



Now and Then – Technology and Inventions

Year 4, Spring Term

This document outlines the key learning and knowledge for each curriculum area linked to Technology and Inventions. There are suggested activities in each curriculum area.

This document needs to be used alongside the curriculum coverage document which details the statutory requirements for each area.

History

Key learning:

Pupils should develop an awareness of the past. They should ask and answer questions, using parts of stories and other sources to show that they understand key features of events, for example by looking at primary and secondary sources and answering questions or identifying key features. Pupils should be taught to identify differences in past and present, for example by sorting photos and identifying key features in the photos.

Pupils should develop a knowledge about British, local and world history and make comparisons over time.

Knowledge:

- Significant historical periods and events
 - *To know who the Victorians were and how their life was different to ours is now*
 - *To know why the Victorians were important and the inventions during the Victorian times*
- Changes in Britain. Europe and the wider world
 - *Changes in transport and travel*
- Changes within living memory
 - *To know how transport has changed over time*
 - *To know how technology has changed the world*
- The lives of significant people in the past
 - *To name significant inventors (Edison, Wright brothers)*

Skills:

- To use and analyse a range of historical sources
- To sort and compare pictures from the past
- To sort and compare artefacts from the past

Suggested activities:

- Travel— how has travel has changed over time—transport
- Famous inventors
- Victorians
- The Wright brothers
- How has technology changed us

Geography

Key learning:

Pupils should develop a curiosity about the world and different places. Teaching should equip pupils with knowledge of different places, people and environments. Pupils should learn geographically different places and the difference between these. Pupils should develop knowledge of globally significant places.

Knowledge:

- **Locational Knowledge**
 - *To name and locate key continents, countries and oceans*
- **Place Knowledge**
 - *To understand geographical similarities and differences between an area in the UK and an area elsewhere in the world*
- **Human and Physical Geography**

Skills:

- To use maps and atlases to locate continents, countries and oceans
- To use compass directions
- To use aerial photographs to make comparisons and recognise landmarks

Suggested activities:

- Travel— how has travel has changed over time—transport

Science

Key learning:

Pupils should develop their investigative skills and curiosity. Pupils should develop understanding of methods and processes through following instructions. Pupils should be taught to work scientifically, making and testing predictions. Pupils should be encouraged to ask questions, observing changes, noticing patterns and grouping and classifying. Pupils should carry out simple, comparative tests.

- **Electricity**
 - *Knowledge: To identify common appliances that run on electricity*
 - *Knowledge: To name the basic parts of a circuit*
 - *Skill: To construct a simple circuit*
 - *Skill: To investigate whether a circuit will light or not with different conductors and insulators*
- **Sound**
 - *Knowledge: To identify how sounds are made*
 - *Knowledge: To recognise that vibration travels to the ear*
 - *Skill: To investigate changes in volume, pitch and tempo*
- **Famous scientist**
 - *Knowledge: To name some famous scientists and inventors*
 - *Knowledge: To know why scientists and inventors are important*
- **Working scientifically (Skills)**
 - *To ask simple questions and recognise they can be answered in different ways*
 - *To observe closely using equipment*
 - *To perform simple tests*
 - *To use observations to answer questions*
 - *To gather and record data*
 - *To set up simple practical enquires and comparative tests*
 - *To take accurate measurements*
 - *To make predictions and draw conclusions*

Suggested activities:

- Sound through time—live music, recordings, explore sound waves

- Electricity
- Scientists and inventors

Music

Key learning:

Musical education should engage and inspire pupils to develop a love of music, increase self-confidence, creativity and a sense of achievement. Pupils should perform, listen to, review and evaluate music across a range of historical periods and cultures. Pupils should explore how music is created through pitch, duration, dynamics, tempo, texture and musical notations where appropriate.

Knowledge:

- To recognise music and instruments from different periods in time
- To know that you can perform music solo or as part of a group
- To recognise and name instruments
- To know that instruments and voice can be used to create sound
- To know that instruments and voice can be used to manipulate sound

Skills:

- To use voice expressively and creatively
- To play instruments musically
 - *Using instruments to create different sounds*
- To experiment with, create and combine sounds
- To play and perform solo and as part of a group

Suggested activities:

- Instruments through time—evolution of the piano/guitar/flute etc.
- Music through time—from classical to pop
- The growth of music technology

Computing

Key learning:

Pupils should be taught how digital systems work. Pupils should be equipped to use information technology to create programs, systems and a range of content. Computing ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology. Pupils should understand some concepts of the fundamentals of computer science. Pupils should be able to evaluate and apply information technology to solve problems. Pupils should be responsible, competent, confident and creative users of information and communication technology.

