantive Knowledge:**
**LKS2:** First-person narration (*I, we*); past tense consistency; time connectives (*first, later that evening, unexpectedly*); informal/formal journal registers.
**UKS2:** Subjunctive form for hypothetical reflection (e.g., *"If I were to turn back now..."*); manipulating punctuation for dramatic pauses (dashes, semi-colons, brackets); balancing internal reflection with physical description.
**Disciplinary Knowledge:**
***Reading:*** Identifying source bias and emotional perspective in historical recount texts.
***Writing:*** Adopting a believable historical persona through voice and vocabulary.
**Practical Oracy & Writing Tasks:**
**Oracy:** *Exploration Audio Diaries.* Pupils record in-role voice memos reflecting on the moment an ancient stone city is glimpsed through mountain fog, focusing on emotional delivery and vocal pauses.
**LKS2 Writing Outcome:** A 3-entry explorer diary detailing the trek through cloud forests to an ancient stone city, using past tense and time adverbials.
**UKS2 Writing Outcome:** A reflective, multi-perspective historical journal balancing vivid setting description with internal monologues, incorporating dashes and semi-colons for dramatic effect.

**Week 6: The Americas Literary Anthology – Editing, Publishing & Oracy Gala**
**English Focus:** Recursive Editing, Publishing & Spoken Performance.
**Substantive Knowledge:**
**LKS2/UKS2 Synthesis:** Proofreading for spelling/punctuation accuracy; refining cohesion across longer texts; delivering polished spoken performances to an authentic audience.
**Disciplinary Knowledge:**
***Critical Editing:*** Evaluating own and peer writing objectively against criteria for audience impact and grammatical precision.
***Oracy Mastery:*** Delivering memorised or polished spoken prose with confidence, projection, and expressive nuance.
**Practical Americas Literary Gala:**
**LKS2 & UKS2:** *The "Voices of the Americas" Spoken Word & Publishing Showcase.*
***Station 1: The Mythic Storytelling Circle:*** Live oral re-telling of Maya legends using dramatic voice and sound effects.
***Station 2: The Amazon Press Gallery:*** Exhibition of published non-chronological reports and persuasive letters.
***Station 3: The Andean Poetry Stage:*** Solo and group recitals of original mountain poetry with musical backing.
***Plenary:*** Pupils complete a reflective self-evaluation analysing how their written register and spoken confidence progressed across the unit.

**Assessment Matrix (Progression Indicators)**

| Phase | Working Towards | Expected Standard | Greater Depth |
|---|---|---|---|
| **Lower Key Stage 2** *(Years 3 & 4)* | • Writes simple sentences with inconsistent past tense in narrative tasks.<br>• Organises non-fiction work without clear subheadings or thematic paragraphs.<br>• Speaks in debates using basic opinions without offering backing evidence.<br>• Identifies simple similes but struggles to explain their effect on the reader. | • Uses fronted adverbials and expanded noun phrases to create vivid narrative settings.<br>• Structures non-chronological reports logically using subheadings and causal conjunctions.<br>• Participates in formal debates using modal verbs and structured persuasive points.<br>• Explains how an author's choice of adjectives and similes shapes reader mood. | • Manipulates sentence structures deliberately to build narrative pace and suspense.<br>• Integrates technical Tier 3 vocabulary seamlessly into non-fiction reports.<br>• Adapts spoken register fluently during debates, responding directly to peer points.<br>• Evaluates figurative language critically, explaining multi-layered imagery. |

| | | | |
|---|---|---|---|
| **Upper Key Stage 2** *(Years 5 & 6)* | • Uses relative clauses incorrectly or with missing relative pronouns.<br>• Struggles to maintain a formal passive voice in informational reports.<br>• Delivers debate points softly without vocal projection or audience engagement.<br>• Uses basic metaphors that repeat common clichés in poetry tasks. | • Integrates relative clauses and varied punctuation (dashes, semi-colons) accurately.<br>• Uses passive voice and formal linking adverbs to create authoritative reports.<br>• Delivers persuasive speeches using emotive triads, clear cadence, and audience eye contact.<br>• Analyses extended metaphors and personification in poetry, applying them in original writing. | • Controls narrative tone seamlessly, blending dialogue, action, and atmospheric description.<br>• Employs passive and active voice intentionally to shift focus and emphasis.<br>• Commands debate proceedings, deploying sharp rebuttals and sophisticated rhetoric.<br>• Crafts original poetry with extended symbolic metaphors and sophisticated enjambment. |

**Other Information, Ideas and Resources**

The theme of **The Americas** provides a breathtakingly rich backdrop for Key Stage 2 English. It offers opportunities to explore ancient myths, dramatic landscapes, and diverse voices, making it a perfect tool for developing deep reading comprehension, persuasive writing, and confident oral communication. Here are four comprehensive, multi-modal lesson concepts that weave Reading, Writing, and Oracy together through the lens of the American continents.

**1. Myth-Mapping: The Popol Vuh (Reading & Narrative Writing)**

**English Strands:** Reading Comprehension (Inference) & Narrative Writing (Mythology)

**Core Focus:** Unpacking creation myths and capturing vivid, magical imagery.

**The Lesson Concept**

The *Popol Vuh* is the sacred creation story of the Maya people. In this sequence, pupils read the myth of the "Hero Twins" (Hunahpu and Xbalanque) who must travel to the underworld, Xibalba, to outsmart the Lords of Death in a high-stakes ballgame.

**Reading Focus:** Children analyse the structural conventions of traditional myths (e.g., rule of three, magical transformations, personification of nature). They infer the values of Maya society—such as resourcefulness over brute strength—based on how the twins outwit their enemies.

