

Year 6 SCIENCE Topic 2: Rise of the Robots (5 Weeks)

Assessment Questions:

1. *If I went to America, where the voltages in plugs are lower, what would happen to my hair dryer?*
2. *What happens when you increase the volts within a circuit with a bulb?*
3. *What is the symbol for a motor?*
4. *If I wanted to know whether the motor got faster if I added more batteries, which variables should stay the same and which should change?*
5. *How could you design a burglar alarm?*
6. *What precautions should you take when working with electricity?*

Values: Service and Friendship

KNOW	DO	UNDERSTAND
<p>Electricity S: associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit S: compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches S: use recognised symbols when representing a simple circuit in a diagram</p> <p>Vocabulary: <i>voltage, circuit, electrons, precaution, buzzer, cell, battery, bulb, motor, components, symbols, circuit diagrams.</i></p> <p>Children know that the amount of volts impact the brightness and the volume of the buzzer. Children know how to build simple circuits to test their theories. Children know the symbols for the different components. Children know what precautions are necessary when working with electricity – do not touch uncovered wires, aware of conductors etc.</p>	<p>WS: planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary WS: recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs WS: using test results to make predictions to set up further comparative and fair tests WS: reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations</p> <p>Children can come up with questions about how increasing the voltage might affect the components. They can design an experiment to test this. Children must use their skills from Year 3, 4 and 5 to create a fair test, with only one variable. Children can identify their variables and how they are going to control them. Children can record their findings in tables and graphs. Children can draw scientific diagrams, using the symbols for the electrical components. systematically identifying the effect of changing one component at a time in a circuit; designing and making a set of traffic lights, a burglar alarm or some other useful circuit.</p>	<p><i>PRIOR KNOWLEDGE: In year 4, children have looked at series circuits and the different equipment associated. They have tested insulators and conductors.</i></p> <p>Children will understand how the symbols match to the different components. Children will also understand how the voltage affects the brightness or volume of the buzzer. They will link this to Christmas lights and voltages in other countries, e.g. in American the plug voltage is much lower, so what would happen to a hair dryer etc.</p> <p>Children will use these skills for DT week, when they build a circuit for their fairground ride.</p>

Year 6 ART Topic 2: Rise of the Robots

Assessment Questions

What is Futurism?

Why have you layered your images?

What colours have you used? Why have you used them?

Perseverance and respect

KNOW	DO	UNDERSTAND
<p>Know they key features of Futurism.</p> <p>Know how to create a layered image with carefully chosen colours.</p> <p>Key vocabulary: Futurism Convey Movement Represent Technique Layer Tonal Colour palette</p>	<p>Futurism collage.</p> <p>Children explore how to convey movement in their work. They explore dynamic activities such as sport, dance, drama and music as a starting point for making work in two dimensions. They look at how the idea of movement is shown in different kinds of art, such as photography, illustrations, cartoons, paintings, prints, and experiment with different methods and techniques to show movement.</p> <p>Subject Knowledge: Futurism is an artistic movement developed by artists that were inspired by the excitement of modern life in the early 20th century—vitality and change, the inventions of the automobile and the airplane, the speed and power of machines. Artists include: Giacomo Balla, Duchamp, Robert Delaunay. Boccini.</p> <p>The pioneer for this was Eadward Mutbridge who was the first person to capture moving images on screen.</p> <p>Children create layered images of themselves/a peer in action, and develop this into a tonal image using one colour palette.</p> <p>NC Aims: - produce creative work, exploring their ideas and recording their experiences</p> <p>NC Content: Pupils should be taught to develop their techniques, including their control and their use of materials, with creativity, experimentation and an increasing awareness of different kinds of art, craft and design. - evaluate and analyse creative works using the language of art, craft and design</p>	<p>This is a Science-focused unit, where children explore circuits and learn about mechanised objects. They explore the idea of robots in their English, through HG Wells’ “The War of The Worlds” and through visual literacy “Origins: A Lone Robot” – these explore robots and life in the future. Children will explore the concept of Futurism in art; capturing movement in images. The futurists wanted to convey in their art the thrilling energy of the technological society and show movement within their work.</p> <p>Children will build on the idea of repeated images from Year 4 Art Week (Beatrice Milhazes) also making links to David Hockney (studied in Year 4) but looking at his photomontages.</p>

		- know about great artists, craft makers and designers	
Year 6 MUSIC Topic 2: Rise of the Robots			
KNOW	DO		UNDERSTAND
<p>I know that:</p> <ul style="list-style-type: none"> • A range of contrasting songs can be developed together to into a performance called a 'song cycle' • When you stage a performance, you need an awareness of the audience. • That songs need to be sung clearly and with good pitch (knowing to sing major and minor patterns accurately), • That elements can be combined together to enhance a performance (direction, movement, dynamics, groupings etc) <p>Vocabulary: Major Minor Key Middle eight Melody Vocals Backing vocals Structure Verse Chorus Coda Song cycle Modulation</p>	<p>Music express: Journeys (5 – can miss out lesson 3 in the unit)</p> <p>The children will use the song 'voices calling' to sing in 3 part harmony, in a waltz time (3 beats to a bar). They will look at the structure of the song comparing unison sections with harmonised, and discussing how the music gives the idea of movement and determination. They will then learn how else a song can be structured by learning the echo song 'refuge'. They will rehearse for a performance once they have learnt the structure of verse, chorus and coda. They can also explore different groupings, e.g. mixed groups; soloist or small group leads, the remainder sing the echoes.</p> <p>The children will then read the lyrics to 'Something inside so strong' by Labi Siffre and talk about the background to the song. They will watch a live performance and look at how certain elements have an impact on the song e.g. the key change (modulation). They will then learn the song in verses and the middle eight and consider how to perform using harmony sections, small groups of lead vocals, backing singers etc. In the next lesson, the children will play vocal warm up games looking at how to move mouth, and use scales (major and minor). They will then learn 'Life is what you make it' which uses these skills. They will learn how to pitch accurately and breathe in phrases.</p> <p>The children will consider how they could enhance the song e.g. with movements, groupings, dynamics to create a performance that communicates the mood and meaning of the lyrics. Finally, the children will be introduced to the idea of performing a song cycle entitled <i>Journeys</i> to include the four songs: <i>Voices calling</i>, <i>Refuge</i>, <i>Something inside so strong</i> and <i>Life is what you make it</i>. They can think about the journeys described in the songs:</p> <ul style="list-style-type: none"> – animal migration; – human migration; – finding a refuge and building new relationships, e.g. at your new Secondary school; – finding inner strength in difficult circumstances, or emerging from apartheid; – looking to the future with optimism and determination. <p>If time, this could be enhanced with ICT visuals, poetry, dance and performed to a larger audience/ filmed.</p>		<p><i>Throughout their music lessons, the children have learnt and performed a range of songs. This takes the idea that songs can be grouped together under a theme/ a journey and different songs can be performed together in a song cycle.</i></p> <p>NC Areas covered:</p> <ul style="list-style-type: none"> • Pupils play and perform in solo and ensemble contexts, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression • Pupils explore structure, texture, and pitch • Pupils use technology appropriately • Pupils understand and explore how music is communicated