

Yearly Skills & Knowledge Progression
Subject: Science
Year group: 2

		Half Term 1	Half Term 2
Autumn		<p><u>Materials (Knowledge)</u></p> <ul style="list-style-type: none"> • Which materials are some objects made from? • What are these materials properties? • What properties make the material suitable for their use? <p><u>Working Scientifically skills:</u></p> <ul style="list-style-type: none"> • Use simple equipment to observe closely • Communicate his or her ideas and what they do in a variety of ways • Identify, group and classify • Gather and record data from secondary sources <p><u>Investigation</u></p> <ul style="list-style-type: none"> • Can you observe and compare the properties of a variety of materials? • Can you perform simple tests to find out if a material is suited to its use? 	<p><u>Materials (knowledge)</u></p> <ul style="list-style-type: none"> • Learn about a famous scientist who has had a big impact on the world. • What solid objects can be bent, squashed, stretched or twisted? <p><u>Working Scientifically skills:</u></p> <ul style="list-style-type: none"> • Perform simple comparative tests • Notice similarities, patterns and differences. • Ask questions and recognise that they can be answered in different ways using scientific language <p><u>Investigation</u></p> <ul style="list-style-type: none"> • Can you make predictions and find conclusions? E.g. does the shape of a solid object change when you stretch, twist, squash or bend it?
		<p><u>What can make this personal to Dovers Green?</u></p> <ul style="list-style-type: none"> • Forest school - materials hunt • Materials properties investigation <ul style="list-style-type: none"> • Links to green team? Recycling? 	<p><u>What can make this personal to Dovers Green?</u></p> <ul style="list-style-type: none"> • Visit from a modern scientist? (parent or teacher with a background in science)

Living things and their habitats (knowledge)

- What is a habitat?
- What is a micro-habitat?
- How do animals and plants depend on each other? (Food chains)

Working Scientifically skills:

- Use simple equipment to observe closely
- Communicate his or her ideas and what they do in a variety of ways
- Perform simple comparative tests

Investigation

- Observe carefully a **microhabitat** (forest school) and sketch the **plants** you find. Can you find any evidence of **plants** being eaten? What other living things can you see?
- Compare two different **habitats** and explain what animals and **plants** can be found there.

What can make this personal to Dovers Green?

- Forest School
- Outdoor investigation opportunities
- Living, dead never alive sorting outside
- Science visitors— animal rescues
- Local visits - compare habitats - pond, forest, fields, river etc.

Animals including humans (knowledge)

- What is a lifecycle?
- Animals have offspring which grow into adults
- What do all animals need to survive?
- What do humans need to be healthy?

Working Scientifically skills:

- Identify, group and classify
- Gather and record data from secondary sources
- Ask questions and recognise that they can be answered in different ways using scientific language
- Notice similarities, patterns and differences.

Investigation

- Participate in a series of **exercises** and investigate (gather and record data) how each **exercise**:
 - makes your body feel
 - affects your breathing
 - uses each of your **muscles**

What can make this personal to Dovers Green?

- Sugar (healthy eating) experiment
- Lifecycle of a chicken—grow eggs, bring in chicks and chickens
- Animals investigation— children share facts on their own individual animals / presentations / visits (Boomer?)
- Visits from canteen regarding healthy eating
- Visits from sports coaches regarding the importance of exercise
- STEM week and Science Fair

Plants (Knowledge)

- Plants are living and require certain things to grow
- Which plants do we eat? What part of the plant are they?
- What are the parts of common trees and plants?
- Observe and describe how seeds and bulbs grow into mature plants

Working Scientifically skills:

- Identify, group and classify
- Gather and record data from secondary sources
- Ask questions and recognise that they can be answered in different ways using scientific language

Investigation

- Dissect a variety of **fruits** and locate where their **seeds** are.
- Eat a variety of **vegetables** and identify which part of the **plant** they come from.

Retrieval of all four science topics based on gap analysis.

Retrieval of Working Scientifically skills based on gap analysis

What can make this personal to Dovers Green?

- Outdoor investigation opportunities
- Plants investigation—plant beans and watch them grow
- Trip to Wakehurst Place (plant research, microscopes)
- Planting and monitoring of plants around the school
- Forest School
- Gardening with Mrs Green

The development of SMSC and the promotion of British Values within Science - Year 2

SMSC	<p>Spiritual: Science supports spiritual development by providing many opportunities for children to think and reflect on the awe and wonder moments that occur in the natural world that show us what is special about life. Children begin to develop an awareness of the scale of living things from the smallest to the largest.</p> <p>Moral: Science can demonstrate and show children that different opinions need to be respected and valued. Children are encouraged to consider the immediate environment around them and how to look after it. The pupils' curiosity continues to be encouraged through exploration and investigations. We encourage children to have an open-minded attitude to suggestions made by others. There are many moral and ethical issues we cover in science (including environmental issues).</p> <p>Social: Science supports social development by exposing children to the power of collaborative working in the science community. Children work collaboratively when taking part in experiments and are encouraged to use the correct scientific vocabulary. We encourage children to take responsibility for their own and others safety. Understanding that science has a big impact on the quality of our lives.</p> <p>Cultural: Science supports cultural development by looking at how scientists from a range of cultures and genders, including our own, have had a significant impact around the world.</p>
British Values	<p>Democracy; During teamwork we encourage the children to take the views of others into account by taking turns to share ideas. Children are also reminded to listen to instructions from others.</p> <p>Rule of Law; Remind children of rules we have for science investigations, understand the importance of safety rules and that there are consequences if rules aren't followed.</p> <p>Respect and Tolerance; Teaching children that scientific discoveries often come from a range of cultures. Children are also taught about evolution and that religious beliefs can compete with scientific understanding. Mutual respect is encouraged by listening to others, working as a team, discussing what we find out as well as learning from others and offering support.</p> <p>Individual Liberty; Children are supported to make choices when planning an investigation. During discussions children begin to understand others may have a different point of view.</p>