**Writing Output:** Pupils write a vivid narrative describing the twins entering the underworld. They focus on rich descriptive choices: *expanded noun phrases* to describe the dark caverns (e.g., "the damp, echoing throat of the jagged cavern") and *fronted adverbials* to build tension ("Deep within the shadows, a low hiss echoed...").

**2. Tourism vs. Preservation: Machu Picchu (Oracy & Persuasive Writing)**

**English Strands:** Oracy (Debate & Active Listening) & Non-Fiction Writing (Persuasion)

**Core Focus:** Constructing formal, evidence-backed arguments on real-world conflicts.

**The Lesson Concept**

Perched high in the Andes, the ancient Inca citadel of Machu Picchu is a wonder of the world. However, it faces a modern crisis: the sheer volume of global tourists is physically wearing away the ancient stone structures.

**Oracy Focus:** Divide the class into two opposing stakeholder groups: local business owners who rely on tourism money to feed their families, and environmental conservationists trying to protect the heritage site. Conduct a structured, formal debate where children must use specific starter frames to show active listening and counter-argument:
*"I understand my classmate's point about economic survival, however, if the stone structures collapse, no tourists will ever return to spend money..."*
**Writing Output:** Following the debate, pupils write a formal letter to the Peruvian Ministry of Tourism, arguing for a sustainable solution (like strict daily visitor caps or alternative virtual tours). They use persuasive devices like rhetorical questions, emotive language, and statistical evidence.

**3. The Explorer's Log: Surviving the Amazon (Writing & Reading)**
**English Strands:** Writing (Recount/Journalism) & Reading (Fact Filtering)
**Core Focus:** Adapting tone and voice to match a first-person perspective.
**The Lesson Concept**
This concept blends physical geography with first-person creative writing. Pupils step into the boots of an explorer navigating the deep, unfamiliar territory of the Amazon Basin.
**Reading Focus:** Read excerpts from real explorer diaries (like Percy Fawcett or modern conservationists). Children highlight how writers express sensory details—the intense humidity, the relentless buzz of insects, the sudden, deafening downpours.
**Writing Output:** Pupils write a series of 3-day diary entries. The key objective is **vocal contrast**: moving from initial awe and excitement on Day 1, to physical exhaustion and atmospheric dread on Day 3.
**Technical Focus:** Emphasise the use of the past tense, first-person pronouns (*I, we*), and informal, reflective language (e.g., "I find myself wondering if we will ever see dry land again...").

**4. "I Have a Dream": Speechwriting and Rhetoric (Oracy)**
**English Strands:** Oracy (Performance & Rhetoric) & Reading (Text Analysis)
**Core Focus:** Using pace, volume, and repetition to command an audience.
**The Lesson Concept**
Modern North American history was fundamentally altered by the power of spoken words. This lesson looks at Dr. Martin Luther King Jr.'s iconic 1963 speech as a literary text, analysing how its structure was designed specifically for performance.
**Reading/Listening Focus:** Watch or listen to a clip of the speech. Analyse the text to identify key rhetorical devices: **Anaphora** (the repetition of a phrase at the beginning of sentences, like *"I have a dream"* or *"Let freedom ring"*), tricolons (rules of three), and powerful metaphors.
**Oracy & Performance Focus:** Pupils do not write a whole essay; instead, they choose a modern issue they care about deeply (e.g., looking after the planet, local community spaces, or kindness in school). They write a short, 1-minute speech using anaphora.
**The Output:** Children perform their speeches using a "Rhetoric Checklist." They are assessed not on what they wrote, but on *how* they delivered it: their use of dramatic pauses, eye contact, and vocal modulation (building volume to express passion, lowering it to show sincerity).

**Considerations for Implementation**

| **Maths** |
| --- |
| **We use the White Rose Maths Scheme. The information below is for enhanced provision purposes and do not replace the WRM lessons.** |
| **Substantive Knowledge** |

In Key Stage 2 Mathematics, **substantive knowledge** refers to the core facts, formulas, and concepts that pupils must know and remember. While the **'The Americas'** is a geography and history theme, it provides a rich data set for pupils to apply their mathematical knowledge. The **substantive knowledge** required for this learning theme typically falls into these four areas:

**1. Number and Place Value**
This involves the "hard facts" of the number system, often compared with historical American systems.

**The Maya Number System:** Knowing that the Maya used a **vigesimal (Base 20)** system rather than our decimal (Base 10) system.
**The Concept of Zero:** Knowing that the Maya were one of the first civilisations to use a symbol for **zero** as a place holder.
**Large Numbers:** Reading, writing, and ordering numbers up to 10,000,000 (e.g., comparing the populations of Mexico City, New York, and São Paulo).

**2. Measurement and Geometry**
These are the facts related to size, scale, and shape within the context of American landmarks and architecture.

**Conversion of Units:** Knowing how to convert between metric units (used in most of the Americas) and imperial units (used in the USA)—e.g., miles to kilometres or kilograms to pounds.
**Coordinates:** Knowing how to use the first and fourth quadrants of a coordinate grid to plot the location of major American cities using latitude and longitude.
**Area and Perimeter:** Knowing the formulas to calculate the base area and volume of 3D shapes, such as the **stepped pyramids** of the Maya and Aztecs.
**Angles and Symmetry:** Identifying the properties of shapes found in the flags of the Americas (e.g., the stars and stripes of the USA or the sun on the Argentinian flag).

**3. Statistics and Data**
The factual knowledge of how to read and extract information from American data sets.

**Data Representation:** Knowing the features of different graphs (bar charts, line graphs, and pie charts) and which one is best suited for American data (e.g., a line graph for Amazonian rainfall over time).
**Mean and Average:** Knowing how to calculate the **mean** temperature of a Caribbean island versus a city in Canada.
**Scale Reading:** Knowing how to accurately read scales on a map or a thermometer, including negative numbers for North American winters.

