The Unforgettable Science of America : Science : Year 3/4

PlanBee

	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	To explore how different kinds of erosion can affect different kinds of rock.	The children being by investigating the creation of the Grand Canyon and the rocks it is made from. They discover different types of erosion and how this can affect the different kinds of rock. The chidlren are then challenged to sort and order rocks using Mohs scale or observe the effects of erosion in an experiment.	• Can children explain what erosion is? • Are children able to describe a hard rock and a soft rock? • Can children record their observations using simple scientific language?	• Slides • Worksheet 1A/1B/1C/1D • A selection of rocks that can be scratched and tested • e.g. Chalk, Sandstone, Slate, Limestone, Basalt, Granite, Marble • Teacher Notes 1A (FSD? activity only) • Experiment resources (See Teacher Notes FSD? activity only)
Lesson 2	To investigate the creation of fossils and what they can tell us.	After being introduced to the Petrified Forest in Arizona the children begin investigating the process of fossilisation. They then begin to think like a palaeontologist, posing questions and deriving facts from fossils like the ones found in the USA.	• Are children able to describe the process of fossils forming? • Can children name some different types of fossils? • Are children able to pose their own questions based on observations they have made?	• Slides • Worksheet 2A/2B/2C • Picture Cards 2A • Pressing Instructions (FSD? activity only) • Flowers/leaves/grass (FSD? activity only) • Newspaper (FSD? activity only) • Heavy book (FSD? activity only)
Lesson 3	To investigate the different types of fossils discovered in the USA.	After discovering the process of fossilisation the children use this understanding to begin studying the different types of fossils that can be found and how they help us learn about creatures from the past. Using the US state fossils they research and describe the different fossils, where they were found and what they tell us.	• Can children research and identify important information about different fossils? • Are children able to identify and group fossils according to their type? • Can children compare different fossils?	• Slides • Fossilisation Cards • Worksheet 3A • Challenge Card 3A • Picture Cards 3A • Access to the internet, books etc. • Worksheet 3B (FSD? activity only)
Lesson 4	To recognise that light from the sun can be dangerous and that there are ways to protect our eyes and skin.	In the context of a palaeontologist working for hours in the hot sun the children learn about the benefits and dangers of being in the sun. They are then challenged to plan a fair test to investigate the effectiveness of different sun protections e.g. sunglasses and suncreams	• Can children name a way to protect their skin or eyes from the sun? • Are children able to describe how the sun can be harmful to our eyes or skin? • Can children plan an enquiry based on a question?	• Slides • Role-play Script • Worksheet 4A/4B/4C/4D • UV reactive beads • Plastic cups/small sandwich bags • Selection of sunglasses/election of suncreams • Experiment Pictures (optional)
Lesson 5	To investigate the inventions of Thomas Edison and using complete circuits.	Children discover the American inventor Thomas Edison and his invention of a practical and cheap lightbulb. The children have the opportunity to reflect on the effects that this kind of invention would have had on society and then use the invention to test complete and incomplete circuits.	• Are children able to describe what a complete circuit is? • Are children able to describe who Thomas Edison is and what he is famous for? • Are children able to pose further questions after investigations?	• Slides • Worksheet 5A/5B/5C • Circuit resources: bulbs, cells, wires with crocodile clips • Worksheet 5D (FSD? activity only)
Lesson 6	To investigate the discoveries of Benjamin Franklin and electrical conductors and insulators.	In this lesson the children will learn about the achievements of one of America's founding fathers: Benjamin Franklin. They will study his kite experiment and how he used his knowledge of conductors and insulators to charge a key using a kite. The children then go on to test objects and materials for electrical conductivity.	• Can children define the words electrical conductor and electrical insulator and give examples? • Can children present their findings in different ways? • Are children able to draw conclusions from their data?	• Slides • Worksheets 6A/6B/6C • Circuit resources: bulbs, cells, wires with crocodile clips • Selection of objects to test conductivity e.g. spoon, coin, nail, pencil, rubber, lollypop sticks, rulers, string, paper etc. • Worksheet 6D (FSD? activity only)
Lesson 7	To investigate sound over large distances and ways to help sound travel more easily.	This lesson gives the children the opportunity to investigate sound as it travels over long distances. They use their understanding and experiences of trying to make sound travel further to plan and carry out an investigation and write a conclusion of their findings	• Can children describe what happens to sound over greater distances? • Can children suggest lines of investigations and think of enquiry questions? • Can children present their findings and use these to conclude their investigations?	• Slides • Worksheets 7A/7B/7C • Objects to produce sound (recorded sound, instruments)

NB: 'FSD? activity only' refers to the alternative 'Fancy Something Different...?' activity within the lesson plan