Knowledge:

- To understand the opportunities the world wide web can offer
 - *Use the web to search for information to make a non-fiction book*
- To name a range of computing devices
- To name a range of computing software

Skills:

- To use technology purposefully to create, organise, store, manipulate and retrieve digital information
 - *Create a poster*
 - *Edit a story*
 - *Make an advert for an invention*

- To use technology responsibly and safely
- To use sequence, selection and repetition in programs
 - *Create a stop animation film*
- To use search engine technologies effectively
 - *Use the web to search for information to make a non-fiction book*
- To select, use and combine a range of software
 - *Use book creator to make a book with pictures, sound, text and video*
 - *Make a presentation about a place visited on a journey*

Suggested activities:

- The growth of music technology—basic sequencing, (Music Maker)
- Compare Computers through time
- Significant people in computing

Art and Design

Key learning:

Art and design should inspire and engage and challenge pupils. Pupils should experiment, invent and create their own works of art, craft and design. Pupils should explore ideas and record experiences. They should have the opportunity to draw, paint and sculpt. Pupils should evaluate and analyse art work.

Knowledge:

- To know that a range of equipment and materials can be used to produce art
- To know about the work of different artists and art from different cultures and make comparisons.

Skills:

- To use a range of materials creatively
 - To use drawing, paint and sculpture to share ideas, experiences and imagination
- To experiment with colour, shape, pattern, texture, line, form and space
- To use sketch books to record observations, review and revisit ideas.

Suggested activities:

- Lowry - cities and factories

Design and Technology

Key learning:

Design and Technology is a practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems in a variety of contexts. Pupils should develop the creative, practical and technical expertise needed to perform everyday tasks confidently and enable them to participate in an increasingly technical world. Pupils should critique, evaluate and test ideas. Pupils should begin to develop and apply the principles of nutrition and learn how to cook.

- **Design**
 - To design purposeful, functional and appealing products based on design criteria
 - To generate, develop, model and communicate ideas
 - To use research to inform designs
- **Make**
 - To select and use a range of tools to perform practical tasks
 - To select and use a wide range of materials
- **Evaluate**
 - To explore and evaluate a range of existing products

- To evaluate ideas against design criteria
- To understand how key events and individuals in design and technology helped shape the world
- To test, evaluate and refine ideas
- **Technical Knowledge**
 - To build structures, exploring how they can be made stronger, stiffer and more stable
 - To explore mechanisms
 - To explore electrical materials

Suggested activities:

- Design and make transport (lego, craft etc.)
- DaVinci parachute

RE

Key learning:

Topics in the RE curriculum are based on Key Questions and Big Ideas; these fall into 3 categories: Believing, Expressing and Living.

Believing: Religious beliefs, teachings, sources; questions about meaning, purpose and truth.

Expressing: Religious and spiritual forms of expression; questions about identity and diversity.

Living: Religious practices and ways of living; questions about values and commitments.

Knowledge:

- To know about and understand a range of religions and world views
- To express ideas and insights about the nature, significance and impact of religions and worldviews

Skills:

- To gain and deploy the skills needed to engage seriously with religions and world views

Suggested activities:

MFL

Key learning:

In learning a modern foreign language students will develop their knowledge and understanding of another language and culture. Students will develop an interest in learning other language. Students will develop their awareness of cultural differences in other countries and a greater understanding of cultural practices in this country.

Knowledge:

- To know that various items can originate from another country other than our own
- Students recognise some key words and phrases in the target language.

Skills:

- Students attempt to repeat, copy or imitate some sounds heard in the target language.
- Students may perform familiar or simple actions on request using repetition, sign or gesture as prompts
- Students understand a range of familiar phrases spoken clearly and repeated if needed.

Suggested activities:

- Look at inventions from a different country, how have they changed – e.g industry, food
- Pupils look at ways food was cooked in other countries in the past and how it is cooked now