**4. Ratio and Proportion**
Factual knowledge about the relationship between two quantities.

**Map Scales:** Knowing that a scale (e.g., 1:50,000) represents a factual relationship between the distance on a map and the actual distance across the American landscape.

**Currency Exchange:** Knowing that different countries in the Americas use different currencies (e.g., US Dollars, Mexican Pesos, Brazilian Reais) and that their value relative to each other is a ratio.

**Summary Checklist: Substantive Maths Knowledge**

| Category | Example of Fact-Based Knowledge |
|---|---|
| **Number** | I know that the Maya used a shell symbol to represent zero. |
| **Geometry** | I know that a square-based pyramid has 5 faces, 8 edges, and 5 vertices. |
| **Statistics** | I know that the 'mean' is calculated by adding all values and dividing by the total count. |
| **Measurement** | I know that there are approximately 1.6 kilometres in 1 mile. |

## Disciplinary Knowledge

In Key Stage 2 Maths, **disciplinary knowledge** is the ability to "think like a mathematician." It isn't just about memorising times tables; it is about the strategies used to solve problems, the ability to reason logically, and the skill of applying abstract numbers to real-world contexts. Using **'The Americas'** learning theme, **disciplinary knowledge** involves using mathematical tools to decode historical mysteries, geographical data, and economic patterns.

**1. Problem Solving and Modelling**
This is the ability to take a complex **'The Americas'** scenario and turn it into a mathematical operation.

**Scaling and Proportions:** Understanding how to use a map scale to calculate the actual distance between two American cities (e.g., "If 1cm = 100km, how far is it from New York to Mexico City?").
**Resource Management:** Modelling how a Maya city-state might have distributed grain, calculating ratios of food to population.

**2. Mathematical Reasoning and Proof**
This involves looking at data from the Americas and explaining *why* a pattern exists or proving a hypothesis.

**Justifying Generalisations:** Looking at climate data for the Amazon and the Atacama Desert and using averages (mean/median) to prove which is more "extreme."
**Logical Deduction:** Using the Maya "Base 20" number system to figure out how they would write a specific number, explaining the logic behind their use of place value and the concept of zero.

**3. Data Handling and Interpretation**
This is the "Statistician's Lens"—knowing how to collect, represent, and interrogate information.

**Selecting Representations:** Deciding whether a line graph, bar chart, or pie chart is the best way to show the population growth of different American countries.
**Interrogating Trends:** Analysing a line graph showing the melting of glaciers in the Andes and predicting future patterns based on the rate of change.

**4. Geometric Thinking and Spatial Reasoning**
This focuses on the "shape and space" of the Americas, from architecture to cartography.

**Analysing Symmetry:** Identifying reflective and rotational symmetry in Maya carvings, Aztec sun stones, or the flags of American nations.
**Coordinate Geometry:** Using four-quadrant grids and coordinates to map out the location of various landmarks across North and South America.

**Summary Table: Substantive vs. Disciplinary in Maths**

| Substantive Knowledge (The "What") | Disciplinary Knowledge (The "How/Why") |
|---|---|
| Knowing the formula for area (Length times Width). | **Calculating** the area of a Maya temple base and comparing it to a local building. |
| Knowing how to read a thermometer. | **Calculating the difference** in temperature between the Arctic Tundra and the Equator. |
| Learning the 8 points of a compass. | **Using bearings** to describe the route of an explorer across the Atlantic. |

## Learning Objectives

In Key Stage 2 Maths, the learning theme of **'The Americas'** serves as a "real-world" application for abstract concepts. **Learning objectives** often focus on using large-scale data, historical number systems, and geographical measurements. L**earning objectives** categorised by the National Curriculum strands:

**1. Number and Place Value**
These objectives bridge the gap between our modern system and historical American civilisations.

**Master Large Numbers:** I can read, write, and compare the populations of different American countries, recognising the value of each digit up to 10,000,000.
**Explore Ancient Systems:** I can identify and use the **Maya number system** (base 20), explaining how they used symbols (dots, bars, and shells) to represent values.
**Understand Zero:** I can explain the importance of the Maya's use of **zero** as a place holder and compare it to our own place value system.
**Negative Numbers:** I can calculate temperature differences across the Americas, including negative numbers (e.g., comparing a North American winter to a Caribbean summer).

**2. Measurement and Geometry**
These objectives focus on the physical dimensions of the Americas and their landmarks.

**Calculate with Scale:** I can use a scale on a map of the Americas to calculate the actual distance between two cities in kilometres and miles.
**Solve Conversion Problems:** I can convert between metric and imperial units when planning a "road trip" across the USA (e.g., converting gallons to litres or miles to kilometres).
**Analyse 3D Shapes:** I can identify the geometric properties of American landmarks, such as the volume and surface area of **Maya pyramids** or the symmetry of the Pentagon.

**Use Coordinates:** I can use a four-quadrant coordinate grid to plot the locations of landmarks in North and South America using latitude and longitude.

**3. Statistics and Data Handling**
These objectives focus on interpreting the vast amount of environmental and social data from the region.
**Interpret Climate Data:** I can extract and interpret information from a climate graph for an American biome (e.g., a line graph for temperature and a bar chart for rainfall in the Amazon).
**Calculate Averages:** I can calculate the **mean** and **range** of rainfall across different months in a South American rainforest to compare it with local UK data.
**Represent Data:** I can choose the most appropriate graph (pie chart, bar chart, or line graph) to represent the different languages spoken across the Americas.

**4. Ratio and Proportion**
These objectives focus on the relationships between different quantities found in American contexts.

