

Hobbs Hill Wood Primary School

Knowledge Organiser for Year 3 – Summer 2, Design and Technology, Earthquake Proof Structures



'Inspiring confident and independent learners'

Knowledge Organiser for Design and Technology

Knowledge

- Investigate and make annotated drawings of a range of portable and permanent frame structures. Use photographs and web-based research to extend the range e.g. *How well does the frame structure meet users' needs and purposes? Why were materials chosen? What methods of construction have been used? How has the framework been strengthened, reinforced and stiffened? How does the shape of the framework affect its strength? How innovative is the design? When was it made? Who made it? Where was it made?*
- Use a construction kit consisting of plastic strips and paper fasteners to build 2-D frameworks. Compare the strength of square frameworks with triangular frameworks. Ask the children to reinforce square frameworks using diagonals to help develop an understanding of using triangulation to add strength to a structure.
- Recognise what a 2D and 3D structure is and their differences.
- Understand how to strengthen a structure.
- Identify a range of tools and equipment.
- Develop skills and techniques using junior hacksaws, G-clamps, bench hooks, square section wood, card triangles and hand drills to construct wooden frames, as appropriate.
- Demonstrate skills and techniques for accurately joining framework materials together e.g. paper straws, square sectioned wood. Ask children to practise these, mounting their joints onto card for future reference.

Key vocabulary:

- | | |
|--------------------|-------------------------|
| • Frame structure, | • Design brief, |
| • Stiffen, | • Design specification, |
| • Strengthen, | • Prototype, |
| • Reinforce, | • Annotated sketch, |
| • Triangulation, | • Purpose, |
| • Stability, | • User, |
| • Shape, | • Innovation, |
| • Join, | • Research, |
| • Temporary, | • Functional |
| • Permanent, | |

Skills

Prior learning

- Experience of using measuring, marking out, cutting, joining, shaping and finishing techniques with construction materials.
- Basic understanding of what structures are and how they can be made stronger, stiffer and more stable.

Designing

- Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources.
- Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost.
- Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches.

Making

- Formulate a clear plan, including a step-by-step list of what needs to be done and lists of resources to be used.
- Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks.
- Use finishing and decorative techniques suitable for the product they are designing and making.

Evaluating

- Investigate and evaluate a range of existing frame structures.
- Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests.
- Research key events and individuals relevant to frame structures.

Technical knowledge and understanding

- Understand how to strengthen, stiffen and reinforce 3-D frameworks.
- Know and use technical vocabulary relevant to the project.

Hobbs Hill Wood Primary School

Knowledge Organiser for

Year 3 – Summer 2,

Geography,

Volcanoes and Earthquakes



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Knowledge Organiser for Geography

Knowledge

- To know there are many myths about the centre of the Earth
- To know what the 'supercontinent' was in 1912
- To recognise what tectonic plates are, how they move and the effect they can have
- To know volcanoes can be found and erupt underwater
- Know there are more volcanoes underwater than on land
- To identify Mount Vesuvius as a volcano and know the history of Pompeii, its eruption and impact on the future.
- Know about the 1906 San Francisco earthquake as a case study in reference to preparing for an earthquake and how it affected life moving forward.
- To know that although scientists are good at predicting where earthquakes are likely to happen, they can't predict exactly when or how big they will be.
- To learn about the Ring of Fire around the Pacific plate and the 450 active and dormant volcanoes that surround it.
- To understand the signs that indicate that a volcano may be about to erupt and how scientists can use this information to warn people that an eruption may be coming and save thousands of lives.
- To know that although preventing a volcanic eruption is currently impossible, NASA is in the process of trying to find ways to do this.
- To understand that economic factors affect how well prepared countries are to deal with natural disasters – the richer a country, the more prepared it will be.
- To understand where the UK sits in relation to plate boundaries.
- To explore rock formations in the UK that were shaped by volcanic activity millions of years ago.

