



Churchfields Infants' School: Year Two curriculum information

Science



Outlined below is a summary of the skills children will work on during each half term in Year Two, along with some activities children will complete, key vocabulary that will be taught and ideas of how parents can help to develop this learning at home.

Half Term	Skills	Activities	Key Vocabulary	How can you help at home?
Autumn 1 Are We Nearly There Yet?	<ul style="list-style-type: none">- identify and compare the suitability of certain materials for given uses- find out how the solid shapes of objects made from some materials can be changed by squashing, bending, twisting and stretching- conducting simple tests to answer a given question- drawing simple conclusions from findings- to continue to ask questions about the world around us	<ul style="list-style-type: none">- classifying materials depending on whether they are natural or man-made- explaining why materials have been used to make certain objects with reference to their properties- hunting for materials around school and explaining their uses- investigating which type of material will make the best bridge and testing them to find out- Which paper would be best to make a paper aeroplane and why?	<ul style="list-style-type: none">objectmaterialwoodplasticmetalglassbrickrockpapercardboardclay/ceramicnaturalman-madepropertiesrigidbrittleflexibletransparenttranslucentopaquewaterproofwater resistant	<ul style="list-style-type: none">- go on a hunt for different materials at home! Why are the materials you found suitable to be used for the object you can see?- have a go at making some paper planes yourself at home. You could try printer paper, newspaper, kitchen towel, or anything else you can find! Which type of paper makes the best plane and why? Does it matter if you change the style of plane? (Maybe you could research some and try different types to see which flies best? Why do you think that is?)- extend your learning further by making paper boats https://www.thesprucecrafts.com/easy-origami-boat-instructions-4057416 Which kind of material do you think will make the best boat? Have a test and see if you were right!

	<p>Revision:</p> <ul style="list-style-type: none"> - distinguish between an object and the material from which it is made - identify and name a range of everyday materials - describe the simple properties of materials and compare them on the basis of these 	<ul style="list-style-type: none"> - testing out common objects and see if their shape can be changed by bending, twisting, stretching or squashing <p>Revision:</p> <ul style="list-style-type: none"> - naming materials used to make objects - choosing materials that fit certain criteria (on the basis of simple properties) - grouping objects on the basis of the properties of the materials they are made from 	<ul style="list-style-type: none"> absorbent purpose suitability shape squash bend twist stretch <ul style="list-style-type: none"> test experiment investigation fair prediction conclusion 	
<p>Autumn 2</p> <p>Once Upon a Time...</p>	<ul style="list-style-type: none"> - observe and describe how seeds and bulbs grow into mature plants - understanding environmental implications of using manmade materials - conducting simple tests to answer a given question - drawing simple conclusions from findings 	<ul style="list-style-type: none"> - understanding the advantages and disadvantages of plastic and why we should not use so much - designing and building a house for The Three Little Pigs – will they withstand The Big Bad Wolf? - designing a sustainable house - investigating the properties of balloons 	<ul style="list-style-type: none"> object material names of materials <ul style="list-style-type: none"> natural man-made properties adjectives to describe properties <ul style="list-style-type: none"> environment sustainable energy saving living wall water tank solar panels 	<ul style="list-style-type: none"> - have a look around your house for ways in which you try to be 'sustainable' e.g. cutting down on plastic packaging, recycling etc. Could you do more? Can your child suggest any improvements from what they have been learning? - design your own houses for The Three Little Pigs and see if you can blow them down (The Big Bad Wolf could be a hairdryer or a fan...or just a LOT of breath!) - make some slime! (be careful as some recipes contain ingredients that can be harmful). What are the properties? Are they what you would expect?

