Science National Curriculum Mapping

(OCW – Our Changing World Lessons from Snappy Science)

Working Scientifically objectives ***Biology units*** ***chemistry units*** ***physics units***

Science	Autumn	Spring	Summer
Year 1	**Using our senses** (Snappy Science Lessons 1, 2, 3, 4, 5, 6 & E1) Links Sounds ONA Identify, name, draw and label basic parts of the human body and say which part of the body is associated with each sense. *Asking simple questions and recognising that they can be answered in different ways.* *Using observations and ideas to suggest answers to question*	**Looking at animals** (Snappy Science Lessons 1, 2, 3, 4 & 7) Links Animal Kingdom ONA • Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. • Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). *Observing closely, using simple equipment.* *Observing closely, performing simple tests and using observations to suggest answers to questions, and gathering and recording data to help in answering questions.* OCW: **Animal antics** Lesson 2 • Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. *Gathering and recording data to help in answering questions.*	**Plant detectives** (Snappy Science Lessons 1, 2, 3, 4, 5) Links Plants ONA • Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. • Identify and describe the basic structure of a variety of common flowering plants, including trees. *Observing closely, using simple equipment.* *Identifying and classifying.* *Using observations and ideas to suggest answers to questions* *Gathering and recording data to help in answering questions.* OCW: **Plants Lessons** 3, 4, 5 • Observe changes across the four seasons. *Observing closely, using simple equipment.*
	Everyday materials (Snappy Science Lessons 1, 2, 3, 4) Links Materials ONA • Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock. *Identifying and classifying.* *Observing closely, using simple equipment.* *Performing simple tests.* *Using observations and ideas to suggest answers to questions.* OCW: **Sensing seasons** Lessons 2 & 3 Links Seasons and change ONA	**Everyday materials** (Snappy Science Lessons 5, 7, 6, 10 & E1) Links Building Things ONA • Distinguish between an object and the material from which it is made. • Describe the simple physical properties of a variety of everyday materials. *Observing closely, using simple equipment.* *Performing simple tests.*	**Looking at animals** (Snappy Science Lessons 6, E1 & E4) Links Animal Kingdom ONA • Identify and name a variety of common animals that are carnivores, herbivores and omnivores. • Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. *Gathering and recording data to help in answering questions.*

	• Observe and describe weather associated with the seasons and how day length varies. • Observe changes across the four seasons. *Gathering and recording data to help in answering questions.*		
Year 2	**What is in your habitat?** (Snappy Science Lessons 1, 2, 3 + **OCW – Lessons 1, 2, 3**) Links Habitats ONA • 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, and how they depend on each other. • To explore and compare the differences between things that are living, things that are dead and things that have never been alive. • Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food. *Gathering and recording data to help in answering questions.* *Observing closely, performing simple tests and using observations to suggest answers to questions, and gathering and recording data to help in answering questions.*	**Materials: Shaping up** (Snappy Science Lessons 1, 2, 3, 4) Links Mixing and Making ONA • Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. • Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard, for particular uses. *Using observations and ideas to suggest answers to questions* *Gathering and recording data to help in answering questions.* *Performing simple tests and recording data* *Using observations and ideas to suggest answers to questions*	**Growing up** (Snappy Science Lessons 1, 2, 3, 4,) OCW – Lessons 4 Links Human Lifestyle ONA • Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). • Notice that animals, including humans, have offspring which grow into adults. *Identifying and classifying.* *Gathering and recording data to help in answering questions* *Using observations and ideas to suggest answers to questions*
	Materials: Good choices (Snappy Science Lessons 1, 3, 4, 5, 6, 7) Links Changing Materials ONA • Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard, for particular uses. *Identifying and classifying.* *Using observations and ideas to suggest answers to questions* *Performing simple tests and recording data* *Observing closely, performing simple tests and using observations to suggest answers to questions, and gathering and recording data to help in answering questions.*	**The apprentice gardener** (Snappy Science Lessons 1, 2, 3, 4, 5, 6, 7, 8) • Observe and describe how seeds and bulbs grow into mature plants. • Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. *Observing closely, using simple equipment.* *Asking simple questions and recognising that they can be answered in different ways.* *Performing simple tests and recording data* *Gathering and recording data to help in answering questions.*	**Take care** (Snappy Science Lessons 1, 2, 3, 4) **The apprentice gardener** (Snappy Science Lessons 9 & 10) • Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. • Observe and describe how seeds and bulbs grow into mature plants. • Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. *Using observations and ideas to suggest answers to questions*

