



THE BIG IDEAS OF SCIENCE

Physics

P1: The universe follows unbreakable rules that are all about forces, matter and energy.

P2: Forces are different kinds of pushes and pulls that act on all the matter that is in the universe. Matter is all the stuff, or mass, in the universe.

P3: Energy, which cannot be created or destroyed, comes in many different forms and tends to move away from objects that have lots of it.

Chemistry

C1: All matter (stuff) in the universe is made up of tiny building blocks.

C2: The arrangement, movement and type of the building blocks of matter and the forces that hold them together or push them apart explain all the properties of matter (e.g. hot/cold, soft/hard, light/heavy, etc.).

C3: Matter can change if the arrangement of these building blocks changes.

Biology

B1: Living things are special collections of matter that make copies of themselves, use energy and grow.

B2: Living things on Earth come in a huge variety of different forms that are all related because they all came from the same starting point 4.5 billion years ago.

B3: The different kinds of life, animals, plants and microorganisms, have evolved over millions of generations into different forms in order to survive in the environments in which they live.

Earth science

E1: The Earth is one of eight planets that orbit the sun.

E2: The Earth is tilted and spins on its axis leading to day and night, the seasons and the climate.

E3: 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 (such as earthquakes and volcanoes) and geographical features (such as mountains.)



| Year 1 – Ongoing throughout year – Working scientifically | |
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| NC objectives | Key knowledge and vocabulary |
| <ul style="list-style-type: none"> • asking simple questions and recognising that they can be answered in different ways • observing closely, using simple equipment • performing simple tests • identifying and classifying • using their observations and ideas to suggest answers to questions • gathering and recording data to help in answering questions | <p><u>New learning and vocabulary</u></p> <p>properties, observe, test, magnifying glass, object, record, equipment</p> <p>Know that we can ask questions about the world and that when we observe the world to answer these questions, this is science</p> <p>Know that we can use magnifying glasses to observe objects closely</p> <p>Know that we can test our questions to see if they are true</p> <p>Know that objects can be identified or sorted into groups based on their observable properties</p> <p>Know that we can write down numbers and words or draw pictures to record what we find</p> |
| Year 1 – Summer Term: Identifying Materials | |
| NC objectives | Key knowledge and vocabulary |
| <ul style="list-style-type: none"> • distinguish between an object and the material from which it is made • identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock | <p><u>Big idea(s): C1, C2</u></p> <p><u>New learning and vocabulary</u></p> <p>absorption, matter, property, wood, plastic, glass, metal, water, rock</p> <p>Know from observation how to distinguish between materials made of wood,</p> |



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| | <p>plastic, glass, metal, water, rock</p> <p>Know that an object is made from/of a material</p> <p>Know that materials can be hard, soft, strong, weak, absorbent, heavy, light, solid and runny, smooth and rough; these descriptions denote the properties of a material</p> <p>Know that matter (stuff) is made from tiny building blocks</p> |
| <p>Year 1 - Summer Term: Comparing Materials</p> | |
| <p>NC objectives</p> | <p>Key knowledge and vocabulary</p> |
| <ul style="list-style-type: none"> • describe the simple physical properties of a variety of everyday materials • compare and group together a variety of everyday materials on the basis of their simple physical properties | <p><u>Big idea(s): E2</u></p> <p><u>New learning and vocabulary</u></p> <p>absorption, matter, property, energy, freezing, melting, wood, plastic, glass, metal, water, rock,</p> <p>Know from observation how to distinguish between materials made of wood, plastic, glass, metal, water, rock</p> <p>Know that an object is made from/of a material</p> <p>Know that materials can be hard, soft, strong, weak, absorbent, heavy, light, solid and runny, smooth and rough; these descriptions denote the properties of a material</p> <p>Know that matter (stuff) is made from tiny building blocks</p> |