Parent and Carer Information: Year 6 Science

This guide helps you to track the progress of your year 6 child as they develop through the subject of science. In year 6, children learn the key skills that form the basis of their science education, including studying living things, changes of state and the practical skills of investigations and experiments. Practising these skills at home can be a great way to your boost child's confidence and complement what they learn in the classroom. This guide outlines how you, as parents and carers, can best support your child's year 6 science journey, with an easy-to-follow flowchart of what they will learn and clear goals for you to work on together.

Click on each topic to head to the relevant category on the Twinkl website to find super resources to support your child.

Taking Measurements

Alternatively, you can follow the web url **www.twinkl.co.uk/resources/parents** to get to the Twinkl Parents Hub.

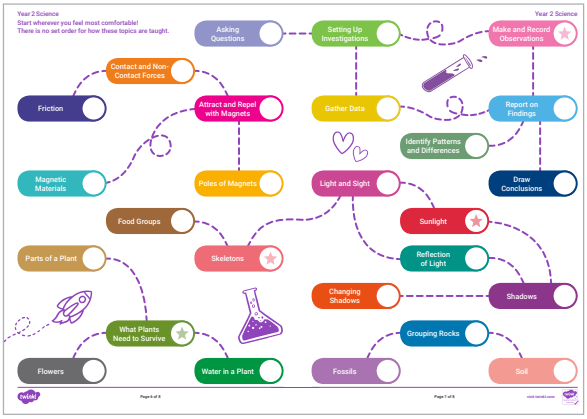
We have also included handy tick boxes, so you can easily check off when you have covered each topic, and you can keep on track with your child's studies. You can also use the 'traffic light' system to record your child's confidence, and how they feel about the topic you have covered together.

Stick the other pages together to create a display poster for both you and your child to fill in. Complete with handy tick boxes, this chart is ideal for helping to support your child's studies from home.

I feel unsure about this.

I feel okay about this.

I feel confident about this!



We hope you find the information on our website and resources useful. The contents of this resource are for general, informational purposes only. This guide is intended to offer parents general guidance on what subject areas tend to be covered in their child's year group and where they could support their children at home. However, please be aware that every child is different and information can quickly become out of date. There are some subject areas that we have intentionally not covered due to the nature of how they are taught or because a trained professional needs to teach these areas. We try to ensure that the information in our resources is correct but every school teaches the national curriculum in its own way. If you would like further guidance or are unsure in any way, we recommend that you speak to your child's teacher or another suitably qualified professional.

Make Predictions

Your child can use results from an experiment to predict what might happen in a future experiment. They use what they have found out to think about what may happen in the future. For example, if they find out that paper disintegrates in water, they could predict that cardboard will take longer to fall apart when put in water, as it is thicker.

Planning Enquiries

Your child can plan out careful scientific experiments and tests. They understand what variables are and how to control them within an experiment. A variable is something that can be changed in an experiment that may affect the outcome. For example, if you are testing if sunlight helps a plant grow, one variable you can control is the amount of light the plant gets. Another variable would be the amount of water the plant receives.

Taking Measurements

Your child can take accurate measurements using different scientific equipment. They are able to take repeated measurements if the experiment needs it. For example, if you are testing how effectively a plant grows, you need to measure the height of the plant at repeated points of time.

Recording Data

Your child can use a variety of different methods for recording data from an experiment. They can create written methods of the experiment, diagrams explaining what happened, keys, tables and graphs. These graphs include scatter graphs, line graphs, bar charts and tables.

Presenting Findings

Your child can report and present their findings in an experiment or investigation. They can draw conclusions based on what they have seen or found. They can identify if their experiment supports or refutes a statement.

Evidence

Your child can identify evidence that has been used to support or refute an idea or argument. They can understand how this evidence can be used and describe why it supports or refutes the idea.

Classification of Living Things

Your child can name some of the categories that living things can be organised into. They recognise that living things can be sorted based upon observed characteristics. They begin to recognise that there is a further category made up of micro-organisms. For example, they know that animals can be organised into the categories of mammals, vertebrates, invertebrates, amphibians, reptiles, insects etc.

Justifying Classifications

Your child can justify why an animal is sorted into one of the classification of living things. They can describe the characteristics that make up each of the classifications. For example, mammals have the presence of mammary glands which, in females, produce milk for feeding their young, a neocortex (a region of the brain), fur or hair, and three middle ear bones.

Changes over Time

Your child can identify how living things change over time. They can name some animals that are different now to earlier in their existence, also describing how they have changed.

Fossils

Your child can recognise that fossils give us information about living things from the past. They can use what they have previously learnt about how fossils are formed, to understand that fossils are a record of things from the past.

Offspring

Your child can identify that living things produce offspring of the same kind. They understand that although the offspring are the same type of living creature, they are not identical to the parents. For example, human children are the same species as their parents, but can have different features like eye colour, hair colour, fingerprints, height etc.

Adaptations

Your child can give examples of ways that animals and plants are adapted to their environment. They can give reasons why an adaptation might be useful and help the living thing survive in it's environment. For example, they understand that a polar bear being white, makes it suited to living in a snowy environment.

