



St Andrew's Church of England Junior School – Scheme of Work: [Science](#)



At St Andrew's our vision statement is 'Shining Light on a World of Possibilities' and we have designed our curriculum to be relevant, exciting and creative, underpinned by our school values and based around our 'curriculum drivers':

- Curiosity, enquiry and creativity
- Community
- Possibilities

WS-Working Scientifically

Autumn Term 1 – Rocks

Year 3	Learning Objective	Key Vocabulary	Lesson Overview	Assessment Questions
Session 1	Can I explore different kinds of rocks? WS- Observation & recording. Preassessment	rocks, stones, pebbles, fossil, observe, record	Children to begin with a preassessment to gauge their previous knowledge. Children to then explore the school grounds, identify different rocks and surfaces. They can write questions about what they find.	• Preassessment- Why don't all rocks look the same? • Why has certain rock been used where? • Are they hard or soft? Scratchy or soft? Heavy or light?
Session 2	Can I test the properties of rocks and record my results? WS- Observation & recording.	properties, hardness, permeability, fizziness, floatability	Children are to test the properties of rocks. This will be modelled and then the children to carry out their investigation and record their results.	• Why might certain rocks be used for particular things? – thinking about their properties. • How can we test the permeability of a rock?
Session 3	Can I explore different types of rock families? WS - Interpret/ Explain	basalt, igneous rock, sedimentary, metamorphic, magma	Children to interpret and explain the formation of igneous rock. They will need to classify rocks based on their properties. The main experiment will demonstrate the formation of igneous rock using chocolate!	• What types of rock are there? • How can we classify rocks? • How is igneous rock created?
Session 4	Can I explore different types of rock families?	Sedimentary, compressed, harden, sediment, metamorphic	Children to explain that sedimentary rocks are formed when layers of sand, small bits of rock, clay, plants,	• What have you learnt about igneous rocks? • How are sedimentary rocks

	WS – Interpret/record		bones and mud are piled on top of each other and eventually get compressed and harden into rock. There will also be an observation of metamorphic rock being formed at the end.	different to other rock types? • What is sediment? • How is sedimentary rock formed?
Session 5 <u>TAPS</u>	Can I compare and group together different kinds of rocks on the basis of their properties? WS- Reporting on findings from enquiries	geologist, hardness, permeability, metamorphic , sedimentary, igneous rock, properties	The children are geologists. Provide a purpose for the investigation e.g. to find the best material for a new paved area in school. Suggest that you would like to find out which rock would last the longest/be the least wearing/the strongest. Decide whether to do a rub test and/or a scratch test etc.	• Can children group rocks based on properties? • Can children talk about / draw a diagram / write about their findings? • Can children draw conclusions about the least / most wearing rock?
Session 6	Can I find out how fossils are formed? WS – Plan enquiry/Make prediction.	palaeontologist, imprint, fossil, sedimentary	Children to find out which substance makes the best fossil. Model making a fossil imprint in playdough to show children. Each group to have a different substance, then compare together which makes the best imprint.	• What is a fossil? • Where can fossils be found? • What do we call someone who finds fossils? • How can we tell if something is a fossil?
Session 7	Can I find out how fossils are formed? WS - Interpret/ Explain Post assessment	preserved, fossil, substance, sedimentary, palaeontologist, imprint	Children to observe frozen plant and discuss if there are any changes or if they have been preserved (like fossils). Discuss that this is why we are able to discover lots of fossils as they have been preserved for many years after being frozen.	• Which substance made the best fossil? Why? How do you know? • What if fossils didn't exist? • How is a fossil preserved? Postassessment- Why don't all rocks look the same?

Autumn Term 2 – Animals Including Humans

Year 3	Learning Objective	Key Vocabulary	Lesson Overview	Assessment Questions
Session 1	Can I group animals according to their diet? WS – gathering and recording information	nutrients, protein, fats, balanced diet, diet, carbohydrates, herbivores, carnivores	Children to explore balanced diets and food groups. They will need to gather information and group animals based on their diet.	Preassessment- why do animals eat different things? • Do some pets eat more than one type of food? • Do any animals eat both meat and plants? And can the children find out what they are called?
Session 2	Can I record information in a bar chart? To find out about healthy and balanced diets. WS- To gather, record and present data in different ways.	nutrients, protein, fats, balanced diet, diet, carbohydrates, data, bar chart,	Children will group foods and then present their data in a bar chart. Cross-curricular opportunity with maths objectives.	• What could you suggest to replace that meal with a healthier alternative? • What do your results show? • Do you have a balanced diet? • How can food be sorted?
Session 3	Can I explain the function of the skeleton? WS – grouping/recording	Skeleton, skull, ribs, backbone, collarbone, humerus, femur and pelvis	Children to identify that humans and some other animals have skeletons and muscles for support, protection and movement.	• What is the function of the skeleton? • Why do we need a skull? • Could we survive without bones? • How can we keep our bones healthy?
Session 4	Can I sort animals according to their skeleton? WS – grouping/sorting	Skeleton, exoskeleton, endoskeleton, hydrostatic, vertebrate, invertebrate,	Children to identify that different organisms can have skeletons that vary in structure or have no skeleton at all. Children to group animals based on their skeleton.	• Why do we need a skeleton? • Demonstrate how to make a piece of paper stand up using a straw. Why is the straw like our skeleton? • Show an image of a knight in a suit of armour. What does the armour do? What would it be like to wear? What problems would you have?

Session 5	Can I label and describe the basic parts of the skeleton? WS – grouping/sorting	Skeleton, femur, skull, anatomy, vertebrate, rib cage, humerus, radius, pelvis, collar bone	Children to identify the main bones that make up the human skeleton. Children to build a skeleton.	• Why do we have a skull? • Why do we have a rib cage? • What do you think is the most important bone or set of bones in the body? Why? • What is osteoporosis?
Session 6 <u>TAPS</u>	Can I investigate the human skeleton? WS – questioning/enquiry	Enquiry, skeleton, investigation, osteologist,	Today the children are going to be osteologists. Discuss differences between human skeletons, taking care when discussing differences between children in class. Consider which bones can be more easily measured e.g. skull, foot, part of arm/leg etc.	• Can children ask questions about the diversity of human skeletons? • Can children turn questions into a form that can be investigated?
Session 7	Can I explain how bones and muscles help us move? WS – systematic observations	Brittle bone disease, osteoporosis, movement, contract, relax, bicep, tricep	Compare how different animals move to how we do. Then list different words that we use to describe the ways animals can move, such as fly, glide, run, slither, hop and swim. The children will be exploring the role of muscles in our bodies.	Postassessment- why do animals eat different things? • What is making your arm move? • Would we be able to move without muscles? • How are muscles attached to bones? • What is the difference between a muscle injury and damage to our skeleton? • What is muscle fatigue?

Spring Term 1

Year 3	Learning Objective	Key Vocabulary	Lesson Overview	Assessment Questions
Session 1				•
Session 2				•
Session 3				•

Session 4				•
Session 5				•
Session 6				•