



- The use of key vocabulary and children taking ownership of their learning – Children are able to use vocabulary independently and present their findings from each half term in a format that allows them to be creative.
- Children working scientifically, where skills are built-on and developed throughout children's time in class so that they can apply their knowledge of science when using equipment, conducting experiments, building arguments and explaining concepts confidently and continue to ask questions and be curious about their surroundings.
- Reference back to the unit title page at the start of each lesson, focussing attention on the skills to be developed in the proceeding learning activities.
- Retrieval practice giving learners the chance to consolidate previous skills and knowledge.
- Inclusivity – learning that is accessible for all.

## Pupil Voice

"We really enjoy Science."

"It's really fun."

"It's about making potions and things."

"It's about investigating and making things blast off."

"We can go on investigations using magnifying glasses."

"We can check out what's different I liked doing the smelling when we learned about the senses."

"We have learned about our 5 senses." – could explain what they were.

"I like the topic states of matter because we did lots of experiments."

"We can actually make our own telephones"

## An example of skills and knowledge progression within our Science curriculum

SCIENCE SUBSTANTIVE KNOWLEDGE						
TOPICS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Animals inc. humans (Biology)</b>	<p>Identify and name a variety of common animals including <b>fish, amphibians, reptiles, birds and mammals.</b></p> <p>Identify and name a variety of common animals that are <b>carnivores, herbivores and omnivores.</b></p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).</p> <p>Identify, name, draw and label the basic parts of the <b>human body</b> and say which part of the body is associated with each <b>sense.</b></p>	<p>Notice that animals, including humans, have <b>offspring</b> which grow into <b>adults.</b></p> <p>Find out about and describe the <b>basic needs</b> of animals, including humans, for <b>survival (water, food and air).</b></p> <p>Describe the importance for humans of <b>exercise, eating</b> the right amounts of <b>different types of food</b>, and <b>hygiene.</b></p>	<p>Identify that animals, including humans, need the right types and amount of <b>nutrition</b>, and that they cannot make their own food; they get nutrition from what they eat.</p> <p>Identify that humans and some other animals have <b>skeletons and muscles</b> for <b>support, protection and movement.</b></p>	<p>Describe the simple functions of the basic parts of the <b>digestive system</b> in humans.</p> <p>Identify the different types of teeth -<b>incisor, canine, pre-molar, molar</b> in humans and their simple functions.</p> <p>Construct and interpret a variety of <b>food chains</b>, identifying <b>producers, predators and prey.</b></p>	<p>Describe the changes as <b>humans</b> develop to <b>old age.</b></p> <p><i>Non statutory</i> <i>Pupils should draw a timeline to indicate stages in the growth and development of humans. They should learn about the changes experienced in puberty.</i></p>	<p>Identify and name the main parts of the <b>human circulatory system</b>, and describe the <b>functions</b> of the <b>heart, blood vessels and blood.</b></p> <p>Recognise the impact of <b>diet, exercise, drugs and lifestyle</b> on the way their bodies function.</p> <p>Describe the ways in which <b>nutrients</b> and <b>water</b> are <b>transported</b> within animals, including humans.</p>

## Examples of learning

### EYFS



Observing changes over time and changes in state as ingredients are mixed together through cooking activities.



Children exploring features of the natural environment such as mini-beast habitats; paying attention to features of mini-beasts to identify them.



Children caring for living things through creating a bug hotel.



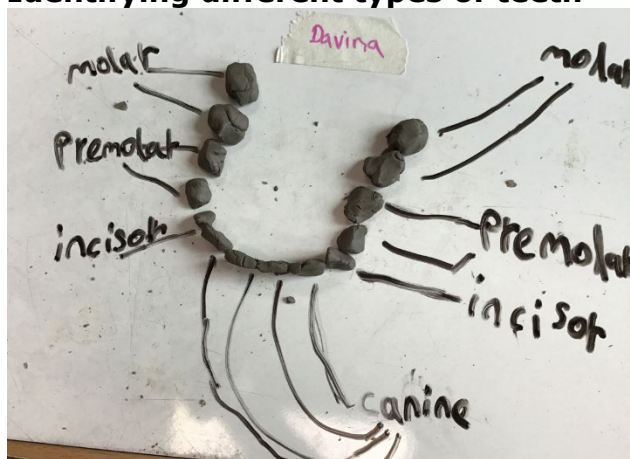
## Year 2

Looking at living things and their habitats, including a trip to Morden Hall Park

