

How Plants Grow : Science : Year 3



	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	To identify and describe the functions of the roots of flowering plants.	Children will recap the main features of flowering plants, then learn about how roots grow, and what their functions are. They will then plan an experiment where they will grow beans, measuring root growth.	- Can children name the main parts of flowering plants? - Can children explain the function of roots? - Can children record findings and draw conclusions?	- Slides - Worksheets 1A/1B/1C - Growing Beans worksheet - Dried bean seeds (butter beans, kidney beans or similar) - Cotton wool - Clear pots or jars - Water
Lesson 2	To investigate the way in which water is transported within plants.	Children will learn how water, absorbed by the roots is distributed around the plant via the stem. They will then conduct experiments where the capillary action in plant stems can be observed.	- Can children explain where plants get their water from? - Can children name the parts of the plant that transport water? - Can children plan and carry out simple investigations? - Can children draw simple conclusions?	- Slides - Worksheets 2A/2B/2C - Celery, food dye, water, plastic containers - Plastic cups, kitchen roll (FSD? activity only)
Lesson 3	To identify and describe the functions of leaves in flowering plants.	Children will start to learn how plants make their own food using air and sunlight. They will then either describe parts of this process in their own words, or plan and conduct an experiment to show the importance of light for plant growth.	- Can children say what plants need to produce their own food? - Can children explain the function of leaves in flowering plants? - Can children start to explain some stages in the life cycle of flowering plants?	- Slides - Worksheets 3A/3B/3C - Life Cycle Flowchart - Equipment as listed below (FSD? activity only)
Lesson 4	To explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	Children will start to identify the parts of a flower, and how pollination occurs. They will then continue to identify and label the parts of a flower by drawing diagrams or dissecting flowers.	- Can children name the main parts of flowers? - Can children describe the functions of the main parts of flowers? - Are children able to describe one of the ways in which flowering plants reproduce? - Do children know how and where seeds are formed in flowering plants?	- Slides - Worksheets 4A/4B/4C - Dissecting Flowers worksheet (FSD? activity only) - Double-sided sticky tape (FSD? activity only) - Sticky tape or sticky-backed plastic (FSD? activity only) - Tweezers (FSD? activity only) - Flowers (FSD? activity only)
Lesson 5	To explore some of the ways in which flowering plants disperse their seeds.	Children will learn how the ovaries of flowering plants grow to form seeds, and how they may be dispersed in a variety of ways. They will then either continue to study in-depth some ways in which seeds are dispersed, or identify seeds found outside.	- Can children explain why flowering plants need to disperse their seeds? - Can children describe some ways in which seeds are dispersed? - Can children identify how seeds are dispersed based on their appearance?	- Slides - Worksheets 5A/5B/5C - Fruits and Seeds sheet - Seed Dispersal Fact File (FSD? activity only)
Lesson 6	To understand the structure of seeds and their importance as a food source.	Children will learn about the structure of seeds and how plants grow from them. They will then either taste and compare seeds, or make seed cake bird feeders.	- Can children name the parts of a seed and describe their functions? - Can children identify the parts of a seed? - Do children know why seeds are an important food source for animals?	- Slides - End of Unit Quiz - Worksheets 6A/6B/6C - A variety of different edible beans and seeds - Bird Seed Cakes sheet (FSD? activity only) - Bird seed mix (FSD? only) - Lard or equivalent (FSD? only) - Bread crumbs, cheese, oats, dried fruit (optional) (FSD? only) - Yogurt pots (FSD? only) - String (FSD? only)