**Currency Conversion:** I can solve problems involving the exchange rate between the British Pound (£) and American currencies like the US Dollar ($) or Mexican Peso (MXN).
**Scaling Recipes:** I can use ratio and proportion to adjust a traditional American recipe (e.g., making enough *Guacamole* or *Succotash* for the whole class).

**Example Lesson Success Criteria**
If the objective is: **"To use a map scale to calculate distances across the Americas,"** the success criteria might be:
**Y3/Y4:** I can identify the scale on a map (e.g., 1cm = 500km).
**Y4/Y5:** I can use a ruler to measure the distance between two points in cm and multiply by the scale.
**Y5/Y6:** I can calculate a multi-stop route (e.g., Brazil to Peru to Chile) and convert the final answer from kilometres into miles.

**Lesson Ideas**

Here is a complete, 6-week Medium-Term Plan for Key Stage 2 Mathematics framed around the architecture, number systems, geography, trade, and engineering of **'The Americas'**. This unit connects core National Curriculum Maths strands—**Number & Place Value**, **Addition & Subtraction**, **Multiplication & Division**, **Fractions, Decimals & Percentages**, **Measurement (Length, Perimeter, Area, Time, & Currency)**, and **Geometry & Statistics**—with Maya base-20 mathematics, Inca *Quipu* data systems, Aztec land area calculations, Andean altitude coordinates, and the modern logistics of the Panama Canal. It balances **substantive knowledge** (place value structures, base-20 positional math, standard arithmetic algorithms, perimeter/area formulas, coordinate plotting across 4 quadrants, unit conversions, ratio/scaling, and line graphs) with **disciplinary knowledge** ("Thinking & Acting Like a Mathematician"—pattern seeking, systematic problem-solving, mathematical conjecturing, translating real-world historical problems into algebraic/arithmetic models, and evaluating computational efficiency).

**Unit Title:** Mathematics of the New World: From Maya Base-20 to Inca Quipus and Amazonian Grids
**Duration:** 6 Weeks (Approx. 5 hours per week)
**Theme:** Mesoamerican Positional Numeration, Inca Census Data Systems, Aztec Agricultural Measurement, Andean Altitude Coordinates, and Canal Logistics.

**Mathematical & Cultural Contexts:**
***Mesoamerica (Maya Base-20 Vigesimal System):*** Shells (zero), dots (ones), and bars (fives); vertical place value towers ($20^0$, $20^1$, $20^2$).
***The Andes (Inca Quipu Knotted Strings):*** Base-10 positional recording using physical cord knots; regional population census statistics.
***Aztec Chinampas (Floating Gardens):*** Irregular quadrilaterals, perimeter boundary fencing, surface area formulas, and agricultural yield scaling.
***South American Topography & Logistics:*** Navigation coordinates across 4 quadrants; mountain elevation scale drawings; Panama Canal vessel throughput rates and currency conversion.
**Key Mathematics Pillars**
**Substantive Knowledge:**
***Place Value & Number Systems:*** Base-10 vs. non-standard base systems (Base-20); place value positions up to 1,000,000; calculating with zero as a placeholder.
***Operations & Calculation:*** Formal written algorithms for short/long multiplication and division; multi-step word problems involving real-world historical contexts.
***Geometry & Measurement:*** Calculating perimeter and area of rectilinear and compound shapes; plotting and reflecting coordinates across 4 quadrants; reading scales and line graphs.
***Fractions, Decimals, Ratio & Scale:*** Converting units of measure; calculating percentages of quantities; applying ratio and scale factors to maps and architectural structures.
**Disciplinary Knowledge ("Thinking Like a Mathematician"):**
***Pattern Seeking & Generalisation:*** Decoding alternative mathematical logic systems to deduce positional value rules.
***Systematic Problem-Solving:*** Breaking complex spatial or logistics problems into manageable computational steps.
*Mathematical Reasoning & Justification:* Proving or disproving hypotheses regarding area, scaling, or computational efficiency using formal mathematical vocabulary.

**Weekly Progression Scheme**
**Week 1: Decoding Maya Glyphs – Non-Standard Place Value & Base-20**
**Maths Strand:** Number & Place Value (Non-Standard Systems & Placeholders).
**Substantive Knowledge:**
**LKS2:** Maya numerals: Shell = 0, Dot = 1, Bar = 5; reading numbers up to 100 in base-10 equivalent; the vital function of zero as a placeholder.
**UKS2:** Maya vertical place value towers: units ($20^0 = 1$), twenties ($20^1 = 20$), four-hundreds ($20^2 = 400$); converting numbers up to 8,000 between Maya base-20 and modern base-10.
**Disciplinary Knowledge:**
***Pattern Seeking:*** Comparing base-10 and base-20 positional structures to understand why zero was independently invented by Mesoamerican scholars.
**Practical Mathematical Investigation:**
**LKS2 (Y3/4):** *Maya Codebreaker.* Pupils translate carved stone glyph dates and inventory totals into modern base-10 numerals, practicing mental addition and subtraction strategies.
**UKS2 (Y5/6):** *Base-20 Tower Challenge.* Pupils construct vertical Maya place value towers using concrete counters (beans for dots, sticks for bars) to represent 4-digit numbers, solving conversion puzzles (e.g., converting 2,415 into base-20 components).