Diet, Exercise and Lifestyle

Your child can explain the part that diet, exercise and lifestyle play in how the human body functions. They understand the need for a variety and balance of nutrition, how exercise contributes to healthy muscles and the negative effect that certain drugs can have on the body.

Circulatory System

Your child can describe the main parts of the human circulatory system. They can explain what the heart, blood and blood vessels do in the body. They can identify the structure of the heart, naming the different parts and what part they play in your pulse.

Water and Nutrients in Animals

Your child can describe how water and nutrients are transported around the body. They understand the role that blood plays in moving things around the body, including how red blood cells are designed to carry oxygen to different places that need it.

Components in Circuits

Your child can identify a number of reasons that may affect how a component works in a circuit. For example, they understand that the number of cells (batteries) in a circuit will affect how well components work, the thickness and length of the wires used can affect how well a component works and environmental factors like temperature can also have an effect.

Voltage

Your child can recognise the link between the number and voltage of cells in a circuit, with the brightness of a bulb or volume of a buzzer. They understand that the lower the voltage the dimmer the bulb and quieter the buzzer.

Circuit Diagrams

Your child can create circuit diagrams using simple symbols for the different components.

Travelling Light

Your child can describe how light travels in straight lines. They can use the ideas of periscopes and rear-view mirrors in cars to demonstrate that light travels in straight lines. They can use this information to explain how periscopes and rear-view mirrors work.

Light Sources

Your child can name a variety of different light sources. They recognise a secondary source of light and understand that light reflects off all objects, not just reflective surfaces.

Sight

Your child can explain that they are able to see because of light. They understand that light travels from a light source and reflects off objects into our eyes, meaning we can see the objects.

Shadows

Your child can explain why shadows are the same shape as the object that forms them. They can describe that light travelling in a straight line contributes to the shape of shadows.

Above and Beyond

If you really want to go the extra mile, you and your child can review these sections to gain a greater understanding of each topic and push your learning further.

★ Gas Exchange in Humans

Your child can describe the function of the lungs. They can describe how we breathe in and out using our diaphragm and can identify the gases that are exchanged inside the lungs (carbon dioxide is breathed out and oxygen is taken in through the lungs).

★ Skeleton

Your child can describe that the skeleton is responsible for producing blood cells. They can identify that these are produced inside the bone marrow (the soft part inside of our bones).

Photosynthesis

Your child can recognise that plants use photosynthesis to create their own food. They can describe how the reactants (things the plant takes in and uses) for photosynthesis are light energy, water, carbon dioxide and chlorophyll, while the products (things that are produced and given out) are glucose (sugar), oxygen and water. They are able to use the scientific vocabulary associated with photosynthesis.

Cells

Your child can identify that all living things are made up of cells. They know that cells are tiny and most can only be seen through a microscope. They can name the structures of a cell including the membrane, wall and nucleus.

Year 6 Science

Start wherever you feel most comfortable!
There is no set order for how these topics are taught.

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Taking Measurements

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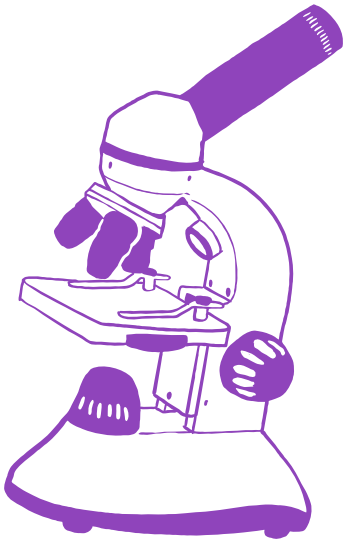
Presenting Findings



Evidence

Diet, Exercise and Lifestyle

Components in Circuits

Circuit Diagrams

Voltage

Classification of Living Things

Justifying Classifications

Changes over Time

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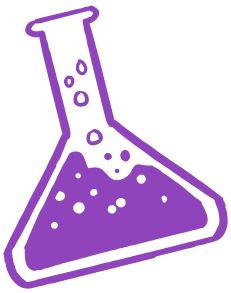
Offspring

Adaptations



Circulatory System

Water and Nutrients in Animals

Travelling Light

Light Sources

Sight

Shadows

Explore and Discover More

Unsure of how to use this resource? Simply scan this QR code using your mobile device or tablet to watch a quick video explanation showing you how to use this resource with your child.

Twinkl Book Club is our book subscription service. Enjoy our original works of fiction in beautiful printed form, delivered to you each half-term and yours to keep!

Twinkl Boost is a range of intervention resources, created to support and lift learning with children at every level. These include our easy-to-use SATs and Phonics Screening resources.

Twinkl Go! is a digital platform, hosting interactive content such as videos, games, audiobooks and more. Twinkl Go! enables digital content to be streamed to your computer or mobile device.

Twinkl Originals are engaging stories written to inspire pupils from EYFS to KS2. Designed to encourage a love of reading and help curriculum-wide learning through accompanying resources.

Twinkl Kids' TV is our wonderful YouTube channel dedicated to fun and informative video style resources full of new and creative activities you can try at home!