

Y5 Learning Challenge: Our Watery World
Term: Autumn 1

Prime question: Why is water so precious?

Subsidiary questions:

1. Where does rain come from?
2. What is water scarcity and what does it look like?
3. How do we use water for energy?
5. How can you control the flow of a river?
6. How do gases change in the water cycle?
7. How does water affect the properties and changes in materials?

Science: Properties and changes of materials

- Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets
- Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.
- Use knowledge of solids, liquids and gasses to decide how mixtures might be separated, including through filtering sieving and evaporating.
- Give reasons based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.
- Demonstrate that dissolving, mixing and changes of state are reversible changes.
- Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

Geography: Water

- Describe and understand key aspects of physical geography, including climate zones, biomes and vegetation belts, rivers and the water cycle.
- Describe and understand key aspects of human geography, including the distribution and management of water.
- Human geography, including; types of settlement and land use, economic activity including trade link, and the distribution of natural resources including energy, food minerals and water.

Art: Monet and the Impressionists

- Improve their mastery of sketching, using oil pastels and planning a final piece.
- Learn about great artists and designers in history (Monet)
- Record their observations and use them to review and revisit ideas

Music: Electronic drums

- Play and perform in solo and ensemble contexts, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression.
- Improvise and compose music for a range of purposes using the inter-related dimensions of music.
- Listen with attention to detail and recall sounds with increasing aural memory.
- Appreciate and understand a wide range of high-quality live and recorded music drawn from different traditions and from great composers and musicians

Computing: Sharing information

- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- Use sequence, selection, and repetition in programs;
- Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration
- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Y5 Learning Challenge: Ancient Greece
Term: Autumn 2

Prime question: What did the Greeks do for us?

Subsidiary questions:

1. Who were the Ancient Greeks?
2. What were the Greek Gods and Goddesses like? How did they impact the lives of Greeks?
3. What was life like for a Greek Soldier?
4. How do the ancient Olympic Games compare with today's modern Olympic Games?

Science: Properties and changes of materials

- Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets
- Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.
- Use knowledge of solids, liquids and gasses to decide how mixtures might be separated, including through filtering sieving and evaporating.
- Give reasons based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.
- Demonstrate that dissolving, mixing and changes of state are reversible changes.
Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

Geography: Modern Greece

Pupils should be taught to:

- Locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities

History: Ancient Greece

Pupils should be taught about:

- Ancient Greece – a study of Greek life and achievements and their influence on the western world
- Pupils should continue to develop a chronologically secure knowledge and understanding of British, local and world history, establishing clear narratives within and across the periods they study. They should note connections, contrasts and trends over time and develop the appropriate use of historical terms.

DT: Making Bread

Pupils should be taught to:

- Understand and apply the principles of a healthy and varied diet
- Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
- Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.

Music: Music theory with keyboards

- Play and perform in solo and ensemble contexts, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression
- Improvise and compose music for a range of purposes using the inter-related dimensions of music
- Listen with attention to detail and recall sounds with increasing aural memory
Use and understand staff and other musical notations

Computing: Video editing

- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Y5 Learning Challenge: Earth and Space
Term: Spring 1

Prime question: What else is out there?

Subsidiary questions:

1. What makes up our solar system?
2. What are the similarities and differences between the planets?
3. How do the planets move?
4. How have views about space evolved over time?
5. What was the 'Space Race'?
6. What was the Soviet Union and how did it contribute to our knowledge of space?
7. Where is the Soviet Union now?

Science: Earth and space

- Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.
- Describe the movement of the Moon relative to the Earth.
- Describe the Sun, Earth and Moon as approximately spherical bodies.
- Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.

Geography: Earth and space

Pupils should be taught to:

- Use globes and satellite images of the Earth from Space to locate countries and describe features studies
- Compare a region in the United Kingdom with a region in another continent, understanding geographical similarities and differences.
- Use atlases to find out about other places.

History: Space travel and the Space Race

- A significant turning point in British history

DT: Building Bridges

Pupils should be taught to:

- Select from and use a wider range of tools and equipment to perform practical tasks (e.g. cutting, shaping, joining and finishing)
- Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design
- Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work

Music: Singing

- Use their voices expressively and creatively by singing songs and speaking chants and rhymes.
- Listen with concentration and understanding to a range of high-quality live and recorded music.
- Experiment with, create, select, and combine sounds using the inter-related dimensions of music.

Computing: Selection in physical computing

- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- Use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

Y5 Learning Challenge: Marvellous Mayans
Term: Spring 2

Prime question: What have the Mayans done for us?