**Week 2: Knots of the Inca – Quipu Data & Large Numbers**
**Maths Strand:** Place Value, Addition, Subtraction & Statistics.
**Substantive Knowledge:**
**LKS2:** Reading numbers up to 10,000 on Inca *Quipu* string models; column addition and subtraction algorithms for imperial census counts (llama herds, crop storehouses).
**UKS2:** Reading and recording numbers up to 1,000,000 on multi-strand *quipus*; interpreting census data using mean, median, mode, and range; constructing bar charts and line graphs from regional data.
**Disciplinary Knowledge:**
***Data Representation:*** Evaluating the efficiency of tactile multi-base positional systems for long-distance record keeping without a written alphabet.
**Practical Mathematical Investigation:**
**LKS2 (Y3/4):** *The Imperial Llama Census.* Pupils read knot positions on string representations to solve multi-step addition and subtraction problems involving royal storehouse totals.
**UKS2 (Y5/6):** *Tawantinsuyu Data Analysis.* Pupils convert raw *quipu* knot data from four Inca provinces into complex comparative line graphs and calculate statistical averages for imperial taxation models.

**Week 3: Fields of Lake Texcoco – Area, Perimeter & Aztec Agriculture**
**Maths Strand:** Measurement (Perimeter, Area & Compound Shapes).
**Substantive Knowledge:**
**LKS2:** Calculating perimeter of rectangular *chinampas* (floating gardens); finding area by counting grid squares and using Length x Width.
**UKS2:** Calculating area of compound L-shaped and irregular quadrilaterals; calculating agricultural crop yields using area scaling (e.g., $1m^2$ = 4.5kg of maize); estimating volume of irrigation channels.
**Disciplinary Knowledge:**
***Systematic Spatial Problem-Solving****:* Splitting complex compound shapes into simpler rectangles to calculate total surface area efficiently.
**Practical Mathematical Investigation:**
**LKS2 (Y3/4):** *Chinampa Fencing Challenge.* Pupils design rectangular floating plots with specified perimeters and maximum possible areas to optimise maize production on Lake Texcoco grid maps.
**UKS2 (Y5/6):** *Aztec Imperial Land Survey.* Pupils are given complex compound site plans of Tenochtitlan farm plots, applying area decomposition strategies (Area = A + B) and calculating projected crop yields.

**Week 4: Scales of Chichen Itza – Ratio, Proportion & Pyramid Architecture**
**Maths Strand:** Ratio, Proportion, Scaling & Geometry.
**Substantive Knowledge:**
**LKS2:** Recognising 2D and 3D geometric properties in step-pyramids (truncated pyramids, square bases, parallel/perpendicular edges); simple scaling (1cm = 2m).
**UKS2:** Solving ratio and proportion problems involving scale factors; calculating scale ratios (1:50, 1:200) for architectural blueprints; calculating angles of incline using protractors.
**Disciplinary Knowledge:**
***Proportional Reasoning:*** Explaining how altering scale factors impacts perimeter linearly while impacting area exponentially.

**Practical Mathematical Investigation:**
**LKS2 (Y3/4):** *Pyramid Geometry Blueprint.* Pupils identify geometric angles and line properties on architectural elevation drawings of El Castillo (Chichen Itza), constructing scaled 2D grid drawings.

**UKS2 (Y5/6):** *Architectural Scale Modelling.* Pupils calculate real-world step-pyramid dimensions using scale ratios, constructing 3D net models scaled precisely to 1:250.

**Week 5: Mapping the Andes – 4-Quadrant Coordinates & Altitude Graphs**
**Maths Strand:** Geometry (Position & Direction) & Reading Data.
**Substantive Knowledge:**
**LKS2:** Reading and plotting coordinates in the first quadrant (x, y); describing translations (left/right, up/down) along mountain paths.
**UKS2:** Plotting coordinates across all four quadrants (+x, -x, +y, -y); reflecting geometric shapes across axes; reading continuous line graphs depicting altitude vs. temperature changes in the Andes.
**Disciplinary Knowledge:**
***Coordinate Precision:*** Reasoning about spatial shifts and reflections across mathematical axes using negative integers.
**Practical Mathematical Investigation:**
**LKS2 (Y3/4):** *Inca Road Grid Navigation.* Pupils plot 1st-quadrant coordinate points to construct map routes through the Andes, calculating total travel distance between mountain fortresses.
**UKS2 (Y5/6):** *4-Quadrant Andean Topography.* Pupils plot complex mountain profiles across 4-quadrants (where sea level represents the x-axis), calculating elevation shifts, reflecting paths across mountain passes, and interpreting line graphs.

**Week 6: The Panama Canal Logistics – Currency, Time & Applied Arithmetic**
**Maths Strand:** Measurement (Time, Money & Metric Conversions) & Multi-Step Word Problems.
**Substantive Knowledge:**
**LKS2:** Calculating time intervals across time zones in the Americas; metric conversions (kg to g, km to m); multi-step money problems using local currencies.
**UKS2:** Currency exchange conversions (US$, Mexican Pesos, Peruvian Sol); converting between imperial and metric units (nautical miles to km, feet to metres); solving complex multi-step rate/speed/time problems for cargo ship canal transits.
**Disciplinary Knowledge:**
***Computational Strategy:*** Selecting the most efficient written or mental arithmetic strategy to solve complex, multi-variable real-world logistics problems.
**Practical Americas Mathematical Challenge:**
**LKS2 & UKS2:** *The Americas Trade & Logistics Expo.*
***Station 1: The Maya Merchant Desk:*** Solving base-20 calculations and currency conversions for cocoa bean trade transactions.
***Station 2: The Quipu Treasury:*** Verifying imperial storehouse calculations using formal multi-digit multiplication and division algorithms.
***Station 3: The Canal Control Room:*** Calculating ship transit speeds, lock water volume displacement, and scheduling departures across time zones.
***Plenary:*** Pupils complete a multi-step written mathematical investigation evaluating: *"Which civilisation's mathematical innovations were most effective for their society's daily needs?"*

