



Cove Junior School  
**Skills and Knowledge Assessment Overview Science**  
Year 3

<b>Year 3 Autumn 1 ‘Blooming Marvellous’ Plants</b>
<ul style="list-style-type: none"> <li>• Plants do not eat food so have to make their own.</li> <li>• This food provides them with energy, and materials to grow</li> <li>• To make the food (sugar) plants need water from the ground, <b>carbon dioxide</b> from the air and light from the sun.</li> <li>• The water is taken up through the <b>roots</b> from the <b>soil</b></li> <li>• The carbon dioxide is taken in through the <b>leaves</b></li> <li>• As well as food, plants also make <b>oxygen</b> which is given out back into the air through the leaves</li> </ul>
<b>Year 3 Autumn 2 ‘Food Glorious Food’ Food groups</b>
<ul style="list-style-type: none"> <li>• Animals need a variety of foods to help them grow and survive. The main food groups are: <ul style="list-style-type: none"> <li>○ <b>Meat, dairy</b> and pulses provide <b>protein</b> for muscles.</li> <li>○ <b>Grains</b> and <b>root vegetables</b> provide <b>carbohydrates</b> for energy.</li> <li>○ <b>Fat</b> for <b>insulation</b> and energy.</li> <li>○ <b>Fruit</b> and <b>vegetables</b> for <b>minerals, vitamins and fibre</b>. These are essential to keep our bodies working well and protect us from illnesses.</li> </ul> </li> <li>• Humans require a balanced diet to remain <b>healthy</b> but healthy diets vary depending upon the type of activity that humans do.</li> </ul>
<b>Year 3 Spring 1 ‘Digging Up the Past’ The different types of rocks</b>
<ul style="list-style-type: none"> <li>• A <b>rock</b> is a solid material made up of <b>minerals</b> forming part of the surface of the Earth</li> <li>• Rocks are exposed on the surface at cliffs, hills and mountains but are also under the surface.</li> <li>• Some rocks, called <b>ores</b> contain metals</li> <li>• Some rocks are made of <b>grains</b> squashed together and can contain the remains of long-dead organisms, called <b>fossils</b>. This type of rock is called <b>sedimentary</b> rock, an example would be <b>limestone, sandstone</b> or <b>mudstone</b></li> <li>• Some rocks are made of <b>crystals</b> that are locked tightly together. These are called <b>igneous</b> and <b>metamorphic</b> rocks; an example of igneous rock is <b>granite</b>, and an example of metamorphic rock is <b>slate</b></li> </ul>
<b>The properties of rocks</b>
<ul style="list-style-type: none"> <li>• A rock is a solid material made up of minerals forming part of the surface of the Earth</li> <li>• Rocks are exposed on the surface at cliffs, hills and mountains but are also under the surface.</li> <li>• Some rocks, called ores contain metals</li> <li>• Some rocks are made of grains squashed together and can contain the remains of long-dead organisms, called fossils. This type of rock is called sedimentary rock, an example would be limestone, sandstone or mudstone</li> <li>• Some rocks are made of crystals that are locked tightly together. These are called igneous and metamorphic rocks; an example of igneous rock is granite, and an example of metamorphic rock is slate</li> <li>• These three types of rocks all have different properties to each other, including <b>porosity, hardness,</b> reaction to chemicals</li> <li>• The properties of the rock depend on how the rock was formed, e.g. Some igneous rocks form from lava from volcanoes and cool very quickly leading to very small crystals</li> </ul>
<b>The structure of soils</b>
<ul style="list-style-type: none"> <li>• Soil is made up of small broken-down pieces of rock.</li> <li>• Soil contains a range of different size rock pieces, e.g., sand grains or stones.</li> <li>• Soil also contains <b>humus</b> (rotted plant material)</li> <li>• Soil made of very fine rock is called <b>silt</b> or <b>clay</b>.</li> </ul>
<b>Year 3 Spring 2 ‘It’s a mystery’ What magnets do?</b>
<ul style="list-style-type: none"> <li>• Magnets exert <b>attractive forces</b> on some <b>metals</b></li> </ul>
<b>Magnets don’t need to touch</b>
<ul style="list-style-type: none"> <li>• Magnetic forces work through other materials including air, so magnets don't need to be touching to <b>exert</b> their force. It is called a <b>non-contact force</b></li> </ul>
<b>Magnets attract and repel</b>
<ul style="list-style-type: none"> <li>• Each end of a magnet is called a pole, opposite poles are called north and south.</li> </ul>

- Magnets exert **attractive** forces on each other when the poles facing each other are north and south (opposites).
- Magnets exert **repulsive** forces on each other when the poles facing each other are the same.

#### What affects magnetic strength

- The strength of magnetic forces is affected by:
  - The strength of the magnet.
  - The distance between the magnet and the object.
  - The material the object is made from.

#### Year 3 Summer 1 'Web and Whiskers'

##### Skeletons protect vital organs

- All **vertebrates** have internal **skeletons** that protect **vital organs**.
- **Invertebrates** have **exoskeletons** that protect **vital organs**.

##### Skeletons support weight

- Skeletons support the weight of land animals.
- Stronger bones can **support** a greater **mass**.

##### Skeletons support movement

- Bones are **connected** (but can move relative to each other) at joints.
- **Muscles** connect to bones and move them when they **contract**.
- Stronger bones can **anchor** stronger muscles.

#### Year 3 Summer 2 'Secrets of the Tomb'

##### Light and sight

- There must be light for us to see.
- Light comes from a **source**.
- We need light to see things, even **shiny** things.
- Light from the sun can be dangerous and that there are ways to protect their eyes

##### What light does when it hits materials

- If an object is **transparent** light will go through it and we will be able to see through it.
- If an object is **opaque**, it will block the light and no light will get through. This is what forms shadows.
- The closer to the light source an object is, the bigger the shadow will be. This is because the object blocks more of the light.
- The further away from the light source an object is, the smaller the shadow will be. This is because the object blocks less of the light.
- If an object is perfectly **reflective**, light will bounce back off it and we will see reflections of objects.
- If the material is **translucent**, it will allow light through, but we won't be able to see through it.