

PEMBRIDGE CE PRIMARY SCHOOL LEARNING JOURNEY ITINERARY

Pembridge is a school where we encourage everyone to be inspired through faith in God and to live by Christian values so that our teaching and learning is of the highest quality, our whole community flourishes and we reflect all that is worthy of praise.

SUBJECT: Science

YEAR: B

TERM: Sp2

YEAR GROUPS: 1/2

KEY QUESTION: Why can't you make a teapot from chocolate?

PREVIOUS KNOWLEDGE We would expect most children to already be able to:

Reception

- Explore the natural world around them, making observations
- Know some similarities and differences between the natural world around them and contrasting environments
- Understand some important processes and changes in the natural world around them, including changing states of matter

End of Unit Objectives

*Some children will not yet have met what is expected and show they are **emerging** because they can:*

- With support, understand what squash, twist, stretch and bend mean and observe if materials can be squashed, twisted, stretched and bent. **KQ1**
- With support, investigate if materials stretch. Order them from least to most stretchy. **KQ2**
- With support, discuss where materials have come from. Sort materials in to natural (raw) and man-made (synthetic). **KQ3**
- With support, discuss the purpose of a teapot. Describe the physical properties of existing teapots. Create success criteria in order to test the suitability of different materials. **KQ4**
- With support, investigate 3 materials against a success criteria. Draw conclusions from my findings. **KQ5**

*Most children will show that they have reached the **expected** level because they can:*

- Observe if materials can be squashed, twisted, stretched and bent and notice how they change. **KQ1**
- Investigate how much materials stretch by calculating amount of stretch with mathematical calculations. Form a conclusion of which material is the most suitable based on what I have found out. **KQ2**
- Sort materials in to natural (raw) and man-made (synthetic). Discuss if any materials contain both and how these could be grouped. **KQ3**
- Create an investigation that will test 3 different materials against my own success criteria. **KQ4**
- Investigate 3 different materials and draw conclusions from my findings. Reason why each material is suitable / not suitable to make a teapot and present my findings. **KQ5**

*Some children will have gone beyond the expected level and show that they are **exceeding** because they can:*

- Confidently respond to a hypothetical question using my scientific knowledge. **KQ1**
- Question whether the best material could be suitable for other purposes based upon our findings. **KQ2**
- Look at 2 different materials, plastic and wood. Discuss the advantages and disadvantages of toys being made out of each material. **KQ3**
- Confidently, discuss how the investigation will be fair and how I will be able to draw a conclusion from my results. **KQ4**
- Question how new materials might have been discovered / developed and how they might have been tested to create a new product. **KQ5**

ASSESSMENT OPPORTUNITIES – What are children aiming for?

Children will be able to demonstrate their learning through:

- distinguish between an object and the material from which it is made
- identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock
- describe the simple physical properties of a variety of everyday materials
- compare and group together a variety of everyday materials on the basis of their simple physical properties
- identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses
- find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching
- Carry out a simple fair test. Explain why it might not be fair to compare 2 things.
- Explain things happened as they expected.
- Suggest how to find things out.
- Organise. Find simple patterns / associations. Measure using simple equipment.
- Use scientific vocabulary to describe what they have seen and measured.

ENRICHMENT OPPORTUNITIES –

What can we give children along the journey to help them remember more?

We will endeavour to include:

- Investigations using scientific equipment.
- Practical experiences – observing, making, recording.
- Time to share and compare their investigations with those of their peers and draw overarching conclusions.

CROSS-CURRICULAR LINKS –

What links can we make to help children make sense of what we want them to know and be able to do?

This itinerary fits with our other learning through:

- Maths – Group and classify materials using Venn diagrams.
- PSHE – Respecting self and others when working in groups

LEARNING BEHAVIOURS *Children will be expected to:*

Tries new things	learn new concepts and use words with understanding
Works hard	use scientific vocabulary to explain their findings.
Concentrates	listen attentively in group sessions and make predictions and conclusions.
Self-motivates	work in a group to share knowledge and use each other's strengths to help one another.
Imagines	predict how a material will perform/ react within an investigate.
Improves	know inventors created new materials through investigation and that they would have had failures in the process.
Understands others	gain a greater understanding of the way a material might be used for different purposes across the world.
Doesn't give up	continue to work hard to listen to the points of view of others - testing and evaluating success.