Health and Movement : Science : Year 3



	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	To identify that humans get the nutrition they need from what they eat.	Children will learn about the need for a varied diet in order to get the right nutrition, then either sort food into groups, giving reasons, or visit a supermarket to learn more about different food groups.	- Do children know that humans get nutrition from what they eat? - Can children identify and group a variety of foods? - Can children recognise foods for growth and foods for energy?	- Slides - Worksheet 1A/1B/1C/1D - Picture Cards - Group Cards - Digital cameras - optional (FSD? activity only)
Lesson 2	To identify that a balanced diet is needed in order to stay healthy.	Children will continue to learn about the need for a varied, balanced diet by looking at food pyramids and examples of healthy meals (and planning their own). They will also consider ways in which people with dietary restrictions can have a balanced diet.	- Do children know that humans need to eat to grow and move? - Do children understand what is meant by the term 'balanced diet'? - Can children identify and describe which food groups we should eat most of and which food groups we should eat least of?	- Slides - Worksheet 2A/2B/2C - Food Pyramid sheet (FSD? activity only)
Lesson 3	To investigate which foods different animals eat.	Children will find out about what some animals eat. They will use technical vocabulary to describe different types of animal, and present their findings (following research about animals, their habitats and their diets) in their own words.	- Do children know that different animals have different diets? - Can children use secondary sources to find out about the diets of different animals? - Can children recognise whether an animal is a herbivore, carnivore or omnivore?	- Slides - Worksheet 3A/3B/3C/3D - Books, internet, etc. - Animal Cards (FSD? activity only)
Lesson 4	To carry out an investigation to find out what pets eat.	Children will think about what questions could be asked to learn more about what pets eat. They may then either plan and conduct an investigation, or study a given set of results. In either case, children will present data using pictograms or bar graphs.	- Can children pose questions that can be investigated? - Can children gather data systematically? - Can children present and evaluate the results of an investigation?	- Slides - Worksheet 4A/4B/4C/4D/4E - Results Sheet (FSD? activity only)
Lesson 5	To explore human and animal skeletons.	Children will learn about bones in humans and other animals. They will then either label skeleton diagrams, or identify similarities between the skeletons of a variety of animals.	- Do children know that animals with a skeleton are called vertebrates? - Can children identify different bones in the human skeleton? - Can children compare bones in animal and human skeletons?	- Slides - Worksheet 5A/5B/5C/5D - Books, access to internet, etc. - Picture Cards (FSD? activity only) - Skeleton Sheet (FSD? activity only)
Lesson 6	To find out about how the skeleton supports and protects the body and to investigate how invertebrates are supported.	Children will learn about the functions of the skeleton in vertebrates, and how some invertebrates move and are protected in different ways. They will then research and describe various invertebrates.	- Do children know the difference between vertebrates and invertebrates? - Do children know that internal skeletons support and protect the body? - Do children know how the bodies of invertebrates support and protect them?	- Slides - Worksheet 6A/6B/6C - Books, access to internet, etc. - Picture Cards (FSD? activity only) - Label Cards (FSD? activity only)
Lesson 7	To find out what muscles are and how skeletal muscles help us to move.	Children will continue to learn about how the body moves, focussing on the ways muscles work. They will then study a variety of sources to find out more about muscles, noting their findings.	- Do children know that muscles help us move? - Do children know that muscles work in pairs to move different parts of the body? - Do children know that some animals have strong muscles for particular purposes?	- Slides - Worksheet 7A/7B/7C - Fact Cards - Challenge Cards (FSD? activity only) - End of Unit Quiz