**Assessment Matrix (Progression Indicators)**

| Phase | Working Towards | Expected Standard | Greater Depth |
|---|---|---|---|
| **Lower Key Stage 2** *(Years 3 & 4)* | • Struggles to count Maya dots and bars accurately when totals exceed 20.<br>• Misreads knot values on *quipus*, confusing units with tens columns.<br>• Counts grid squares incorrectly when calculating simple rectangle area.<br>• Reverses x and y values when plotting single-quadrant coordinates. | • Translates Maya numerals accurately up to 100, explaining zero as a placeholder.<br>• Reads and records 4-digit numbers on *quipu* diagrams using place value.<br>• Calculates perimeter and area of rectilinear plots using correct mathematical formulas.<br>• Plots and reads coordinates in the 1st quadrant with high accuracy (x, y). | • Converts fluently between base-10 and Maya base-20 for numbers exceeding 100.<br>• Solves complex multi-step column arithmetic problems based on imperial census data.<br>• Designs plots with fixed perimeters that maximise surface area, justifying solutions.<br>• Explains spatial translations using precise mathematical terminology. |
| **Upper Key Stage 2** *(Years 5 & 6)* | • Struggles to calculate Maya place values above the $20^1$ tower tier.<br>• Cannot decompose L-shaped compound shapes to calculate total area.<br>• Confuses scale factors (1:100), multiplying instead of dividing.<br>• Makes sign errors when plotting coordinates in negative quadrants (3rd / 4th). | • Converts numbers up to 8,000 between Maya vertical base-20 towers and base-10.<br>• Decomposes compound rectilinear plots into sub-rectangles to calculate total area.<br>• Applies scale factors (1:50, 1:200) accurately to construct scale drawings.<br>• Plots coordinates and reflects geometric shapes across all 4 quadrants accurately. | • Generalises mathematical rules comparing computational efficiency in base-10 vs base-20.<br>• Calculates complex volume and agricultural yield projections for irregular shapes.<br>• Solves multi-layered ratio and proportion problems involving compound scale transformations.<br>• Solves complex rate/time/distance logistics problems involving metric/imperial conversions fluently. |

**Other Information, Ideas and Resources**

Integrating **Key Stage 2 Maths** with the theme of **The Americas** shows children that mathematics isn't just an abstract subject—it is a vital tool used by ancient civilisations, modern urban planners, and global navigators. Here are four highly practical, curriculum-linked maths concepts that bring data, geometry, and place value to life using the geography and history of the American continents.

**1. Maya Place Value: Base-20 vs. Base-10 (Number & Place Value)**
**Maths Domain:** Number and Place Value

**The Big Question:** *How did the Maya count without using numbers from 0 to 9?*
**The Lesson Concept**
While we use a decimal system (Base-10, likely because we have 10 fingers), the ancient Maya developed an incredibly advanced vigesimal system (**Base-20**, counting fingers *and* toes!). They were also one of the first civilisations in human history to invent the concept of **zero**.
**The System:** The Maya used just three symbols to write any number:
A **pebble/dot** = 1
A **stick/bar** = 5
A **shell** = 0
• = 1 •• = 2 •••• = 4 ———— = 5

• •• ••• ————
———— = 6 ———— = 7 ———— = 8 ———— = 10
**The Activity:** Pupils learn to read and write numbers using the Maya system up to 19. For an advanced challenge (Years 5 and 6), show them how the Maya stacked their numbers vertically to create placeholder columns worth 1s, 20s, and 400s (20 x 20).
**Output:** Pupils solve a series of addition and subtraction calculation puzzles written entirely in Maya hieroglyphs, converting the answers back into our modern Arabic numerals.

**2. Navigating the Panama Canal: Coordinates & Translation (Geometry)**
**Maths Domain:** Geometry (Position and Direction)
**The Big Question:** *Can you safely guide a cargo ship from the Pacific to the Atlantic Ocean?*
**The Lesson Concept**
The Panama Canal is a massive 51-mile artificial waterway cutting through Central America, saving ships from a dangerous 8,000-mile journey around Cape Horn. This lesson uses the canal to master coordinate grids and translation movements.
**The Set-Up:** Provide pupils with a 4-quadrant or single-quadrant grid map of the Panama Canal. Key features like the Gatun Locks, Miraflores Locks, and Chagres River are plotted at specific coordinate points (e.g., the entrance is at (2, 3)).
**The Activity:** Pupils act as ship captains. They receive a set of directional instructions to move their vessel through the canal lanes.
*Example:* "Your cargo ship is at (3, 4). Translate the ship **4 units right** and **3 units down** to avoid the shallow reef. What are your new coordinates?"
**Output:** Pupils write out their own set of translation vector coordinates (e.g., [+4, -2]) to create a safe flight or shipping path across Central America for a peer to decode.

**3. Scale Drawings: Scaling Up El Castillo (Ratio & Proportion)**
**Maths Domain:** Ratio, Proportion, and Measurement
**The Big Question:** *How do we scale down a massive pyramid so it fits on a single sheet of paper?*
**The Lesson Concept**
This lesson connects directly to the architectural marvel of the Maya pyramid, El Castillo at Chichen Itzá. Pupils use scale factors, multiplication, and measurement to convert real-world dimensions into accurate, scaled mathematical models.
**The Data:** The real El Castillo pyramid has a square base measuring roughly **35 metres** on each side, and it stands exactly **24 metres** tall (plus a 6-metre temple on top).
**The Challenge:** Challenge pupils to draw a perfect scale front-elevation diagram of the pyramid using a scale of **1cm : 2metres** or **1cm : 5metres** depending on their year group ability.

**Output:** Pupils calculate the scaled lengths using division, then use rulers and protractors to draw the symmetrical, stepped pyramid structure cleanly in their books, ensuring the ratios between the base and height remain perfectly accurate.

