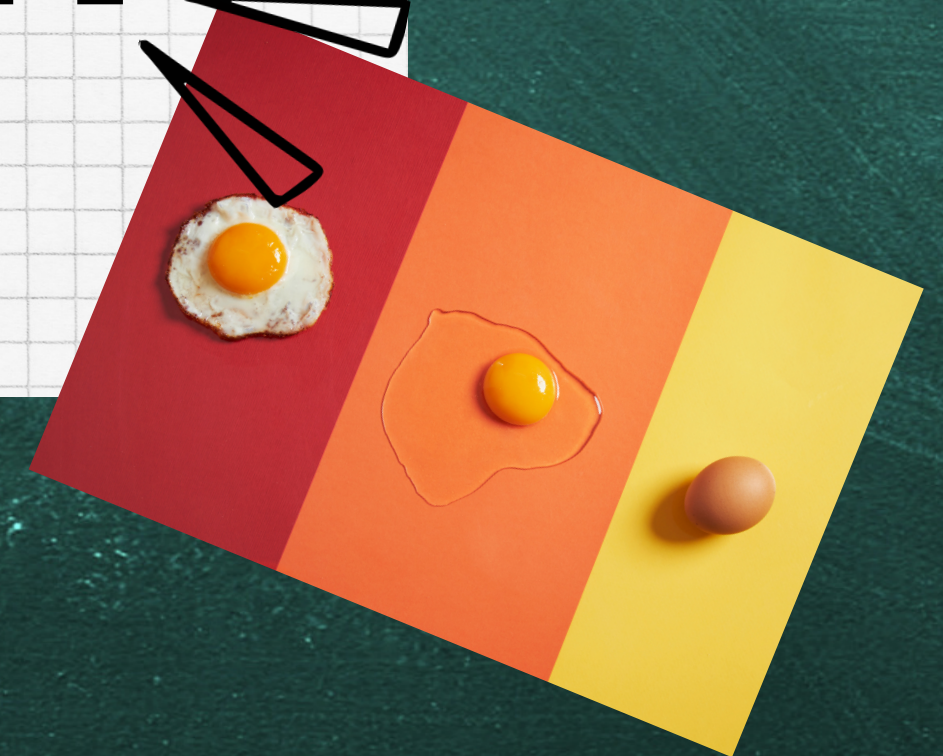


# Science at Old Fletton



# Odd One Out!



# Odd One Out! Discussion!



Zoom in



Zoom out

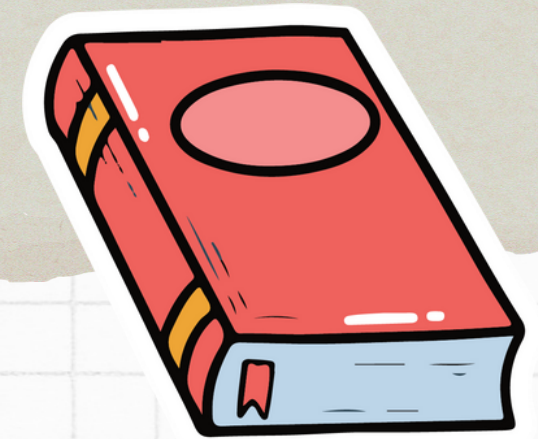


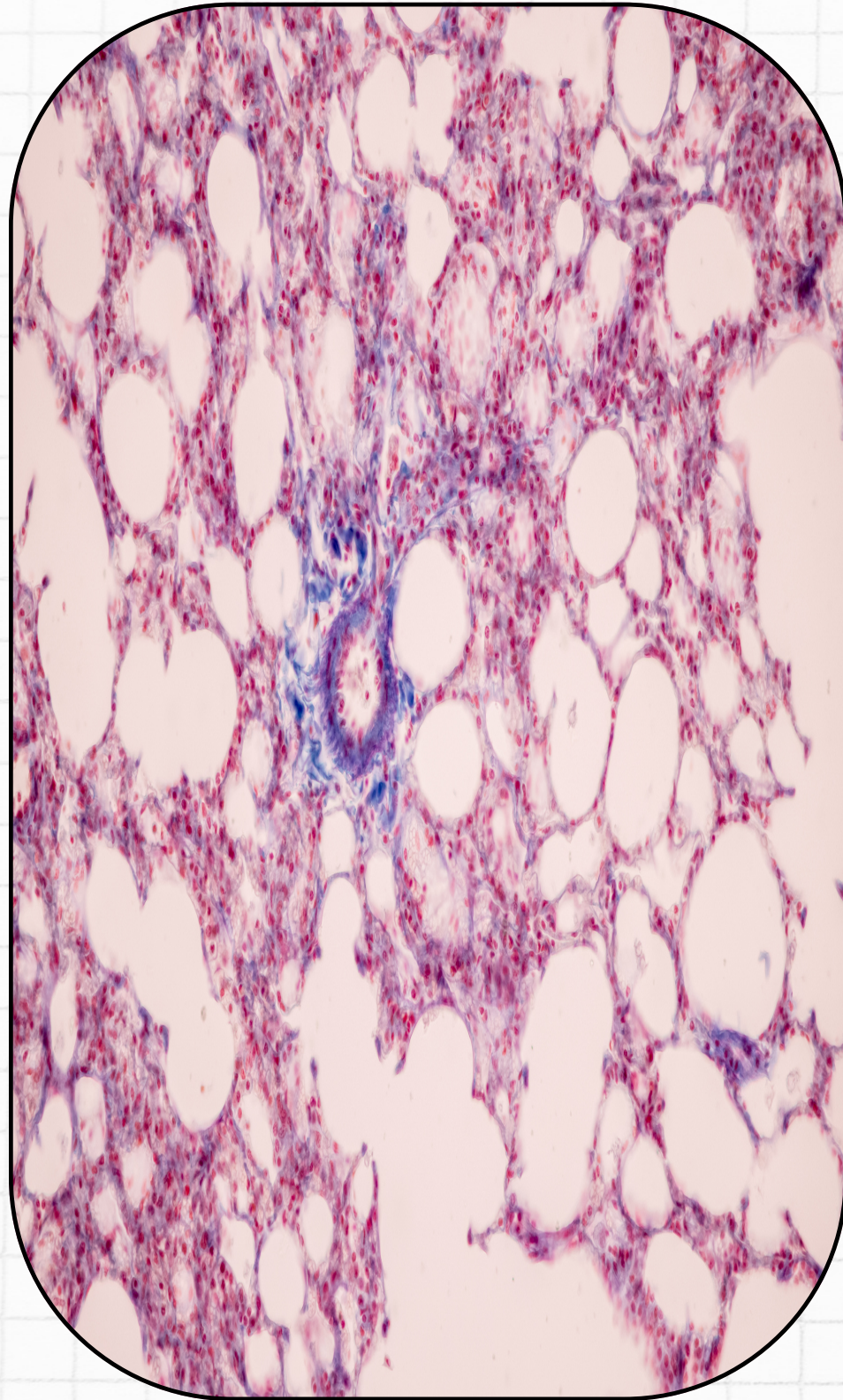


# What is Science?

Science is how we find out all about the world around us.

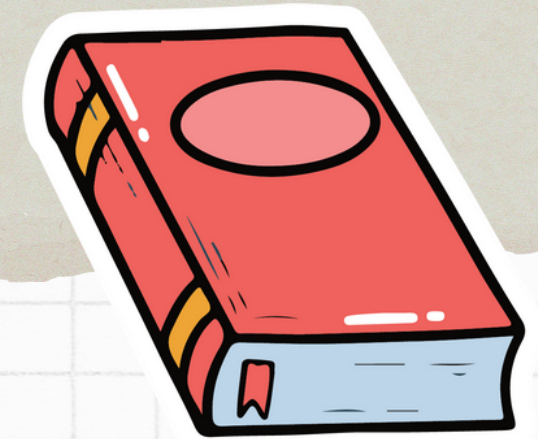
It helps us to understand all of the things that happen, and to answer all the questions that we've always wondered about!