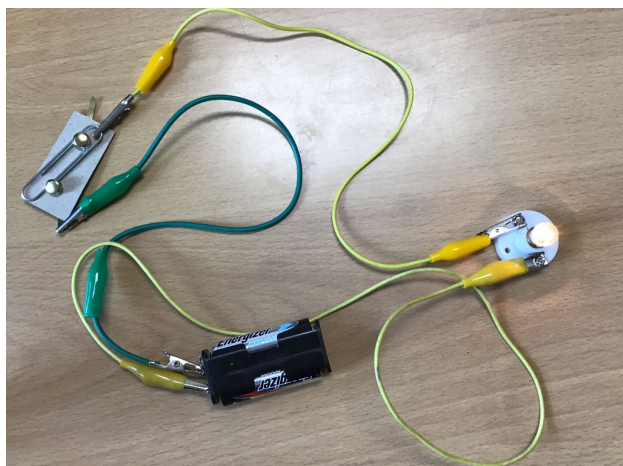


## Year 4

Identifying different types of teeth



Year 4 making circuit with a switch



## Year 5

Forces Designing, making experimenting with parachutes.



## Year 5

Trip to Morden Hall Park



## Year 6 Making a Heart



## Year 6 Shadow investigations



## Successes in 2022 - 2023

- Assessments and data analysis showed that the majority of children acquired the appropriate age-related knowledge linked to Science.
- A wide variety of skills is being taught throughout the topics throughout the school.
- Planning and resources makes clear which area of Science is being taught this is highlighted on target posters and progression maps (Biology, Physics, Chemistry).
- Progression maps have been updated to include progression from EYFS to Year 6.
- Successful transition of Science displays to Science working walls that build week on week.
- Trips and cultural capital opportunities have been mapped across the units of work to promote and consolidate Science knowledge and skills.
- Monitoring has shown that Science lessons match lesson plans, which match progression documents. Learning objectives always make skills clear.
- Non-negotiables outlined above (*If you were to walk into a Science lesson ...*) are evident in all lessons.
- Children are aware of scientific vocabulary linked to each unit.
- Children are aware of which area of Science they are studying.
- Displays are used by children throughout the lesson to support and develop their learning.
- Diversity is reflected across LTP for Science.
- End of unit assessments (including end of unit tests) take place and outcomes inform planning of the next unit.
- Science club took place and was well attended by all year groups.
- LTP documents for each year group have been reviewed to reflect diversity.

## Priorities beyond 2023-2024

- Children will be able to clearly identify skills they have developed.
- Children take more ownership of investigative work e.g. choosing equipment and how to show results.
- Children will be able to complete end of unit assessments to track progression of skills and knowledge with confidence.
- Children able to discuss and record conclusions to investigations coherently.
- Developing science in the wider community.
- Continuing to organise science events.
- Using key vocabulary as part of the ongoing assessment.

## **Ambitions for Science at Morden Primary School**

- For children to be confident in knowing which area of Science each topic is linked to.
- For children to be able to explain their findings of investigations with confidence, recalling key vocabulary with accuracy.
- For teachers to include fiction books about Science and concept cartoons.
- CDP training for all staff.

## **Some websites you might find particularly interesting:**

- [http://www.bbc.co.uk/schools/websites/4\\_11/topic/science.shtml](http://www.bbc.co.uk/schools/websites/4_11/topic/science.shtml)
- <http://www.primarygames.com/science.php>
- <https://www.topmarks.co.uk/Search.aspx?Subject=26>
- <http://www.bbc.co.uk/bitesize/ks2/science/>
- <http://www.primaryhomeworkhelp.co.uk/revision/Science/index.html>
- <http://www.childrensuniversity.manchester.ac.uk/>
- <https://www.reachoutcpd.com/>