

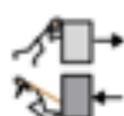
Science Big Ideas



The universe has lots of rules that it has to follow. These rules are all about forces, matter and energy.



Forces are different kinds of push and pulls. These forces respond to the matter in the universe. Matter is all the stuff, or mass, in the universe.



Energy is all around us. There are 5 different forms of energy (heat, light, sound, movement and electric). Energy cannot be created or destroyed - but it can be changed from one form into another.



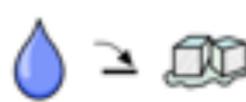
All things (matter) in the universe are made up of tiny building blocks.



How these building blocks of matter are arranged or moved explain the properties of matter (e.g. hot or cold? Soft or hard?).



Matter can change if the building blocks are rearranged. E.g. freezing water to turn it into ice.



All living things are collections of matter (building blocks). They can reproduce, use energy and grow.



Living things on earth come in different forms and are all related as they all come from the same starting point 4.5 billion years ago.



The different types of living things have evolved over millions of years to survive and adapt in their environment.



The earth is one of 8 planets that orbit around the sun.



The earth is tilted and spins on its axis leading to day and night, the seasons and the climate.



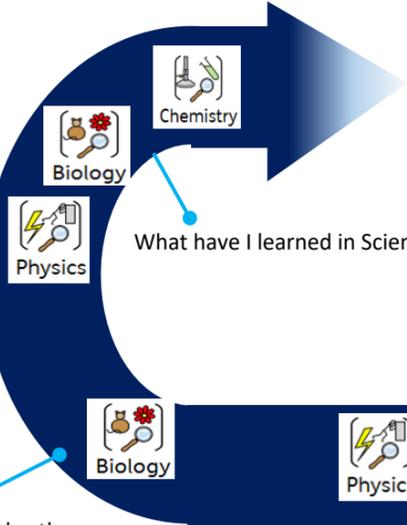
The earth is made up of several layers, including a relatively thin rocky surface which is divided into tectonic plates, and the movement of these plates leads to many geologic events and features.



