# Montem Academy

## Science Policy

# Science

## ‘EVERYONE TO EXCEL THROUGH PRIDE AND AMBITION’

In response to the Government releasing the New National Curriculum, implemented from September 2014, we at Montem Academy have updated our teaching of Science using the new curricula to continue to give our children the best education possible.

The National Curriculum provides pupils with an introduction to the essential knowledge they need to be educated citizens. It introduces pupils to the best that has been thought and said and helps engender an appreciation of human creativity and achievement.

Hence, at Montem Academy, we believe that ‘Science stimulates and excites pupil’s curiosity about natural phenomena and events in the world around them’. Since Science links direct practical experience with ideas, it engages learners at many levels. We believe that through Science, pupils understand how major scientific ideas contribute to technological change. Pupils recognise the cultural significance of Science and can trace ‘its worldwide development’.

**The aims of Science are:**

At Montem Academy Science encourages the development of an understanding of our environment, primarily through firsthand experience, exploration, interaction with scientific phenomena and by developing scientific language. All our pupils develop their skills of enquiry and investigation to promote and progress their creative thinking. They learn to ask scientific questions and begin to appreciate the way Science will affect their future at a personal, national, and even at a global level.

Science at Montem Academy strives to encourage pupil's enthusiasm, foster their curiosity, creativity and develop their ability and skills to appreciate the world in which they live. Their inquisitiveness is stimulated to find out why things happen in the way they do.

**We Believe:**

- All pupils must have regular access to Science appropriate to their age and stage of development.
- Children need to develop a sense of responsibility for the environment, by encouraging habits of reducing the use of resources, reusing and recycling.
- We should create a learning environment, which includes an 'outdoor classroom', maximising learning opportunities for all children, irrespective of race and gender, all will be given equal access to the Science Curriculum and will enable them to develop to their full potential.

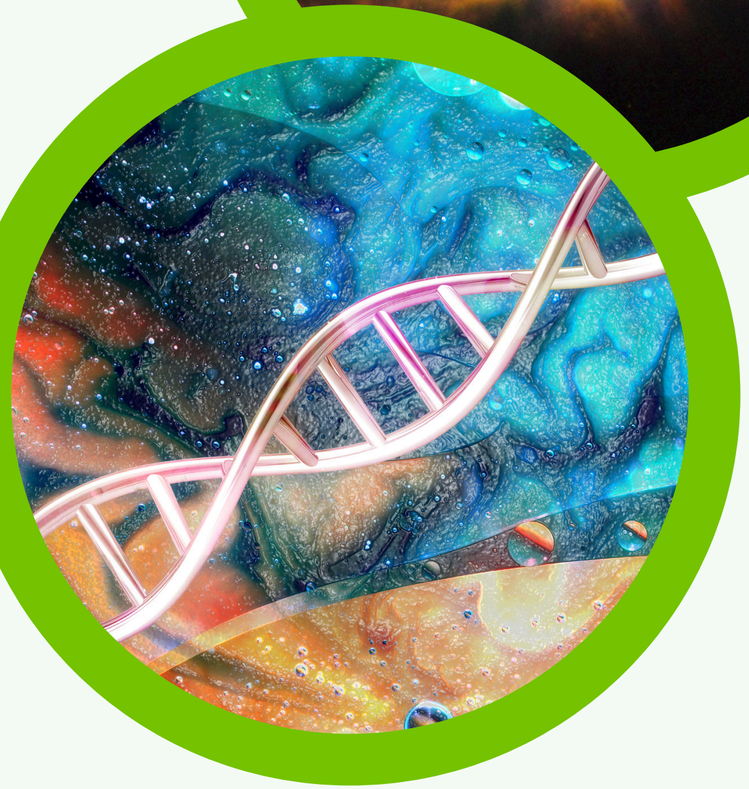
Our pupils develop their knowledge and understanding of living things and their life processes, properties of materials and physical processes of electricity, light, sound, natural forces, the earth and the solar system. The school provides an extensive range of classroom resources and equipment that the pupils enjoy using to carry out their planned scientific investigations and research.

Furthermore, our in-situ garden areas provide a natural outdoor science lab, which our children can explore. We also make use of ICT research the world of Science. The school library along with trips to places further afield such as the Science Museum aid the teaching of the most wonderful subject in the world – SCIENCE!