Rocks, Fossils and Soils : Science : Year 3



	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	To be able to identify naturally occurring rocks and explore their uses.	Children will learn where rocks come from, then consider differences between naturally occurring rocks and man-made objects which are similar to rocks. They will then identify, describe and/or sort rocks and man-made objects.	- Do children know that rocks are used for a variety of purposes? - Can children identify some common rocks? - Can children identify rocks that are naturally occurring and those that are man-made?	- Slides - Worksheet 1A/1B/1C/1D - Picture Cards A - Picture Cards B (plenary) - Hoops
Lesson 2	To be able to group rocks according to their characteristics.	Children will consider ways in which rocks can be sorted according to different criteria. They may then either sort given rock samples, or study and sort pictures of rocks according to various criteria.	- Can children suggest ways of grouping rocks according to their characteristics? - Can children observe and compare rocks, and put them into different categories? - Can children justify their choices and explain their decisions?	- Slides - Worksheet 2A/2B/2C - Rock samples - Picture Cards (FSD? activity only)
Lesson 3	To be able to plan, carry out and evaluate experiments to compare rocks.	Children will start to learn about erosion. They will also consider how different rocks may be tested to determine how quickly they erode and whether they are permeable. Following this, children will conduct practical erosion/permeability investigations.	- Do children know what the terms 'erosion' and 'permeable' mean? - Can children plan and carry out an experiment to compare rocks based on certain characteristics? - Can children evaluate their results and draw conclusions?	- Slides - Worksheet 3A/3B/3C - Question Sheet - Rock Samples - Stopwatches - Beakers of water (FSD? activity only) - Pipettes (FSD? activity only)
Lesson 4	To identify rocks that are used for particular purposes.	Children will consider what sources may help them find out about a rock's uses, then carry out research to help them describe the characteristics of rocks and their uses.	- Can children use a variety of sources to find out information about rocks and their uses? - Can children organise the information they have found out? - Can children present the information they have found out clearly?	- Slides - Worksheet 4A/4B - Information Sheet - Books, CD ROMs, access to internet, etc. - A3 and A5 paper - Rock Cards (FSD? activity only)
Lesson 5	To explore soil and how it is formed.	Children will learn about soil: how it is formed and its uses. They will also study different types of soil. Following this, children will study and describe a variety of soil samples.	- Do children know that soil is made up of rocks and decaying organic matter? - Do children know that there are different types of soil? - Do children know that there are different layers of soil?	- Slides - Worksheet 5A/5B/5C - Three different soil samples - Graded sieves - Towels and containers (FSD? activity only)
Lesson 6	To explore what fossils are and how they are formed.	Children will learn about how fossils are formed, then either describe this process in their own words or conduct a practical, 'fossil-making' activity.	- Do children know that rocks move in a continuous cycle? - Do children know what a fossil is? - Can children explain how fossils are formed?	- Slides - Worksheet 6A/6B/6C - Sentence Cards - Help Sheet (FSD? activity only) - Plasticine, plaster of Paris, petroleum jelly, card, paint (FSD? activity only)
Lesson 7	To be able to identify fossilised remains.	Children will study images of fossilised remains and discuss what can be learned about the animal by doing this. They may then either conduct research to find out about given images of fossils, or do a practical, 'fossil excavation' activity.	- Can children describe how fossils are formed? - Can children identify a variety of common fossils? - Do children know where fossils are more likely to be found and why?	- Slides - Worksheet 7A/7B/7C - Picture Cards - Cameras - optional - Chocolate chip biscuits (FSD? activity only) - Tools e.g. tweezers, cocktail sticks, etc. (FSD? activity only) - End of Unit Quiz Sheet

Light and Shadow : Science : Year 3



	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	To recognise that we need light in order to see.	Children will learn that darkness is the absence of light, and that without light we cannot see. They will then identify, describe and sort a variety of light sources.	- Do children know that we need light in order to see things? - Do children know that dark is the absence of light? - Can children identify a variety of light sources?	- Slides - Worksheet 1A/1B/1C/1D - Picture Cards (FSD? activity only)
Lesson 2	To explore the Sun as a light source and identify the difference between night and day.	Children will learn about some differences between night and day, including starting to understand how the Sun rises and sets. They may then describe differences between night and day in their own words by answering questions, producing diagrams or writing poetry.	- Can children define the difference between night and day? - Do children know why the Sun rises and sets each day? - Do children know that we need light to see and that darkness is the absence of light?	- Slides - Worksheet 2A/2B/2C - Poem Template sheets (FSD? activity only)
Lesson 3	To investigate what shadows are and why they are formed.	Children will share their ideas about how objects could be tested to determine whether or not they will make a shadow. They may then either test their ideas, or explore the way shadows are created, using shadow puppets.	- Do children know that shadows are formed when light is blocked? - Do children know the difference between objects that are transparent, translucent and opaque? - Can children explore shadows using torches and express their findings?	- Slides - Worksheet 3A/3B/3C - Variety of opaque, transparent and translucent objects - Torches - Cardboard boxes, card, sticks, greaseproof paper (FSD? activity only) - Help Sheet (FSD? activity only)
Lesson 4	To investigate how shadows behave.	Children will continue to learn about how shadows are created, then conduct practical shadow investigations where they will predict, test and draw/write to show their findings.	- Do children know that shadows are formed when the light from a light source is blocked by a solid object? - Can children use simple equipment to explore how shadows behave? - Can children record findings using drawings and diagrams?	- Slides - Worksheet 4A/4B/4C - Variety of small objects - Torches - Challenge Cards (FSD? activity only) - Large sheets of paper (FSD? activity only)
Lesson 5	To investigate how the size of shadows change throughout the day.	Children will discuss and predict what will happen to a shadow cast by a stick in sunlight throughout the day. They may then conduct a shadow investigation and present their findings using bar graphs.	- Can children explain why shadows created by the Sun change position during the course of a day? - Can children plan and carry out an investigation? - Can children find patterns in the way the size of shadows change?	- Slides - Worksheet 5A/5B/5C/5D - Shadow stick, ruler and chalk - Access to computers (FSD? activity only)
Lesson 6	To explore how light is reflected from surfaces.	Children will learn that some surfaces reflect more light than others. They may then either identify and describe a range of reflective surfaces, or conduct a reflection investigation using mirrors.	- Do children know that light travels in a straight line? - Do children know that we need light in order to see? - Can children know that we see when light is reflected from a surface?	- Slides - Worksheet 6A/6B/6C - Mirrors - Challenge Card (FSD? activity only) - End of Unit Quiz

