

# OALC Science Overview

## Intent:

Communication, language & vocabulary



Books and reading



Experienced-based learning



Knowledge and retaining knowledge



*Nothing has such power to broaden the mind as the ability to investigate systematically and truly all that comes under thy observation in life.*

Marcus Aurelius

- Our curriculum will provide our children with the foundations of knowledge for understanding the world through the specific disciplines of biology, chemistry and physics as well as the essential skills to apply it.
- Our curriculum will ignite and sustain curiosity in our children so that they can reason, justify and explain scientific processes in the world around them.
- Pupils will be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.
- At the heart of our science curriculum is experience-based learning that enables pupils to engage with key scientific concepts they encounter.
- Our curriculum seeks to challenge thinking and beliefs that are rooted in limited experience by explicitly teaching about significant individuals in science, paying particular attention to breaking down stereotypes.
- In order to prepare children for the challenges of the modern world we will equip them with the knowledge to understand the uses and implications of science today and for the future.

## Implement:

### Coverage through science curriculum & extra-curricular:

- Science is taught weekly for an hour in KS1 and KS2 and through continuous provision in the Early Years.
- In addition there are four Science Days across the year in which Science is taught through literacy and maths as well as practical enquires.
- Science meets National Curriculum requirements and has been mapped out to ensure progression within and between year groups.
- Curriculum Ladders (knowledge organisers) inform core teaching content to be taught and support teacher subject knowledge.
- Each lesson explicitly teaches scientific knowledge and skills so that teachers and pupils have clear understanding of what they are learning and how they can apply it.
- Where appropriate, links have been made to the literacy text.
- Science assemblies engage and capture children's interest ahead of each Science Day and providing an opportunity to share with the Academy why Science is important.
- Educational visits and visitors are used to develop a sense of excitement around science for example:
  - Mad Science Lab
  - Explorer Dome
  - Wessex Water
  - Fossil hunting
  - Bristol University – geology workshop
  - Museums such as: We the Curious, Planetarium
  - Avon Wildlife

### Extra-curricular:

- Science Club – Mad Science
- Gardening Club

### Assessment:

- Low stakes quizzes linked to Curriculum Ladders.
- eBOATS (QLAs)
  - used formatively to pitch learning intentions and ensure differentiation of skills and knowledge
  - used summatively twice a year to support teacher assessments

### Monitoring:

- Learning walks
- Book scrutinies
- Regular review of curriculum documents
- CPD sessions to develop staff subject knowledge

## Impact:

### Data (2018/19):

- 91% of pupils achieved expected standard in science at the end of KS1 (9% above the national figure).
- Pupil Premium children achieved in line with others.
- 83% of KS2 pupils achieved expected standard which is in line with national figure.
- 81% of Pupil Premium children achieved expected standard compared to 87% of other pupils.
- EYFS 90% of pupils were assessed as expected in The World early learning goal (4% above the national average).

### Teacher CPD/monitoring (2019/20):

- Books show that the curriculum is being covered and children are enquiring knowledge and skills that they need.
- Staff new to the Academy made a swift and effective start following their indication to the science curriculum.
- Review of the curriculum ladders shows full coverage of the National Curriculum.

### Community/families:

- Pupil engagement levels in science have increased and they talk excitedly about their learning..
- Through projects with Avon Wildlife, pupils have been working to improve the local area.
- Pupils are developing strong scientific skills which they can apply in various subjects.