	<p>- to continue to ask questions about the world around us</p> <p>Revision: <i>- identify and compare the suitability of certain materials for given uses</i></p>	<p>and creating balloon kebabs!</p> <p>- force a bulb to grow in a forcing jar and plant bulbs to observe</p> <p>- make slime!</p> <p>Revision: <i>- classifying materials depending on whether they are natural or man-made</i> <i>- explaining why materials have been used to make certain objects with reference to their properties</i> <i>- application of learning about how the shapes of some solids can be changed by bending, twisting, stretching and squashing</i></p>	<p>test experiment investigation fair prediction conclusion</p> <p>balloon slime skewer</p> <p>pressure</p>	<p>- have a go at making some balloon kebabs of your own!</p> <p>- consider planting some bulbs ready for Spring. You can observe them as they grow, and your child can be responsible for looking after them!</p>
<p>Spring 1</p> <p><i>It's Cold Outside...</i></p>	<p>- find out about and describe the basic needs of animals, including humans, for survival</p> <p>- describe the importance for humans of exercise, eating the right amounts of different</p>	<p>- continue to observe bulbs planted last half term</p> <p>- name and label what animals including humans need to stay healthy</p> <p>- completing a food pyramid by sorting</p>	<p>plant bulb seed roots shoot soil/compost nutrients</p> <p>health exercise</p>	<p>- if you planted any bulbs, have a look at them and see if you have any shoots growing yet!</p> <p>- have a think about how you all keep yourselves healthy: do you get enough sleep? Is your diet balanced? Do you drink enough water? What do you do to keep your minds fit and healthy? Maybe you could all make a New Year's Resolution</p>

	<p>types of food, and hygiene</p> <p>Revision:</p> <ul style="list-style-type: none"> - <i>observe and describe how seeds and bulbs grow into mature plants</i> - <i>conducting simple tests to answer a given question</i> - <i>drawing simple conclusions from findings</i> - <i>to continue to ask questions about the world around us</i> 	<p>foods into different food groups</p> <ul style="list-style-type: none"> - designing a balanced meal for a school dinner - taking different forms of exercise and determining which parts of their body they strengthen - bread investigation to understand how germs are spread (one slice untouched, one touched with clean hands, one touched with dirty hands!) - ice investigation: what will melt ice the fastest? <p>Revision:</p> <ul style="list-style-type: none"> - <i>classifying materials depending on whether they are natural or man-made</i> - <i>explaining why materials have been used to make certain objects with reference to their properties</i> - <i>application of learning about how</i> 	<p>sleep diet balanced hygiene water recommended carbohydrate fat protein fruit vegetables dairy vitamins minerals</p> <p>muscles heart strengthen names of different types of exercise</p> <p>melt dissolve mix</p> <p>test experiment investigation fair prediction conclusion</p>	<p>together to help you all be even more healthy?!</p> <ul style="list-style-type: none"> - look around at home for different food groups. What do you have the most of? Can your child identify which type of food it is? - encourage your child to think about their meals and whether or not they have a balanced diet. Maybe they could be your meal planner for the odd day – can they include the right amount of each food group in a meal for the whole family? Maybe they could help you cook it too? - try a new exercise together and think about how it keeps you healthy - have a go at the bread investigation yourselves (quite disgusting by the end but fun!) - lots of children really enjoy experimenting with ice! Perhaps you could freeze some small toys in some ice and see how long it takes them to free them?
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		<i>the shapes of some solids can be changed by bending, twisting, stretching and squashing</i>		
<p>Spring 2</p> <p>What the Eyes Don't See...</p>	<ul style="list-style-type: none"> - asking simple questions and recognising that they can be answered in different ways - gathering and recording data to help in answering questions - notice that animals, including humans, have offspring which grow into adults - identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants <p>Revision:</p> <ul style="list-style-type: none"> - <i>observe and describe how seeds and bulbs grow into mature plants</i> 	<ul style="list-style-type: none"> - draw conclusions from the results of the bread investigation - make a poster to remind people to wash their hands and why this is important (to be displayed around the school!) - carry out the Stroop test to see what we can find out about our eyes and how they work - learning about how the eyes of some animal's work - performing a simple test to investigate which materials can catch a bubble without popping it - making bubbles and exploring the properties of them - testing different types of soap to find out which is the most 	<ul style="list-style-type: none"> plant bulb seed roots shoot soil/compost nutrients <ul style="list-style-type: none"> germs carry hygiene spread <ul style="list-style-type: none"> eyes vision rods cones Stroop test <ul style="list-style-type: none"> bubble soap properties stretch dissolve elasticity powder flakes scented/unscented soap 	<ul style="list-style-type: none"> - if you planted any bulbs, have a look at them and see if you have any shoots growing yet! - if you have had a go at the bread investigation, keep an eye on it and see what happens to it! What can you conclude? - maybe you could make a sign or poster at home to remind everyone to wash their hands? What would help your family remember when to wash their hands? - have a go at The Stroop Test at home with your family - have a go at making your own bubbles! - visit a zoo, farm or go for a local walk and see which animals you can spot! Are there any with new babies? What do their young look like? Can you think of any animals that look very similar to their young? Which look different? You could rehearse the names of different animals and their young too! - find out some information about different types of habitat (e.g. ocean, woodland, rainforest, pond) and some of the animals that live there - if you could create your own animal, what would it look like? Where would it live? What would it eat? What else would it