**Principles**

**We intend that:**

- The new curriculum enables children to develop concepts through a broad range of experiences.
- Children will be taught in ways appropriate to their abilities and in contexts suitable for their age.
- Learning opportunities will follow and build upon contexts derived from the new National Curriculum guidelines; and will provide progression and continuity between year groups and across Key Stages.
- Science will be taught as a discrete subject and will also naturally draw from and contribute towards other areas of the curriculum. Science teaching will be made relevant by building on children's own experience and using contexts from the local environment and wider world.
- Every effort will be made to ensure there is a broad and balanced experience for all our children. Wherever possible, opportunities will be provided to develop skills and gain an understanding of scientific concepts through firsthand experience in a climate, which encourages curiosity, perseverance, open-mindedness, critical reflection and cooperation.
- We will use a range of teaching methods, including whole class teaching, experimental learning, discovery methods, problem solving, and open-ended investigations and looking at science in the field wherever possible.
- We will encourage an understanding of conservation issues.
- Attention will be given to planning the science curriculum to make it equally relevant and accessible to all children, regardless of their race, gender or ability.



We will achieve this by giving children opportunities to:

- Ask questions related to their work in science.
- Use focused exploration and investigation to acquire scientific knowledge, understanding and skills.
- Work collaboratively, in groups, pairs and individually.
- Use ICT to collect, store, retrieve and present scientific information.
- Relate their work in science to everyday life.
- Relate their understanding of science to their personal health
- Consider ways to treat living things and the environment
- Consider simple scientific ideas and the evidence for them.
- To collect evidence to treat scientific ideas in a variety of ways.

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This will be achieved by children being taught:

- To communicate scientific ideas and observations using appropriate scientific vocabulary.
- To present information in a variety of ways including drawings, various graphs, diagrams, tables, charts and in speech and writing.
- To use standard units of measurement, including graphs, to record and present information.
- The skills needed to complete scientific investigations, including observation, recording, predicting and drawing conclusions.
- About environmental changes.

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## TEACHING AND LEARNING

### Coverage

The Schemes of Work illustrates how the National Curriculum Science Programme of Study and attainment targets for Key Stage 1 and 2 are translated into a practical plan.

At Montem Academy, we have decided to implement plans that reflect our Creative Curriculum wherever possible. However, when no cross-curricular links can be made, science will need to be taught as a standalone subject. We will take teaching ideas from a range of published materials to incorporate into our plans.

In Nursery and Reception, we follow the Early Years Curriculum to provide opportunities to find out about the world they live in. In KS1 and KS2 we follow the Snap Science scheme of work as the basis for Science teaching which follows the National Curriculum.

## Progression and Differentiation

- Activities are planned to follow through a concept to allow children to progress according to their ability.
- Activities are matched to specific year groups.
- Opportunities are planned for open-ended investigations that allow for differentiation by outcome, within scientific enquiry.
- Core and extension tasks (where appropriate), are provided within the contexts of the other areas of study: Life Processes and Living Things, Materials and their properties, Physical Processes.

## End of Key Stage Assessments

Children are prepared for their end of Key Stage 2 Assessment by being provided with similar activities or questions periodically. Records and evidence of children's achievements in all attainment targets are kept throughout the Key Stages to inform the end of Key Stage Assessment.


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# Science Autumn 1

1

Year 1
Biology:
Using our Senses

2

Year 2
Chemistry:
Materials

3

Year 3
Biology:
Amazing Bodies

4

Year 4
Chemistry:
State of Matters

5

Year 5
Physics:
The Earth and
Beyond

6

Year 6
Biology:
Body Pump

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# Science Autumn 2

1

Year 1
Chemistry:
Everyday Material

2

Year 2
Chemistry:
Materials-Good
Choices

3

Year 3
Physics:
The power of
Forces

4

Year 4
Physics:
Good Vibration

5

Year 5
Chemistry:
Materials-Get
Sorted

6

Year 6
Biology:
Body Health

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# Science Spring 1

1

Year 1
Chemistry:
Everyday Materials
(Part 2)

2

Year 2
Biology:
Taking Care

3

Year 3
Chemistry;

Rocks and Soils

4

Year 4
Biology:
Animals and Their
Habitiats

5

Year 5
Chemistry:
Marvellous
Mixtures

6

Year 6
Biology:
Everything
Changes

# Science Spring 2

1

Year 1
Biology:
Looking at Animals

2

Year 2
Biology:
What's in your habitat

3

Year 3
Biology:
Our Changing World

4

Year 4
Biology:
Where does all the food go?

5

Year 5
Physics:
Feel the Force

6

Year 6
Physics:
Dangers! Low Voltage-Electricity

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# Science Summer 1

1

**Year 1**
**Biology:**
**Plant Detectives**

2

**Year 2**
**Biology:**
**The Apprentice Gardener**

3

**Year 3**
**Biology:**
**How does your garden grow?**

4

**Year 4**
**Physics:**
**Switched on**

5

**Year 5**
**Biology:**
**Reproduction of Plants**

6

**Year 6**
**Physics:**
**Light up your world**

# Science Summer 2

1

Year 1
Biology: Sensing Seasons

2

Year 2
Biology: Growing up

3

Year 3
Physics: Light and Shadow

4

Year 4
Biology: Human Impact

5

Year 5
Biology: Circle of Life

6

Year 6
Biology: The Nature Library

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The Park Federation

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