Switched on Science Year 4



Autumn 1 - Unit 1 - What's that sound?

Week	Unit	National Curriculum strand	Activity Title	Subject knowledge Learning outcomes	Working scientifically learning outcomes
1	1.1 What a racket!	Sound	Let's make a sound	Identify how sounds are made, associating them with something vibrating	Make systematic and careful observations, record findings, identify differences, similarities or changes.
2	1.1 What a racket!	Sound	Let's make it louder!	Find patterns between the volume of a sound and the strength of the vibrations that produced it	Carry out simple practical enquiries, comparative and fair tests, take systematic and careful observations, record findings, identify differences, similarities or changes.
3	1.2 Turn it up and down	Sound	Can you hear it?	Recognise that sounds get fainter as the distance from the sound source increases.	Carry out a simple practical activity – pattern seeking. Gather and record data using straightforward scientific evidence to answer questions or support their findings.
4	1.2 Turn it up and down	Sound	Ear to stay	Recognise that vibrations from sounds travel through a medium to the ear.	Set up a simple practical enquiry, comparative and fair test. Take systematic and careful observations, using data loggers.
5	1.3 Making music	Sound	Pitch up	Find patterns between the pitch of a sound and features of the object that produced it.	Carry out simple practical enquiries, comparative and fair tests. Take systematic and careful observations. Record findings. Identify differences, similarities or changes.
6	1.3 Making music	Sound	Junk band	Find patterns between the volume of a sound and the strength of the vibrations that produced it. Find patterns between the pitch of a sound and features of the object that produced it.	Use results to make improvements.

Autumn 2 - Unit 2 - Living things

Week	Unit	National Curriculum strand	Activity Title	Subject knowledge Learning outcomes	Working scientifically learning outcomes
1	2,1 Guess who?	Living things and their habitats.	Who am I?	Recognise that living things can be grouped in a variety of ways.	Classify in a variety of ways to help in answering a question.
2	2.1 Guess who?	Living things and their habitats.	Key to the problem	Explore and use classification keys to help group, identify and name a variety of living things.	Classify in a variety of ways to help in answering a question.
3	2.2 Habitats	Living things and their habitats.	We're going on a bug hunt!	Explore and use classification keys to help group, identify and name a variety of living things in their local environment.	Classify in a variety of ways to help in answering a question.
4	2.2 Habitats	Living things and their habitats.	A bug's life	Explore and use classification keys to help group, identify and name a variety of living things in their local environment.	Classify in a variety of ways to help in answering a question.
5	2.3	Which kingdom?	High five	Explore and use classification keys to help group, identify and name a variety of living things.	Classify in a variety of ways to help in answering a question.
6	2.3	Which kingdom?	Flower power	Explore and use classification keys to help group, identify and name a variety of living things.	Classify in a variety of ways to help in answering a question.

Spring 1 - Unit 3 - Looking at states

Week	Unit	National Curriculum strand	Activity Title	Subject knowledge Learning outcomes	Working scientifically learning outcomes
1	3.1 What's the matter?	States of matter	What a state!	Compare and group materials together, according to whether they are solids, liquids or gases.	Classify in a variety of ways to help in answering a question
2	3.1 What's the matter?	States of matter	A watery end	Observe some materials change state when they are heated, and measure or research the temperature at which this happens in degrees Celcius.	Make systematic and careful observations.
3	3.2 Ziggy's party	States of matter	It's melting	Observe some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celcius.	Carry out a simple practical enquiry – comparative test. Take accurate measurements. Use results to draw simple conclusions.
4	3.2 Ziggy's party	States of matter	Let's make ice cream!	Observe some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celcius.	Make systematic and careful observations. Take measurements. Identify differences, similarities or changes related to simple processes.
5	3.3 Going round in circles	States of matter	Whatever the weather	Identify the part played by evaporation and condensation in the water cycle, and associate the rate of evaporation with temperature.	Make systematic and careful observations. Take measurements. Identify differences, similarities or changes related to simple processes.
6	3.3 Going round in circles	States of matter	Ziggy's clothes	Identify the part played by evaporation and condensation in the water cycle, and associate the rate of evaporation with temperature.	Set up a simple practical enquiry. Comparative and fair test, gather and record data. Report on findings and conclusions.