Subsidiary questions:

1. Who were the Mayans and how did they live?
2. What (and where) is Central America?
3. What similarities are there between Mayan culture and other cultures we know about?
4. What is our evidence for ancient societies?
5. What makes a civilisation 'collapse'? Why do some people disagree about how it happens?

Science: Living Things and their Habitats

Pupils should be taught to

- Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird
- Describe the life processes of reproduction in some plants and animals

Geography: South America and Mexico

- Locate the world's countries, using maps to focus on South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities
- Understand geographical similarities and differences through the study of human and physical geography of a region of South America

History: The Ancient Maya

Pupils should be taught about:

- A non-European society that provides contrasts with British history – Mayan civilisation c AD 900.

Art: Frida Kahlo

- To improve their mastery of art and design techniques, including drawing & painting
- To explore the work of a famous artist and understand the impact of their art on society.

Music: Songwriting with glockenspiels

- Play and perform in solo and ensemble contexts, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression.
- Improvise and compose music for a range of purposes using the inter-related dimensions of music.
- Listen with attention to detail and recall sounds with increasing aural memory.
- Appreciate and understand a wide range of high-quality live and recorded music drawn from different traditions and from great composers and musicians.
- Develop an understanding of the history of music

Computing: Flat-file databases

- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

Y5 Learning Challenge: The Tudors
Term: Summer 1

Prime question: What was life like in Tudor Times?

1. Who were the Tudors and when did they live?
2. Who was Henry 8th and why did he marry so many wives?
3. What was a Tudor banquet like?
4. How did Henry 8th change the family tree of the Royal Family?
5. How is Tudor London similar and different to London today?
6. What is so different about Tudor music?

Science: Forces

Pupils should be taught to:

- Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object
- Identify the effects of air resistance, water resistance and friction, that act between moving surfaces
- Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

Geography: Tudor London

Pupils should be taught about:

- Human geography including types of settlements and land use, economic activity including trade links and the distribution of natural resources including energy, food, minerals and water.

History: The Tudors

Pupils should be taught about:

- A study of an aspect or theme in British history that extends pupils' chronological knowledge beyond 1066.
- A significant turning point in British History (e.g. The Protestant Church)
- The changing power of monarchs, using case studies such as Richard III, Henry, Anne, Mary.

Art: Portraiture

- To improve their mastery of Art and design techniques, including drawing, painting and sculpture with a range of materials.
- To learn about great artists, architects and designers in history.
- Create sketch books to record their observations and use them to review and revisit their ideas. (Generate ideas for self-portraits and close studies in the style of Leonardo da Vinci and Hieronymus Bosch)

DT: Biscuits

- To investigate and compare a variety of different biscuits.
- To be able to design biscuits for a particular purpose.
- To be able to evaluate a finished product.

Music: Keyboards

- Play and perform in solo and ensemble contexts, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression.
- Improvise and compose music for a range of purposes using the inter-related dimensions of music.
- Listen with attention to detail and recall sounds with increasing aural memory.
- Use and understand staff and other musical notations.
- Appreciate and understand a wide range of high-quality live and recorded music drawn from different traditions and from great composers and musicians.

Computing: Vector drawing

- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

Y5 Learning Challenge: Marvellous Maps of London
Term: Summer 2

Prime question: What do different maps show us about London?

Subsidiary questions:

- What region of the UK is London in? (South East England)
- What boroughs are in London?
- What can we learn about land use from maps of London?
- What can we learn about topographical features from maps of London?
- What is the difference between human and physical characteristics of an area?
- How do maps show how London has changed over time? (before/after Great Fire of London, Victorian maps)
- What is the main physical feature in London? (River Thames)

Science: Animals including humans

Pupils should be taught to:

- Describe the changes as humans develop to old age.

Geography: London

Pupils should be taught to:

- Name and locate geographical regions and their identifying physical and human characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time.
- Use fieldwork to observe, measure and record the human and physical features in the local area using a range of methods including sketch maps, plans and graphs, and digital technologies. (Draw maps based on a fieldtrip, draw a graph and map on a template to show boroughs with a premiership football club and those without)
- Use symbols and a key from maps including Ordnance Survey maps.

Art: A sense of place

- To use a sketchbook to record their observations and use that to review and revisit ideas.
- To improve their mastery of Art and design techniques, including drawing, painting and sculpture with a range of materials.
- To learn about great artists, architects and designers in history.

Music: Class jam

- Play and perform in solo and ensemble contexts, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression.
- Use and understand staff and other musical notations

Computing: Selection in quizzes

- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- Use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information