

## Scientific Questioning

Concept: Materials

| Year group                 | Key questions   | Vocabulary  |
|----------------------------|---|---|
| R                          | Knowledge and Understanding of the world – floating and sinking   | Float, sink, materials, heavy, light.   |
| 1                          | Do you know what materials object are made from?<br>Can you name a variety of everyday materials?<br>Can you describe the features of everyday materials?   | Materials, glass, wood, rock, plastic, metal, properties, brick   |
| 2                          | Do you understand the suitability of materials?<br>How can you change the shape of solid objects?   | Squash, squeeze, twisting, stretching, bending, suitability, suitable, unsuitable, John Dunlop, Charles Macintosh or John McAdam  |
| 3 – Rocks                  | How are fossils formed?<br>Can you identify different types of rocks and how they are made?<br>How is soil created?   | Fossils, bedrock, rock soil, clay, grass, layers, vegetation, mountains, organic matter, decomposing, archaeologists.   |
| 4 – state of matter        | Can you organise materials into solids, liquids and gases?<br>What happens when materials are cooled and heated?<br>Do you understand the process of the water cycle?   | Solids, liquids and gases   |
| 5 – properties and changes | Can you identify the properties of everyday materials?<br>Can you identify materials that will dissolve and form a solution?<br>Can you explain how to recover a substance from a solution?<br>Can you find a solution to separate different materials? | Dissolve, solution, solubility, transparency, conductivity, magnetism, liquid, substance, solids, gases, separation, filtering, sieving, evaporating, comparative, fair test, |

|  |  |  |
|--|--|--|
|  | <p>Can you use a comparative and fair test to suggest uses for everyday materials?</p> <p>Can you explain how dissolving, mixing and changes of state are reversible?</p> <p>Can you describe how new materials are created by changes of state, and are not usually reversible?</p> | <p>metals, woods, plastic. Reversible.</p> <p>Chemists – such as Spencer Silver (sticky notes) and Ruth Benerito (wrinkle-free cotton)</p> |
|--|--|--|