Progression of Big Ideas

	Big Idea	EYFS	KS1	KS2
PHYSICS	<p>The universe has lots of rules that it has to follow. These rules are all about forces, matter and energy.</p> 	Continuous Provision: Investigation area	<ul style="list-style-type: none"> DT: Moving pictures (Y1) DT: Wind up toy (Y1) 	<ul style="list-style-type: none"> Forces and Magnets (Y3) Sound (Y4) Electricity (Y4) Forces (gravity, air resistance, water resistance, friction, mechanisms) (Y5)
	<p>Forces are different kinds of push and pulls. These forces respond to the matter in the universe. Matter is all the stuff, or mass, in the universe.</p> 	Continuous Provision: Investigation area	<ul style="list-style-type: none"> DT: Moving pictures (Y1) DT: Wind up toy (Y1) 	<ul style="list-style-type: none"> Forces and Magnets (Y3) Forces (gravity, air resistance, water resistance, friction, mechanisms) (Y5)
	<p>Energy is all around us. There are 5 different forms of energy (heat, light, sound, movement and electric). Energy cannot be created or destroyed - but it can be changed from one form into another.</p> 	Continuous Provision: Investigation area	Seasons: Daylight (Y1) Changing shape: Movement (Y2)	<ul style="list-style-type: none"> Light and Shadow (Y3) Sound (Y4) Electricity (Y4) Forces (gravity, air resistance, water resistance, friction, mechanisms) (Y5)
CHEMISTRY	<p>All things (matter) in the universe are made up of tiny building blocks.</p> 	<ul style="list-style-type: none"> Investigating strongest materials for house for 3 little pigs/ chair for Daddy Bear/Goldilocks. Continuous Provision: construction/ creative area 	<ul style="list-style-type: none"> Identifying Materials (Y1) Uses of Materials (Y2) Changing shape (Y2) 	Changes of state (Y4) Separating mixtures (Y5) Materials: Compare and group (Y5) Types of Change: Reversible and irreversible (Y5)
	<p>How these building blocks of matter are arranged or moved explain the properties of matter (e.g. hot or cold? Soft or hard?).</p> 	<ul style="list-style-type: none"> Investigating strongest materials for house for 3 little pigs/ chair for Daddy Bear/Goldilocks. Continuous Provision: construction/ creative area 	<ul style="list-style-type: none"> Comparing Materials (Y1) Uses of Materials (Y2) Changing shape (Y2) 	Changes of state (Y4) Separating mixtures (Y5) Materials: Compare and group (Y5) Types of Change: Reversible and irreversible (Y5)
	<p>Matter can change if the building blocks are rearranged. E.g. freezing water to turn it into ice.</p> 	<ul style="list-style-type: none"> Cooking/baking activities: Continuous provision: Playdough station/tuff spot activities exploring materials. Sand and water areas. 	<ul style="list-style-type: none"> Changing shape: Exploring bending, squashing, stretching (Y2) 	Changes of state (Y4) Separating mixtures (Y5) Materials: Compare and group (Y5) Types of Change: Reversible and irreversible (Y5)
BIOLOGY	<p>All living things are collections of matter (building blocks). They can reproduce, use energy and grow.</p> 	<ul style="list-style-type: none"> Changes since baby Healthy party food Animal and plant growth and lifecycles. Continuous Provision: nature garden 	<ul style="list-style-type: none"> Animal and human body parts/ senses. (Y1) Plants and trees in local area.(Y1) Feeding and exercise (y2) Living things (Life cycles) (Y2) 	<ul style="list-style-type: none"> Plant life cycles/growth (Y3) Skeleton and muscles. (Y3) Human nutrition (Y3) Teeth and digestive system(Y4) Human, plant and animal life cycles (Y5) Circulatory system/ healthy lifestyles
	<p>Living things on earth come in different forms and are all related as they all come from the same starting point 4.5 billion years ago.</p> 	<ul style="list-style-type: none"> Animal names and habitats Continuous Provision: nature garden 	Compare and group wild things. (y1) Living things (Sort and compare) (Y2)	<ul style="list-style-type: none"> Food chains (Y4) Classification keys (Y4) Classification systems Inc. microorganisms (Y6)
	<p>The different types of living things have evolved over millions of years to survive and adapt in their environment.</p> 	<ul style="list-style-type: none"> Thinking about families and how we have changed since we were babies. 	<ul style="list-style-type: none"> Habitats (Y2) 	<ul style="list-style-type: none"> Dangers to living things/changing environments. (Y4) Evolution and Inheritance (Y6)
EARTH SCIENCE	<p>The earth is one of 8 planets that orbit around the sun.</p> 	<ul style="list-style-type: none"> Caring for our world topic. Awareness of sun protection/ shade in summer. 	<ul style="list-style-type: none"> Geography: Hot and cold places (Y1) Geography: Where does food come from? (Y2) Geography: Australia (Y2) 	<ul style="list-style-type: none"> Earth and space (Y5) Geography: Blue Planet (Y3)
	<p>The earth is tilted and spins on its axis leading to day and night, the seasons and the climate.</p> 	<ul style="list-style-type: none"> Seasons walks. Continuous provision: Daily weather report. 	<ul style="list-style-type: none"> Changing seasons (Y1) Geography: Hot and cold places (Y1) World climate: Where food comes from (Y2) 	<ul style="list-style-type: none"> Earth and space (Y5) Geography: Antarctic/ Mediterranean climates (Y6) Geography: Brazil/ rainforest (climate) Y4
	<p>The earth is made up of several layers, including a relatively thin rocky surface which is divided into tectonic plates, and the movement of these plates leads to many geologic events and features.</p> 	<ul style="list-style-type: none"> Continuous provision: Investigation area, mud kitchen, gardening. 	<ul style="list-style-type: none"> Geography vocabulary: mountains, desert, oceans (y1) Geography: islands (Y2) 	<ul style="list-style-type: none"> Rocks and soils (Y3) Revision (Y6) Geography: Volcanos and mountains (Y4) Geography: Earthquakes (Y3)

Science Learning Journey



What have I learned in Science since Year 3?

How can we improve our heart health?

Why do the arctic explorers need sunglasses?

Y6

How do you play the classification game?

How can we change the way a bulb or buzzer behaves in a circuit?

What can you find out about the evolution of the peppered moth?

Do all animals have the same lifecycle?

What material is best for Buddy's harness?

How does the trapeze swing change with different masses?

Earth

Y5

Which chocolate melts the quickest?

How can we separate the sewage from the clean water?

How can we test the suspect powder to find out who the criminal is?

What would you say in a video blog from space?

How does a switch work and how can you make one?

How can animals be grouped?

What different teeth do we have and how do we keep them healthy?

Y4

How do musical instruments make sounds?

Which living things are predators, prey, consumers and producers?

How are seeds designed to be dispersed?

Which surface will make the marble roll furthest?

Why does water stay in the rock pool but not on the sand?

Biology

How will the rides move at the Queen's fair?

What do plants need to grow well?

Which material makes the best shadow?

How does our skeleton protect our organs and help us move?

Y3

What type of habitat does your animal need?

What is a life cycle?

What materials are best for a ball?

Y2

What are our senses and how do we use them?

What do plants need to stay alive, grow and be healthy?

What do humans need to stay alive, grow and be healthy?

What shall we use to clean up Traction Man?

What trees and plants are in our local area and what do they have in common?

Chemistry

Y1

Changing seasons: What are our seasons and how are they different?

What animals live in our world and where do they live??

How can we group wild things?

What colours show up best in dim light?

Which tights would be best for the tall princess? (investigating materials)

How do animals and plants change as they grow?

How can we make the strongest house?

How can we have a healthy party?

How have I changed since I was a baby?

EYFS



welcome