

Space Curriculum Driver

Year 5/6 Summer Term 2021

Topic Question: Can we leave planet earth?

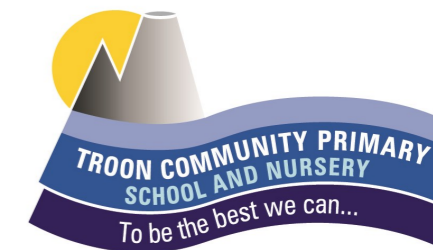
Linked people of study: Neil Armstrong, Galileo, Tim Peake, Yuri Gagarin

Linked texts: George's Secret Key to the Universe, Her Story (50 women who shook the world), 101 Black Women in STEM, The Mysteries of the Universe.

Trips/Visitors: Space dome, Goonhilly, Nexus science

Topic Composite/Finale: Space Exploration Site

Future Learning Link: Anglo Saxons & Vikings, & The Americas



Science

Intent: Children will know the workings of our solar system and the forces that act on Earth.

Skills, and Knowledge Components Focus

- 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
- 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

Sticky Knowledge:

- I know that the Earth rotates (spins) on its axis. It does a full rotation once in every 24 hours.
- I know that as the Earth is rotating, it is also orbiting (revolving) around the sun. It takes a little more than 365 days to orbit the sun. The sun does not move.
- I know that all 8 planets orbit the sun, the further away they are the longer it takes.
- I know that daytime occurs when the side of Earth is facing towards the Sun. Night occurs when the side of Earth is facing away from the sun.
- I know that to orbit is to move in a regular, repeating curved path around another object.
- I know that to rotate means to spin. E.g. Earth rotates on its own axis
- I know that the moon orbits Earth. This takes 28 days. At various times in a month, the Moon appears to be different shapes.
- I know that the 8 planets in order from the sun are: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune.
- I know that gravity is a force by which Earth pulls objects towards its centre.
- I know that air resistance and water resistance are types of friction.
- I know that friction, air resistance and water resistance can be helpful or unhelpful in different situations.
- I know why levers, pulleys and gears are useful when lifting.

Key Vocabulary: Earth, moon, sun, planets, rotate, orbit, solar system, gravity, air resistance, water resistance, friction, levers, pulleys, gears.

Subject Composite: Children will demonstrate their understanding when holding their 'Space Exploration Site' event presentations.

Impact: Children will be inquisitive about our solar system and enjoy exploring forces.

History

Intent: Children know some historic space events that have impacted the world.

Skills, and Knowledge Composite Focus

- Shows some understanding and talks with some clarity about the impact of historical events
- Begin to use questions to understand significant events.
- A detailed study of a particular famous person and their historical legacy.

Sticky Knowledge:

- I know that Neil Armstrong was the first man on the moon (1969).
- I know that Apollo 11 was the first spacecraft to land on the moon (1969).
- I know that the Apollo 11 astronauts were Neil Armstrong, Buzz Aldrin and Michael Collins (1969).
- I know that Tim Peake was the first British astronaut to visit the International Space Station (2015).
- I know that Tim Peake spent six months in space (2015-2016).
- I know that Tim Peake was the first British astronaut to walk in space (2015).
- I know that Valentina Tereshkova was the first woman in space (Vostok 6, 1963).
- I know that Yuri Gagarin was the first man in space (Vostok 1, 1951).
- I know that Edwin Hubble used the largest telescope of his time to view galaxies in 1920.
- I know that Nasa launched their first space-based optical telescope in 1990 named after Hubble.
- I know that Galileo was the first person to see the moon through a telescope.

Key Vocabulary: Neil Armstrong, Buzz Aldrin, Michael Collins, Tim Peake, Valentina Tereshkova, Yuri Gagarin, Apollo 11, Vostok 1, Vostok 6, International Space Station, Edwin Hubble, Hubble Space Telescope, Galileo.

Subject Composite: Children will hold 'Space Exploration Site' talking about which historic space events they have learnt about.

Impact: Children will be inquisitive about space exploration and will be inspired by these astronauts.

Geography

Intent: Children know what our planet's energy and natural sources are and where they come.

Skills, and Knowledge Components Focus

- Know where energy comes from.
- Know about the water cycle and natural resources (where they come from).

Sticky Knowledge:

- I know that the water cycle explains the circulation of the Earth's water.
- I know that the water cycle is the complete journey that water makes from one place to the other and from one state to the other.
- I know that a cycle is a series of events that repeat in the same order.
- I know that precipitation is the release of water from the sky. It can be a liquid or solid, e.g. rain, sleet, hail and snow.
- I know that evaporation is the process of turning from liquid into vapour.
- I know that transpiration is the evaporation of water from plant leaves.
- I know that when water falls from the clouds as rain, snow, hail or sleet and collects in the oceans, rivers, lakes and streams- this is known as 'collection'
- I know that there is renewable and non-renewable energy.
- I know that fossil fuels are non-renewable energy.

Key Vocabulary: cycle, water cycle, precipitation, evaporation, transpiration, condensation, collection, energy, renewable, non-renewable, fossil fuels, source.

Subject Composite: Children will create a water cycle bag which demonstrates their learning. Children can explain to others the process of the water cycle using their experiments.

Impact: Children will be aware of the world's energy sources and be mindful of consumption. They will think about their role as a global citizen and the impact they can make to help change energy consumption.

Computing

Intent: Children will acquire the necessary skills to be able to use a green screen to enhance presentations.

Skills, and Knowledge Components Focus

- Use digital devices to combine software and present data and information.
- Use technology to collect, analyse, evaluate and present data and digital content
- Create and implement a range of programmes and content to accomplish specific goals.

Sticky Knowledge:

- I know how to film using a green screen.
- I know how to change my green screen background images.
- I know how to edit my video recording.
- I know how to create a data graph using Microsoft Excel.

Key Vocabulary: green screen, backgrounds, edit, video, recording, images, Microsoft Excel, data, graph

Subject Composite: Children will create an interview-style green screen video report about space travel.

Impact: Children will be enthusiastic and confident in using green screens in the future. They will see themselves as a reporter and understand that this is a job role that could be a possibility when they are older.

Art

Intent: Children will use perspective and surrealism in their artwork.

Skills, and Knowledge Components Focus

- Use drawing techniques to introduce perspective.
- (Drawing from above and below, near/far.)
- Use oil pastels
- Use charcoal
- Begin to build up a portfolio of their work
- Continue to experiment with the techniques of different artists
- Use the work of a famous artist as a stimulus for their own work
- Use other artists work as a basis for critique.
- Research and develop the techniques of other artists to use in own work.

Sticky Knowledge:

- I know drawing from perspective adds 3D depth.
- I know that surrealism is a type of art using your imagination.
- I know that Salvador Dali was a 20th century Spanish surrealism artist.

Key Vocabulary: perspective, surrealism, Salvador Dali, three-dimensional, angles

Subject Composite: Final piece of surrealism art work to display at **Space Exploration Site**

Impact: Children will be confident to use perspective and surrealism in their future artwork.