Core Vocabulary:

- **Volcano** – An opening in the Earth's crust which can let hot magma and ash escape to the surface as a volcanic eruption.
- **Cone (volcano)** – The main body of a volcano,
- **Crater (volcano)** – A hole in the top of the volcano where the lava comes out.
- **Mantle** – The thick, gooey layer of molten rock underneath the Earth's crust.
- **Lava** – Magma that comes to the Earth's surface.
- **Magma** – Hot, liquid rock underneath the Earth's surface.
- **Magma chamber** – A pool of magma in the Earth.
- **Main vent** – The main route the lava takes from the magma chamber to the Earth's surface.
- **Earthquake** – When part of the Earth's crust wobbles and shakes,
- **Foreshock** – A small earthquake that happens before the main earthquake.
- **Aftershock** – A small earthquake that happens after the main earthquake,

Skills

- To describe key aspects of the Earth's structure and the different types of plate boundaries,
- To use maps to investigate the physical features of plate boundaries around the world,
- To describe a volcano's key features, including that of a volcanic eruption and its effects, how they can create islands
- To be able to explain why earthquakes occur where they do, the damage they can cause, how to measure its strength
- To understand that some settlements are located near to plate boundaries,
- To explain how scientists can predict where earthquakes may occur,
- To describe some of the benefits to living in places with lots of tectonic activity, how tectonic activity affects land use and the location of settlements,
- To describe some of the signs that scientists can use to predict a volcanic eruption,
- To describe and explain how a country can prepare for natural disasters, such as volcanic eruptions or earthquakes,
- To describe where the United Kingdom lies in relation to plate boundaries,
- To describe and explain how volcanic activity can create rock formation.

Core Vocabulary continued...

- **Crust (of Earth)** – The thin, solid outer layer of the Earth that we live on,
- **Outer core** – A hot, liquid layer of iron and nickel, surrounding the Earth's inner core.
- **Conservative plate boundary** – A plate boundary where two plates slide past one another,
- **Constructive plate boundaries** – A plate boundary where two plates are moving away from each other,
- **Destructive plate boundary** – a plate boundary where the plates move towards each other.
- **Effusive eruption** – A type of eruption in which runny lava flows down the side of a volcano.
- **Epicentre** – A place on the ground that is directly above where the earthquake happens.
- **Eruption cloud** – A cloud that forms when a volcano releases gas and ash into the air.
- **Explosive eruption** – A type of eruption in which thick, bubbly magma explodes at the surface of the volcano, throwing rocks, ash and gas into the air.
- **Oceanic plate** – A tectonic plate that is mostly under the sea.
- **Richter scale** – A scale used to measure the strength of earthquakes.
- **Tectonic plates** – Pieces of the Earth's crust that float on the mantle.

Hobbs Hill Wood Primary School

Knowledge Organiser for

PE

Year 3

Rounders and Athletics



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Rounders

National curriculum aims

2B- play competitive games, modified where appropriate, and apply basic principles suitable for attacking and defending.

2F- Compare their performance with previous ones and demonstrate improvement to achieve their personal best.



Skills

- Apply and develop a broader range of skills, whilst ensuring basic skills are performed with control and accuracy.
- Throw a ball increasing distances, catch a ball with increasing consistency.
- Hit a ball with the correct technique increasing control.
- Intercept and stop a ball consistently.
- Work as a part of a team, employing simple tactics for fielding.
- Communicate, collaborate and compete with others, following the rule of the game
- Show control, coordination and consistency when throwing and catching a ball.

Unit objectives

- Step 1- Throw a ball with increasing accuracy
- Step 2- Catch a ball with increasing control
- Step 3 – Successfully hit a ball from a tee
- Step 4 – Hit a ball towards a target
- Step 5- Choose fielding skills to make it difficult for an opponent
- Step 6 – Participate in modified competing games, showing good teamwork.

Key Vocabulary

Throwing, Fielding, Catching, Power, Get in line, Communication, Accuracy, Technique, Batting, Score, Aiming, Space, Targets, Long Barrier

Athletics

National curriculum aims

2A- use running, jumping, throwing, and catching in isolation and in combination.

2F- Compare their performance with previous ones and demonstrate improvement to achieve their personal best.



Skills

- Apply and develop a range of athletics skills in different ways.
- Start to develop control, coordination and consistency when running, throwing and jumping.
- Choose the appropriate running speed to meet the demands of the task.
- Start to understand the pace, judgement when running over an increased distance, choosing the appropriate speed to meet the demands of the task.
- Combine basic jump actions to form a jump combination, using a controlled jumping technique.

Unit objectives

- Step 1- To throw an object overarm, underarm, pulling, pushing and slinging
- Step 2- To combine different ways of jumping
- Step 3 – To run for distance
- Step 4 – To run in races of a varied distances
- Step 5 – To take part in athletics events
- Step 6- To perform competitively with others

Key Vocabulary

Athletics, Jumping, Throwing, Running, Co-ordination, Movement, Measurements, Timing, Technique

Hobbs Hill Wood Primary School

Knowledge Organiser for PSHE, Year 3, Changing Me



'Inspiring confident and independent learners'

Knowledge Organiser for

Knowledge

- To understand what a stereotype is
- To recognise some common stereotypes in society
- To explore family roles
- To understand that different families have different roles
- To understand what change is
- To recognise changes, I have been through
- To recognise changes in the future, e.g. moving to a new year group and how they might make me feel

Key Vocabulary:

Changes, Growing up, Love, Affection, Care, Stereotypes, Task, Roles, Challenge, Looking forward, Excited, Nervous, Anxious, Happy.