	<ul style="list-style-type: none"> - <i>observing closely, using simple equipment</i> - <i>performing simple tests</i> - <i>identifying and classifying</i> - <i>using their observations and ideas to suggest answers to questions</i> - <i>drawing simple conclusions from findings</i> - <i>to continue to ask questions about the world around us</i> 	<p>effective and what we can learn from this</p> <ul style="list-style-type: none"> - match animals to their young – which creatures look like their parents when they are babies? - designing their own creature and explaining their habitat and characteristics <p>Revision</p> <ul style="list-style-type: none"> - <i>revisit skills in investigating materials</i> - <i>revisit drawing conclusions from observations noted during simple testing</i> 	<ul style="list-style-type: none"> parent offspring baby names of parent animals and their babies (e.g. horse/foal) habitat mammal amphibian reptile bird fish carnivore omnivore herbivore test experiment investigation fair prediction conclusion 	<p>need to survive?</p>
<p>Summer 1</p> <p><i>From Out of the Ashes</i></p>	<ul style="list-style-type: none"> - explore the differences between things that are living, dead and things that have never been alive - observe and describe how seeds grow into mature plants and find out and describe how 	<ul style="list-style-type: none"> - hunt around the school for objects that are alive, dead, or have never been alive! Relate to the characteristics of all living things - create simple food chains to show the transfer of energy 	<ul style="list-style-type: none"> habitat woodland forest pond ocean sea rainforest jungle tundra desert 	<ul style="list-style-type: none"> - keep an eye on any plants you have been growing and see how they are getting on! - have a hunt at home, in the garden or park, or even in the forest, for different objects. Are they alive, dead or have they never been alive? Does this activity bring up any questions? (it did at school!) - have a go at this game all about food chains