## 3 stands of Natural Science

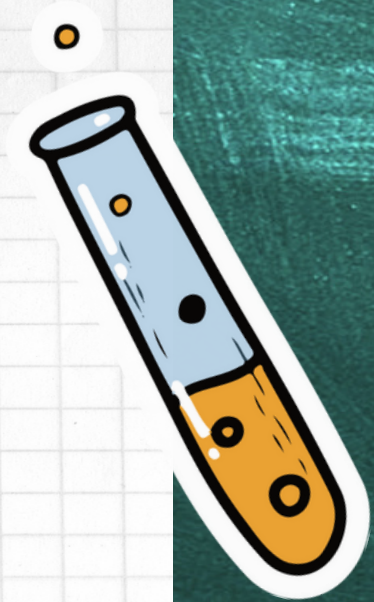
- Physics: the Study of Universe
- Chemistry: the Study of Matter
- Biology: the Study of Life and Living Organisms.





# Why is science important

From excavating the burial grounds of ancient kings to creating robots in high-tech labs, the realm of science offers exciting career options for children drawn to exploring how our world functions

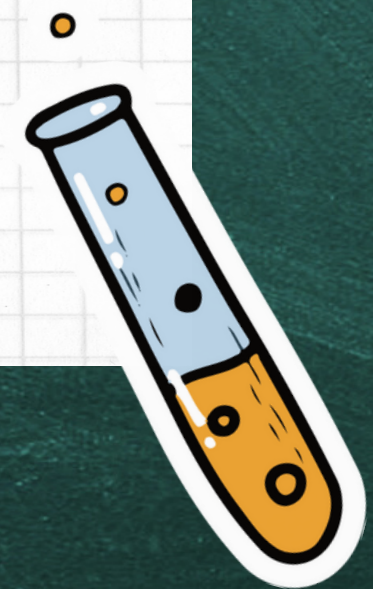
- Archaeologist
- Chemist
- Food scientist
- Nutritionist
- Oceanographer
- Robotics technician
- Science educator
- Veterinarian.

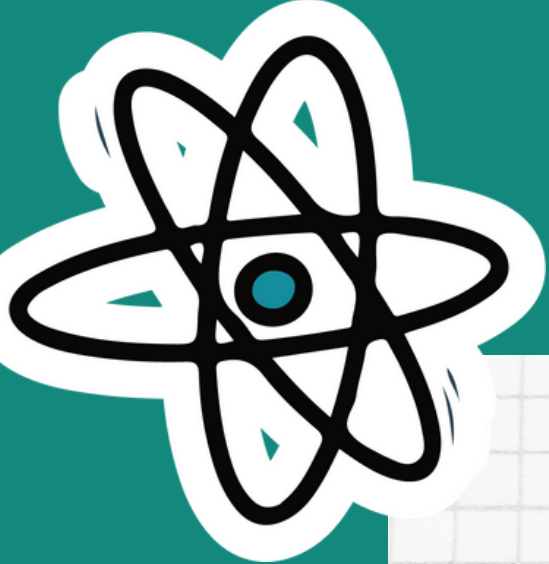


# STEM



STEM is an acronym for **science, technology, engineering, and mathematics**. It's an educational approach that combines these four disciplines into an interdisciplinary curriculum. STEM education focuses on practical learning and developing skills like problem-solving and critical thinking.





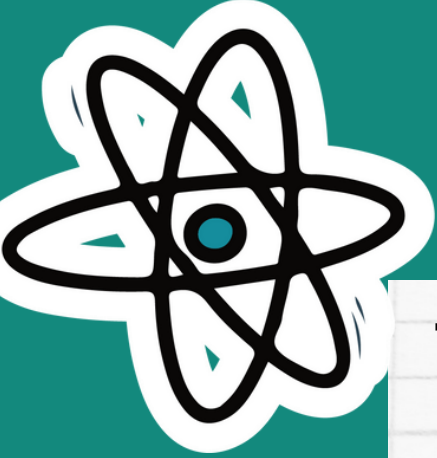
# Our aim- 10 Big Ideas



By the time a child reaches the end of **Y6** we expect them to have some understanding of the following:

1. All material in the Universe is made of very small particles.
2. Objects can affect other objects at a distance.
3. Changing the movement of an object requires a net force to be acting on it.
4. The total amount of energy in the Universe is always the same but energy can be transformed when things change or are made to happen.
5. The composition of the Earth and its atmosphere and the processes occurring within them shape the Earth's surface and its climate.
6. The solar system is a very small part of one of millions of galaxies in the Universe.
7. Organisms are organised on a cellular basis.
8. Organisms require a supply of energy and materials for which they are often dependent on or in competition with other organisms.
9. Genetic information is passed down from one generation of organisms to another.
10. The diversity of organisms, living and extinct, is the result of evolution.

Working with Big Ideas of Science Education, edited by Wayne Harlen,  
2015



# How do we achieve this

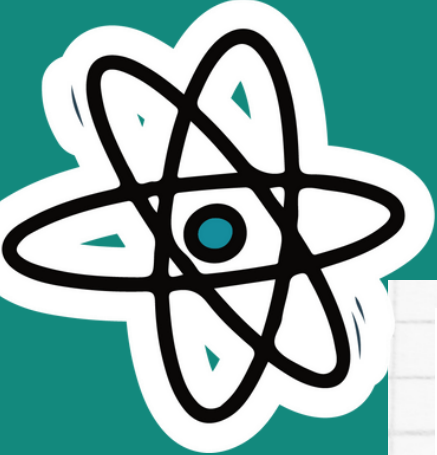
The Science curriculum can be split into two types of knowledge:

Substantive- concepts in science (what happens when the seasons change, the planets in the Solar System, how plants adapt to environments.

Disciplinary- working scientifically using scientific methods, apparatus and simple data analysis.

We have used Switched on Science as the base for our cyclical curriculum, which weaves **working scientifically** through the 3 branches of Natural Sciences. The 6 elements of working scientifically are: observing over time, pattern seeking, identifying, classifying/grouping, comparative/fair testing and researching using secondary sources.

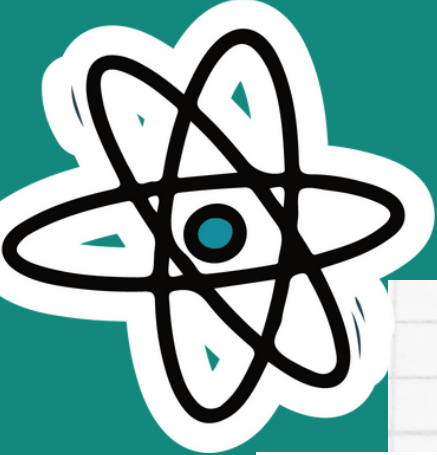




# How do we achieve this

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
<b>EYFS</b>	<b>Taught across the Units through shorter inputs and continuous provision</b> Plants Animals Humans Habitats Materials Universe Seasons					
<b>Year 1</b>	<b>Taught across the Units through shorter inputs and continuous provision</b> Seasons Animals including humans - insect safari Animals including humans - our locality Animals including humans - polar Materials Animals including humans - humans					<b>Animals Including Humans - marine animals</b>
<b>Year 2</b>	<b>Animals Including Humans Healthy Me!</b>	<b>Everyday Materials</b>	<b>Materials Squash, Bend Twist and Stretch</b>	<b>Living Things Our Local Environment</b>	<b>Plants Young Gardeners</b>	<b>Animals Including Humans</b>
<b>Year 3</b>	<b>Rocks, Soils and Fossils</b>	<b>Animals Including Humans-Healthy Eating</b>	<b>Forces and Magnets</b>	<b>Plants</b>	<b>Light and Shadow</b>	<b>Animals Including Humans-Skeletons</b>
<b>Year 4</b>	<b>Materials Looking at states</b>	<b>Electricity Power it up</b>	<b>Animals Including Human Digestive System &amp; Teeth</b>	<b>Animals Including Human Food Chains</b>	<b>Sound What's that sound?</b>	<b>Living Things Habitats</b>
<b>Year 5</b>	<b>Earth &amp; Space</b>	<b>Forces Gravity</b>	<b>Animals Including Humans Growing up and Growing old</b>	<b>Living Things Circle of Life</b>	<b>Materials Material World</b>	<b>Materials Amazing Changes</b>
<b>Year 6</b>	<b>Animals Including Humans-Circulatory System</b>	<b>Electricity</b>	<b>Living Things-Classifying</b>		<b>Evolution and Inheritance</b>	<b>Light</b>