**4. Temperature Extremes: The Yukon vs. Death Valley (Statistics & Negative Numbers)**
**Maths Domain:** Number (Negative Numbers) and Statistics (Data Interpretation)
**The Big Question:** *What is the mathematical temperature difference between North America's coldest and hottest places?*
**The Lesson Concept**
The Americas hold some of the most intense climate records on Earth. This lesson uses real meteorological data to teach children how to calculate intervals across zero using negative numbers, alongside building and interpreting data charts.
**The Data Comparison:**
**The Yukon (Canada):** Winter temperatures regularly plunge to **-40°C**.
**Death Valley (USA):** Summer temperatures regularly soar to **+50°C**.
**The Activity:** Pupils plot annual temperature data lines for both locations on a shared line graph. They then use a vertical number line to calculate temperature intervals and differences.
*Inquiry: What is the total difference in temperature between a -15°C night in the Yukon and a 42°C day in Death Valley?* (15 + 42 = 57°C change).
**Output:** Pupils complete a data-handling sheet where they calculate the mean, maximum, minimum, and overall range of temperatures across various cities in North and South America.

**Considerations for Implementation**

## Courageous Advocacy

**Courageous Advocacy** is about pupils "speaking out" against injustice and taking action to bring about positive change. The learning theme of **'The Americas'** provides powerful, real-world issues—from environmental destruction in Brazil to the rights of Indigenous peoples in North America.

**1. Environmental Advocacy: The "Lungs of the World"**
Focuses on the conservation of the Amazon Rainforest and the impact of climate change.

**The "Rainforest Protector" Campaign:** Pupils write formal letters to the CEOs of major supermarkets, asking them to ensure their products (like beef or soy) are not linked to illegal deforestation in the Amazon.
**The Big Plastic Audit:** After learning about the impact of plastic pollution on the Caribbean coastline, pupils audit their own school's single-use plastic and present a "Green Plan" to the Governors to reduce waste.
**"Twinning" for Trees:** Organising a community event to raise funds for a rainforest reforestation project, accompanied by an educational board explaining why the Amazon is vital for the UK's own climate.

**2. Social Justice: Fair Trade and Farmers**
Focuses on the economic relationship between the UK and Latin American producers.

**The Fairtrade Challenge:** Pupils investigate the journey of a cocoa pod from a farm in Ecuador to a chocolate bar in the UK. They then run a campaign to make their school a "Fairtrade School," ensuring the tuck shop or staff room uses products that pay American farmers a fair wage.

**Letter Writing to World Leaders:** Writing to the UK's Foreign Office to advocate for policies that support small-scale coffee farmers in Central America who are struggling with "coffee rust" disease caused by rising temperatures.

**3. Indigenous Rights and Cultural Respect**
Focuses on the "invisible" voices of the First Nations, Maya, or Quechua peoples.

**The "Beyond the Mascot" Campaign:** Investigating the use of Indigenous names or imagery in sports and fashion. Pupils can create an "Awareness Gallery" in the school hall to educate others on the importance of cultural appreciation over cultural appropriation.
**Water Is Life:** Learning about the lack of clean water in some Navajo Nation areas (USA) or rural Andean villages. Pupils could advocate for a "Water Aid" charity, linking the inequality of water access in the Americas to their own local water usage.

**4. Modern Slavery and Human Rights**
Focuses on the darker side of global supply chains within the Americas.

**The "Hidden Cost" Presentation:** High-achieving pupils can research the "Child Labour" issues in some American mining or agricultural sectors. They could lead an assembly that challenges their peers to think about the human cost of the minerals in their tablets or smartphones.

**5. Summary: How to Structure Advocacy**
To make advocacy "courageous," it must move beyond simple fundraising. Use this **Advocacy Toolkit** with pupils:

| Stage | Action |
|---|---|
| **Research** | Use Science and Geography to find the *root cause* of the problem. |
| **Reflection** | Ask: "Is this fair? Does this respect the dignity of the person/planet?" |
| **Communication** | Write, speak, or create art to tell the story of those who cannot speak. |
| **Action** | Change a personal habit or lobby someone in power to change a rule. |

**A Simple "Quick Start" Idea**
**The "Postcard from the Future" Project:**
Have pupils write postcards from the perspective of a child in the year 2050 living in a threatened American biome (like the Florida Everglades or the Amazon). They should write to current local MPs explaining what needs to change *now* to protect their future.

**Developing Spirituality**

**Developing Spirituality** is not necessarily about religion. It is about the "Four Concepts of Self": **Self, Others, World, and Beyond.** It involves developing a sense of awe, wonder, purpose, and mystery. The vast landscapes and ancient civilisations of **The Americas** provide a profound backdrop for these "windows, mirrors, and doors" moments.

**1. Spirituality of the Natural World (Awe and Wonder)**
This focuses on the "World" aspect—connecting with the sheer scale and beauty of the American environment.

**The "Rainforest Canopy" Meditation:** Use immersive audio of the Amazon. Have pupils close their eyes and visualise the layers of life. Ask: *"How does it feel to be a tiny part of such a massive, breathing system?"*
**Grand Canyon Perspectives:** Show images of the vast canyons. Discuss the "Scale of Time"—how water carved rock over millions of years. This helps pupils reflect on their own place in the vast timeline of Earth.
**The "River of Life":** Compare the journey of the Mississippi or Amazon River to a human life—starting as a small stream, facing obstacles (rapids), and eventually joining something much larger (the ocean).

**2. Spirituality through Ancient Wisdom (The Beyond)**
Exploring how the Maya, Aztec, or Indigenous North Americans connected with things they couldn't see.