	<p>plants need water, light and a suitable temperature to grow and stay healthy</p> <ul style="list-style-type: none"> - describe how animals obtain their food from plants and other animals, using a simple food chain, and identify and name different food sources - learn about habitats that animals live in and ways in which they are suited to their home - identify and name plants and animals in our local environment - discuss how different habitats provide for the basic needs of plants and animals - explain how plants and animals depend on each other <p>Revision</p> <ul style="list-style-type: none"> - <i>observe and describe how seeds and bulbs grow into mature plants</i> 	<p>when animals consume plants or other animals. Relate to habitats</p> <ul style="list-style-type: none"> - research the habitat of your class animal! What about your animal's habitat helps it to survive there? - identify different habitats and explain what about the habitat suits the animals that live there and are able to survive in that environment - consider our local environment and the types of plants and animals that can survive in them - perform a simple test to determine how many seeds apples have inside them! - performing a test to find out what happens to plants if they are deprived of something they will need to survive (light, water, soil) <p>Revision</p>	<p>organism</p> <p>movement</p> <p>respiration</p> <p>sensitivity</p> <p>growth</p> <p>reproduction</p> <p>excretion</p> <p>nutrition</p> <p>(MRS GREN)</p> <p>transfer</p> <p>energy</p> <p>food chain</p> <p>producer</p> <p>consumer</p> <p>prey</p> <p>predator</p> <p>survival</p> <p>needs</p> <p>appropriate</p> <p>test</p> <p>experiment</p> <p>investigation</p> <p>fair</p> <p>prediction</p> <p>conclusion</p>	<p>https://www.bbc.co.uk/bitesize/articles/zs-phrwx</p> <p>https://www.bbc.co.uk/bitesize/articles/z9-3vdxs</p> <p>Can you create some food chains? How many levels can you complete?</p> <ul style="list-style-type: none"> - see if you can make a list of all the different animals that live in a given habitat. What do you notice is similar about the animals that live in this habitat and how does the habitat help them to survive there? - have a look around our local area for different types of plants and creatures – how many can you identify from what you have found out? - if you visit a different area or country (or have photos of when you have), compare the plants and animals in that area to what we have around us in South Woodford! What are the similarities and differences? - encourage your child to perform their own simple test at home, or when you are out and about. By this point in the year, they may well be able to devise their own, but here are a few suggestions: how many pips are in an orange? is the oldest person always the tallest? which material makes the tallest tower? - if you'd like to, you could also recreate the plant investigation at home. Plant several beans and deprive each one of something to see what happens! Don't
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	<ul style="list-style-type: none"> - observing closely, using simple equipment - performing simple tests - identifying and classifying - using their observations and ideas to suggest answers to questions - drawing simple conclusions from findings - to continue to ask questions about the world around us - applying knowledge about plants and humans as living organisms to learning about other animals and their needs 	<ul style="list-style-type: none"> - applying skills developed in prior learning to new activities - performing simple tests with increasing independence and drawing conclusions from findings 		<p>forget a control bean that you look after properly!</p> <ul style="list-style-type: none"> - since Summer is on the way, maybe you could grow something together that you will eventually be able to eat?
<p>Summer 2</p> <p>Lost at Sea</p>	<ul style="list-style-type: none"> - find out and describe how plants need water, light and a suitable temperature to grow and stay healthy - identify and name specific plants and animals that live in a variety of different habitats 	<ul style="list-style-type: none"> - monitor different beans planted in previous half term to conclude the benefits of water, soil, light and an appropriate temperature for helping plants stay healthy - drawing and labelling specific 	<ul style="list-style-type: none"> habitat organism appropriate survive support depend minibeast names of a variety of minibeasts legs 	<ul style="list-style-type: none"> - go on your own minibeast hunt at home or while you are out and about! Just remember to treat them carefully and with respect, and to return them to their homes when you have finished observing them! - find out as much as you can about different types of minibeasts - make your own minibeast hotel to leave in your garden or around where you live to give minibeasts somewhere to live!

	<p>- explain why certain habitats are suitable for these plants and animals and how they may be dependent on each other</p> <p>- what is a minibeast? What is a microhabitat?</p> <p>Revision</p> <p><i>- what plants need to grow and stay healthy</i></p> <p><i>- understand how plants and animals depend on each other</i></p> <p><i>- apply all knowledge around scientific enquiry built during this Key Stage</i></p>	<p>plants and animals that live in a range of different habitats</p> <p>- hunting for minibeasts around the school!</p> <p>- building a minibeast hotel</p> <p>- Science Week activities: wonderful water! (examples below)</p> <p>- making boats powered by a simple paddle and testing</p> <p>- foil boat challenge</p> <p>- origami boat challenge</p> <p>- learning about famous Scientists</p> <p>Revision</p> <p><i>- applying all skills built during this Key Stage to investigating and completing enquiries ever more independently</i></p>	<p>antennae</p> <p>head</p> <p>abdomen</p> <p>thorax</p> <p>wings</p> <p>sting</p> <p>microhabitat</p> <p>vertebrate</p> <p>invertebrate</p> <p>water</p> <p>powered</p> <p>paddle</p> <p>challenge</p> <p>investigate</p> <p>enquiry</p> <p>test</p> <p>experiment</p> <p>try</p> <p>alter</p> <p>develop</p>	<p>- experiment as much as you can with water – can you use what you have been learning to make your very own paddle boat from objects you can find at home? Which materials will be the most effective? Does it matter what shape your paddle is? How can you be sure that your boat will ‘work’ well? What helps it go further and faster and what makes it more difficult?</p> <p>- complete the foil boat challenge as a family! Give everyone a piece of foil (they all need to be exactly the same size) and make a boat out of them! Which boat will hold the most? What makes it the most successful and why? Could you change anything about your design to let it hold even more weight? Does it matter which kind of weight you add or how you stack it on top of your boat?</p>
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