



## Linked learning theme: Cracking Coast

Summer Term 2 Year 5

### Science – Solutions & Dissolving; Separating Mixtures

#### Prior Knowledge

In Y4, children learnt about states of matter. They learnt about some water changes- evaporation, condensation and freezing and melting.

#### Core knowledge

- The properties of solids: They can be picked up; they do not compress easily; they maintain their shape and volume.
- The properties of liquids: They flow easily; they do not compress easily; they take the shape of the container they are in.
- The properties of gases: They can flow easily; they can be compressed easily; they take the shape of the container they are in.
- Dissolving is when a solid mixes completely with a liquid to become a solution (it does not disappear)
- Some solids will dissolve; others will not. Some are recoverable from a solution; some are not.
- Some change are reversible e.g. Dissolving and freezing
- Some changes are irreversible eg. Burning (usually when the changes result in the formation of new materials).

#### Key skills

- Using knowledge of solids, liquids and gases, decide how mixtures might be separated, including through filtering, sieving and evaporating.
- plan scientific enquiries to answer questions, including recognising and controlling variables where necessary into how temperature affects the amount of solid which will dissolve in a liquid.
- take measurements, using thermometers, with increasing accuracy and precision, taking repeat readings when appropriate.
- record data and results of increasing complexity using scientific diagrams and labels, tables, bar and line graphs.
- use test results to make predictions to set up further comparative and fair tests.
- report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms
- identify scientific evidence that has been used to support or refute ideas or arguments

#### Vocabulary

solid liquid gas state material dissolve solute

solvent solution mixture reliable accurate

fair test variable saturation reversible irreversible melt freeze solidify evaporate condense

separate filter sieve

#### Learning Outcomes

- I know that some materials will dissolve in liquid to form a solution, and can describe how to recover a substance from a solution.
- I can use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.
- I can give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.

- I can demonstrate that dissolving, mixing and changes of state are reversible changes.
- I can explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.
- I can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
- I can take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
- I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.