**Maya Stargazing:** The Maya were master astronomers. Create a dark space in the classroom to "stargaze." Reflect on the mystery of the universe: *"Why have humans always looked at the stars to find meaning?"*
**The "Web of Life":** Explore the Indigenous North American belief that every living thing is connected. Use a ball of string to create a physical "web" in the classroom. Discuss the spiritual responsibility of looking after every part of the web.
**Totem Animals:** Instead of just drawing them, ask pupils to reflect on which animal qualities they admire (the courage of a Bear, the vision of an Eagle). Ask: *"Which of these 'spirits' do you want to grow inside yourself?"*

**3. Spirituality of Human Connection (Others)**
Focusing on empathy and the shared human experience across the Atlantic.

**The "Sacrifice" Debate:** Moving beyond the "gory" details of Aztec sacrifice to discuss *devotion*. Ask: *"What is so important to you that you would give up something you love for it?"* (e.g., time, comfort, or a prized possession).
**Migrant Journeys:** Reflect on the courage of people moving across the Americas in search of a better life. Use "The Arrival" (Shaun Tan style) to provoke empathy. Ask: *"What does 'home' feel like in your heart, and how would it feel to leave it behind?"*

**4. Personal Reflection (Self)**
Using the learning theme to look inward and develop a "Mirror" moment.

**The "Golden City" (El Dorado):** Discuss the legend of the city of gold. Reflect on the idea of "Inner Wealth." Ask: *"If gold doesn't make a person rich, what are the 'golden' qualities inside you that make you a valuable person?"*
**Quiet Spaces:** Create a "Maya Temple" or a "Great Plains Teepee" quiet corner in the classroom. Use this as a space for "Stillness" where pupils can go to simply be quiet and reflect on their day's learning.

**5. Summary: The "Windows, Mirrors, Doors" Approach**

| Approach | Spiritual Action | American Example |
|---|---|---|
| **Windows** | Looking out at the world to find **Awe**. | The biodiversity of the Galápagos Islands. |
| **Mirrors** | Looking inward to **Reflect** on ourselves. | What "treasures" do I have that aren't things? |
| **Doors** | Moving forward to **Act** or change. | How can I protect the "Web of Life" in my own garden? |

**A "Spirituality" Activity Idea**
**The "Andean Stone" Reflection:**
Give each pupil a smooth stone. Explain that in the Andes, travellers often leave a stone (*Apacheta*) at high passes as a thank-you or a prayer for a safe journey. Have pupils hold the stone, think of one thing they are grateful for, and place it on a class "cairn." This physicalises the abstract concept of gratitude.

## Other

**Extra-curricular activities** allow children to explore the culture, food, and energy of the Americas outside the constraints of a formal lesson. Here are several ideas categorised by interest area:

**1. The "Americas" Food & Cookery Club**
Food is one of the most tangible ways to explore the fusion of cultures in the Americas.

**"Taco Tuesday" Workshops:** Exploring the staple ingredients of Mexico—maize, beans, and avocado. Children can learn to make fresh salsa and tortillas.
**The Chocolate Journey:** A "Bean to Bar" club where pupils explore the Maya and Aztec origins of cacao, ending with making their own chili-infused hot chocolate or simple truffles.
**Tropical Fruit Tasting:** A sensory club focusing on the exotic fruits of the Caribbean and South America (papaya, dragon fruit, guava), mapping where they grow and how they travel to the UK.

**2. Performance and Creative Arts**
**Samba Battery (Drumming Club):** Using traditional instruments like the *Surdo* and *Agogo* to create a high-energy "Batucada" performance for the school playground.
**Native American Craft Guild:** Pupils can study the symbolism of the "Web of Life" and create dreamcatchers, or look at the geometric patterns of Navajo weaving to create their own loom-based bracelets.
**Americas Cinema Club:** Screening age-appropriate films that celebrate American cultures, such as *Encanto* (Colombia), *Coco* (Mexico), or *Up* (South America/Venezuela), followed by a discussion on the real-life settings.

**3. Sports and Physical Activity**
**Major League Lunchtimes:** Introduce a "soft" version of **American Football** (Flag Football) or a **Rounders/Softball** tournament, complete with team names based on American cities.
**The "Amazon Trek" Fitness Challenge:** A daily mile or step-count challenge where the whole school tracks their progress on a giant map, "walking" from the tip of North America (Alaska) to the tip of South America (Tierra del Fuego).

**Lacrosse Taster Sessions:** Inviting a local club to teach the basics of this Indigenous North American sport, focusing on the history of the "Creator's Game."

**4. Science and Environment Clubs**
**The "Urban Jungle" Gardening Club:** Growing plants that originated in the Americas, such as tomatoes, potatoes, pumpkins, and sunflowers. Pupils can learn about the "Three Sisters" (corn, beans, and squash) companion planting method used by Indigenous farmers.
**Wildlife Explorers:** A lunchtime club focused on the biodiversity of the Galápagos or the Amazon. Pupils could "adopt" an animal through a charity and run awareness campaigns.

**5. Whole-School "Americas" Events**
**The Pan-American Carnival:** A spectacular end-of-term event where each year group represents a different country through costume, music, and dance, parading through the school or local community.
**A "Maya Museum" Evening:** An after-school showcase where pupils act as curators, presenting their artefacts, non-chronological reports, and models to parents and the local community.
**The Great American Quiz:** A house-competition format covering everything from the height of the Andes to the names of US Presidents.

**Strategy for Implementation: The "Passports" Idea**
To encourage participation, give each pupil a "Passport to the Americas." Every time they attend an extra-curricular club or complete an American-themed challenge (like reading a book set in the USA), they get a stamp. Once their passport is full, they receive a "Global Explorer" certificate in assembly.