Forces and Magnets : Science : Year 3



	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	To explore what forces are and notice that some forces need contact between two objects.	Children will learn and describe what a force is. They will identify pushing and pulling actions in photographs, distinguishing between the two and describing which direction the forces are acting in.	- Can children explain what a force is? - Do children know that some forces need contact between two objects? - Can children identify pushes and pulls and explain the forces in action?	- Slides - Worksheet 1A/1B/1C - Picture Cards - Question Cards (FSD? activity only)
Lesson 2	To compare how things move on different surfaces.	Children will find out what a forcemeter is and recognise that forces are measured in newtons. They will practise reading the scales on forcemeters before carrying out an investigation to measure whether the same objects needs the same amount of force to be pulled along different surfaces.	- Do children know that forces can be measured in newtons using a forcemeter? - Can children set up and carry out an investigation to explore how objects move on different surfaces? - Can children draw conclusions from their observations?	- Slides - Worksheet 2A/2B/2C/2D - Forcemeters - Access to a variety of surfaces, e.g. carpet, concrete, grass, wood, etc. - Ramp and toy car (FSD? activity only) - Metre rulers/tape measures (FSD? activity only)
Lesson 3	To explore how magnetic forces work.	Children will learn that some forces do not need contact between objects, including gravity and magnetism. They will then find out what magnets are and how they work before testing how magnets behave when they are put together.	- Do children know that there are forces between magnets and that don't need contact between two objects? - Can children record observations of magnets? - Can children make generalisations about what happens when magnets are put together?	- Slides - Worksheet 3A/3B/3C/3D - Variety of magnets, including bar magnets
Lesson 4	To be able to identify magnetic materials.	Children will recap how magnets behave when they are put together before testing a variety of objects to see if they are magnetic. Children will make predictions based on their prior knowledge then carry out an investigation to check if their predictions were correct.	- Can children make and test predictions about whether materials are magnetic or not? - Can children make careful observations? - Can children group objects on the basis of whether or not they are magnetic?	- Slides - Worksheet 4A/4B/4C/4D - Magnets - Variety of materials to test (e.g. paper clips, tin cans, aluminium cans, keys, coins, rubbers, pencils, marbles, etc.)
Lesson 5	To investigate uses for magnets.	Children will recap different magnetic materials and make generalisations about which materials are not magnetic. They will then find out about a variety of uses for magnets, including medical equipment, credit cards and recycling. There is also the chance to carry out their own research to find out about different uses for magnets.	- Can children name some uses for magnets? - Can children use a variety of sources to find out about the different uses of magnets? - Can children present the information they have found in an appropriate way?	- Slides - Picture Cards - Description Cards - Information Sheet - Books, internet, etc. - Challenge Card (FSD? activity only) - End on Unit Quiz