Skills

- Can identify stereotypical family roles and challenge these ideas
- Can identify changes they are looking forward to in the next year
- Can suggest ways to help them manage feelings during changes they are more anxious about

Hobbs Hill Wood Primary School

Knowledge Organiser for

Year 3 – Summer 1,

RE,

Rules and How They Influence Actions



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Knowledge Organiser for RE

Knowledge:

- To know what Ramadan is and the rules that Muslims follow during it
- To identify some of the rules Christians follow
- To know what a neighbour is
- To identify features of a good neighbour
- Know what charity is and give some examples of local and global charities
- To understand some of the elements involved in running a charity and the important role they play in some people's lives
- Know what a mosque is and which religion it is sacred to
- Understand what the word sacred means
- Understand what a musulla is, its purpose and why it is important
- Know what a church is and which religion it is sacred to
- Identify some key features of a church
- Demonstrate some knowledge of key religious beliefs, ideas and teachings.
- Explain how common/shared beliefs of what is right and wrong affect behaviour

Core Vocabulary:

The five pillars of Islam: five core beliefs and practices in Islam.

Samaritan: someone who goes out of their way to help others.

Charity: the act of helping someone in need.

Mosque: a place of prayer and worship for Muslims.

Musulla: a prayer mat used by Muslims.

Church: a place of public worship for Christians.

Skills:

- To develop an awareness of religious codes of conduct and rules for living, considering the effect of these on living.
- To identify and begin to describe the similarities and differences within and between religions.
- To reflect on ideas of right and wrong and their own and others responses to it.
- To find examples of the ways in which personal and religious beliefs may influence behaviour.
- Recognise and begin to ask important questions about how religious and moral values, commitments and beliefs can influence behaviour.
- Recognise what influences them in their lives. Identify the influence religion has on lives, cultures and communities including their own.



Hobbs Hill Wood Primary School

Knowledge Organiser for
Year 3 – Summer 2,
Science

The nappy challenge



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Knowledge Organiser for Science

Knowledge

- To understand the materials that a disposable nappy is made from and why,
- To be able to identify which materials are the most and least absorbent,
- To know what the elastic in a nappy is used for,
- To know that Marion Donovan invented disposable nappies in 1946,
- To understand the impact that disposable nappies have on our environment and landfill,
- To consider the use of other, more environmentally-friendly, materials in the making of nappies,
- To be able to use scientific vocabulary from a word bank and a list of measurements, e.g. capacity, time, length, to improve their questions.
- Children use their knowledge of materials and nappies to design, test and evaluate their nappy and communicate the properties of the materials in their advertisement.



Skills

- Working scientifically skills
- This topic develops the following working scientifically skills:
- Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment including thermometers and data loggers.
- Gather, record, classify and present data in a variety of ways to help in answering questions.
- Ask relevant questions and use different types of scientific enquiries to answer them.
- Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.
- Set up simple practical enquiries, comparative and fair tests.
- Use straightforward scientific evidence to answer questions or to support their findings.

SCIENTIFIC VOCABULARY: THE NAPPY CHALLENGE

You can download a Word mat of essential vocabulary for this topic from *My Rising Stars*.

absorb: to soak up, e.g. liquid

absorbent: able to soak up, e.g. liquid

bamboo: a fast-growing grass that can be used to make cloth

cloth: a woven fabric made from, e.g. wool, cotton

cotton: a plant that is grown to make cotton thread and fabric

disposable: can be thrown away after it has been used

elastic: a material that can be stretched or compressed and will return to its original shape

faeces: waste from bodies from the process of digestion

liquid: a substance that can be poured and takes the shape of its container

material: anything from which an object can be made

nappy: absorbent material used to absorb and keep urine and faeces from a baby's skin

plastic: a synthetic material, or a material that when stretched does not return to its original shape

properties: a characteristic of something, e.g. waterproof, flexible

urine: a yellowish liquid containing waste from the body when a human urinates

Velcro: a fastener that uses hooks

waterproof: keeps out water

wood pulp: wood that has been ground to a fine pulp