Spring 2 - Unit 4 - Teeth and Eating

Week	Unit	National Curriculum strand	Activity Title	Subject knowledge Learning outcomes	Working scientifically learning outcomes
1	4.1 Tremendous teeth	Animals including humans	First impressions	Identify different types of teeth in humans and their simple functions	Make systematic and careful observations
2	4.1 Teeth and eating	Animals including humans	Tough teeth	Identify different types of teeth in humans and their simple functions	Make systematic and careful observations
3	4.2 Have you got guts?	Animals including humans	Food's incredible journey	Describe the simple functions of the basic parts of the digestive system in humans	Use different types of scientific enquiries – using secondary data to research, to answer questions
4	4.2 Have you got guts?	Animals including humans	Let's make a stomach!	Describe the simple functions of the basic parts of the digestive system in humans.	Carry out a simple practical enquiry. Make systematic and careful observations.
5	4.3 The deadly and the dead	Animals including humans	A chain reaction	Construct and interpret a variety of food chains, identifying producers, predators and prey.	Record using diagrams. Draw simple conclusions.
6	4.3 The deadly and the dead	Animals including humans	Who do you eat?	Construct and interpret a variety of food chains, identifying producers, predators and prey.	Report on findings including oral and written explanations, displays or presentations of results and conclusions.

<u>Summer 1 - Unit 5 - Power it up!</u>

Week	Unit	National Curriculum strand	Activity Title	Subject knowledge Learning outcomes	Working scientifically learning outcomes
1	5.1 Living with electricit y	Electricity	Which source?	Identify common appliances that run on electricity.	Set up a simple practical enquiry. Make systematic and careful observations. Draw simple conclusions.
2	5.1 Living with electricit Y	Electricity	What a shocker!	Identify common appliances that run on electricity.	Make systematic and careful observations. Draw simple conclusions.
3	5.2 Let's make circuits.	Electricity	Simple circuits	Construct simple series circuits, identifying and naming basic parts, including cells, wires, bulbs, switches and buzzers. Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.	Make systematic and careful observations. Draw simple conclusions.
4	5.2 Let's make circuits.	Electricity	Changing circuits	•	Set up a simple practical enquiry. Make systematic and careful observations. Draw simple conclusions.
5	5.3 Be alarmed!	Electricity	Conductors	Recognise some common conductors and insulators, and associate metals with being good conductors.	Set up a simple practical enquiry. Make systematic and careful observations. Draw simple conclusions.
6	5.3 Be alarmed!	Electricity	Crime fighters	Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a series circuit.	Set up a simple practical enquiry. Make systematic and careful observations. Draw simple conclusions

<u>Summer 2 – Unit 6 - Brilliant Bubbles</u>

** This topic is an additional creative topic and goes beyond National Curriculum requirements.

Week	Unit	National Curriculum strand	Activity Title	Subject knowledge Learning outcomes	Working scientifically learning outcomes
1	6.1 I'm forever blowing bubbles	Working Scientifically	Better Bubbles	Compare materials - gases	Set up simple practical enquiries, comparative and fair tests
2	6.1 I'm forever blowing bubbles	Working Scientifically	Even better bubbles	Compare materials.	Ask relevant questions and use different types of scientific enquiries to answer them
3	6.2 Sweetie bubbles	Working Scientifically	Sherbet fizz	Compare materials - solids, liquids and gases	Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
4	6.2 Sweetie bubbles	Working Scientifically	Paying for air?	Compare materials - solids, liquids and gases Observe some materials change state when they are heated.	Asking relevant questions and using different types of scientific enquiries to answer them.
5	6.3 Yeasty bubbles	Working Scientifically	Use your loaf	Observe some materials change state when they are heated.	Asking relevant questions and using different types of scientific enquiries to answer them - pattern seeking.
6	6.3 Yeasty bubbles	Working Scientifically	Small but mighty	Compare materials - solids, liquids and gases	Set up simple practical enquiries - comparative and fair tests. Make systematic and careful observations, record findings. Use results to draw conclusions.