	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Year 1	Linda B. Buck		Dr. Percy Julian (1899-1975 - United States)		Jane Goodall (1934-present - United Kingdom)	
Year 2	Stephanie Kwolek (1923-2014 - United States)		Al Jahiz		Barbara McClintock	
Year 3	Mary Anning (1799-1847 – United Kingdom) Flemmie Pansy Kittrell (1904-1980 – USA)		Joseph Banks		Attraction dance group (Hungary) Shadow artists Valerie Thomas (1943- USA)	
Year 4	William Beaumont (1785-1853 – USA)		Walter Lincoln Hawkins (1911-1992 – USA)		Sir David Attenborough (1926-present - United Kingdom)	
Year 5	Alhazen (Ibn al-Haytham) (965-1040 - Iraq) Mae Carol Jemison		Dr Steve Jones/Professor Robert Winston		Amedeo Avogadro	
Year 6	Aristotle (384-322 BCE – Greece)		Carl Linnaeus (1707-1778 - Sweden)		Charles Darwin Masatoshi Nei (1931-2023 – Japan/USA) Kumi Yamashita (1968- Japan/USA) Shadow artist	



# Chemistry

## 1. All material in the Universe is made of very small particles.

### R

States of Matter-

Why does ice melt?

How do eggs change?

- Change materials by heating and cooling

### 2

Squash, Bend Twist and Stretch

- Identify and compare the suitability of a variety of everyday materials.
- Describe how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching

### 5

Amazing Changes Demonstrate that dissolving, mixing and changes of state are reversible changes

- Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

# Science at home

As a parent, understanding science education means encouraging your child's **natural curiosity**, fostering exploration through hands-on activities, and discussing scientific concepts relevant to their age, reinforcing what they learn in school by incorporating science into everyday life, and valuing **questions** they may have about the world around them.

Early science learning is about **exploration**:

- Young children learn science through play and observation, like exploring different textures, noticing how things float or sink, and observing changes in weather.

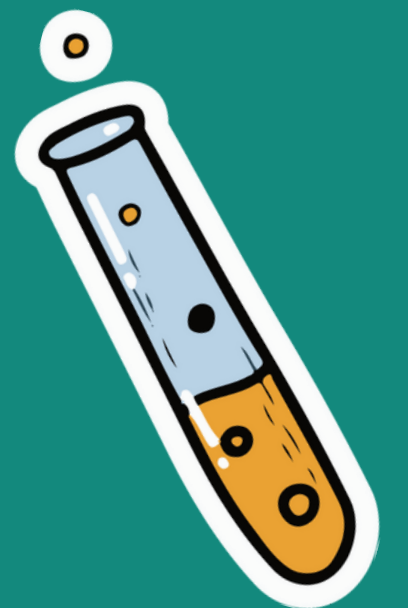
Encourage **questioning**:

- Foster curiosity by asking open-ended questions and allowing your child to explore their own "why" questions about the world around them.

Connect science to **real life**:

- Discuss scientific concepts related to everyday situations, like how plants grow in the garden or why we need to recycle.

Don't panic if you don't know the answer- science is all about finding out together





# Useful websites

National Geographic- <https://www.natgeokids.com/uk/>

[BBC Bitesize- https://www.bbc.co.uk/bitesize/subjects/  
z7nygk7](https://www.bbc.co.uk/bitesize/subjects/z7nygk7)

NASA- <https://www.nasa.gov/kidsclub/index.html>

Science Sparks- <https://www.science-sparks.com>

The Imagination Tree- [https://  
theimaginationtree.com/category/learn/  
sciencelearn/](https://theimaginationtree.com/category/learn/sciencelearn/)

Expolrify Science-[https://explorify.uk/en/  
activities](https://explorify.uk/en/activities)