		Using observations and ideas to suggest answers to questions	*Gathering and recording data to help in answering questions*
Year 3	**Amazing bodies** (Snappy Science Lessons 2, 3, 4, 6, 7, 8) Links Lesson 2+3 Human Anatomy ONA • Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. • Identify that humans and some animals have skeletons and muscles for support, protection and movement. ➢ Identifying differences, similarities or changes related to simple scientific ideas and processes. ➢ Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. ➢ Using straightforward scientific evidence to answer questions or to support their findings. ➢ Asking relevant questions and using different types of scientific enquiries to answer them. ➢ Setting up simple practical enquiries, comparative and fair tests. ➢ Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions	**The power of forces** (Snappy Science Lessons 1, 2, 3, 4, 5, 6, 7) Links Magnetism ONA • Notice that some forces need contact between two objects, but magnetic forces can act at a distance. • Compare how things move on different surfaces. • Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. • Describe magnets as having two poles. • Observe how magnets attract or repel each other and attract some materials and not others. • Predict whether two magnets will attract or repel each other, depending on which poles are facing. ➢ Setting up simple practical enquiries, comparative and fair tests; making accurate measurements using standard units, using a range of equipment, for example thermometers and data loggers. ➢ Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. ➢ Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.	**How does your garden grow?** (Snappy Science Lessons 7, 8, 9, 10, 11, 12) Links plants ONA • Explore the part flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. • Identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers ➢ Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. ➢ Identifying differences, similarities or changes related to simple scientific ideas and processes ➢ Reporting on findings from enquiries, including oral and written, displays or presentations of results and conclusions ➢ Identifying differences, similarities or changes related to simple scientific ideas and processes. ➢ Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
	Can you see me? (Snappy Science Lessons 1, 2, 3, 5, 6, 7, EL2) Links light and dark ONA • Recognise that we need light in order to see things and that dark is the absence of light. • Notice that light is reflected from surfaces. • Recognise that shadows are formed when the light from a light source is blocked by a solid (opaque) object. • Find patterns in the way that the size of shadows change. ➢ Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. ➢ Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. ➢ Using straightforward scientific evidence to answer questions or to support their findings.	**How does your garden grow?** (Snappy Science Lessons 1, 2, 3, 4, 5, 6) Links plants ONA • Identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers. • Investigate the way in which water is transported within plants. ➢ Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. ➢ Identifying differences, similarities or changes related to simple scientific ideas and processes. ➢ Setting up simple practical enquiries, comparative and fair tests. ➢ Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. ➢ Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions	**Rock detectives** (Snappy Science Lessons 1, 2, 3, 6, 7, 9, 10) Links rocks ONA • Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. • Recognise that soils are made from rocks and organic material. • Describe in simple terms how fossils are formed when things that have lived are trapped within rock. ➢ Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. ➢ Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. ➢ Using straightforward scientific evidence to answer questions or to support their findings.

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<tr><td></td><td>➢ Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units,</td><td></td><td></td></tr>
<tr><td>Year 4</td><td>Module 1 – In a state
(Snappy Science Lessons 1, 2, 3, 4, 5, 7, 8 (teach 7 & 8 together) 9) OCW – LESSON 2 Links State of Matter ONA
• Compare and group materials together according to whether they are solids, liquids or gases.
• Observe that some materials change state when they are heated or cooled and measure or research the temperature at which this happens in degrees Celsius °C.
➢ Setting up simple practical enquiries, comparative and fair tests.
➢ Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.
➢ Identifying differences, similarities or changes related to simple scientific ideas and processes.</td><td>Good vibrations (Snappy Science Lessons 1, 2, 3, 4, 5, 6, 7)
Links sound ONA
• Identify how sounds are made, associating some of them with something vibrating.
• Recognise that vibrations from sounds travel through a medium to the ear.
• Find patterns between the volume of a sound and the strength of the vibrations that produced it.
• Recognise that sounds get fainter as the distance from the sound source increases.
➢ Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.
➢ Using straightforward scientific evidence to answer questions or to support their findings.
➢ Reporting on findings from enquiries, including oral and written, displays or presentations of results and conclusions</td><td>Where does all that food go?
(Snappy Science Lessons 2, 8, 9, 3, 4)
Links lesson 4 + 6 human anatomy ONA
• Describe the simple functions of the basic parts of the digestive system in humans.
• Identify the different types of teeth in humans and their simple functions.
➢ Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
➢ Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
➢ Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.
➢ Using straightforward scientific evidence to answer questions or to support their findings.</td></tr>
<tr><td></td><td>Human impact
(Snappy Science Lessons 1, 2, 3, 4, 5 and In A State lessons 10 and 11)
• Recognise that environments can change and that these changes can sometimes pose dangers to living things.
• Observe that some materials change state when they are heated or cooled and measure or research the temperature at which this happens in degrees Celsius °C
• Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.
➢ Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
➢ Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
➢ Using straightforward scientific evidence to answer questions or to support their findings.
Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</td><td>Who am I?
(Snappy Science Lessons 1, 2, 3, 4 AND Where does all the food go lessons 6 and 7)
Links ecosystems ONA
• Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.
• Recognise that living things can be grouped in a variety of ways.
• Construct and interpret a variety of food chains, identifying producers, predators and prey.
➢ Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.
➢ Identifying differences, similarities or changes related to simple scientific ideas and processes.</td><td>Module 3 – Switched on
(Snappy Science Lessons 1, 2, 3, 4, 5, 6)
Links electrical circuits ONA
• Identify common appliances that run on electricity.
• Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wire, bulbs, switches and buzzers.
• Identify whether or not a lamp will light in a simple series circuit, based on whether a lamp is part of a complete loop with a battery.
• Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.
• Recognise some common conductors and insulators and associate metals with being good conductors.
➢ Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.
➢ Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</td></tr>
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The Earth and beyond

(Snappy Science Lessons 1, 2, 3, 6, 8)

Links Space ONA

- Describe the movement of the Earth, and other planets, relative to the Sun in the Solar System.
- Use the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.
- Describe the movement of the Moon relative to the Earth.

➢ Recording data and results of increasing complexity using scienti□c diagrams and labels, classi□cation keys, tables, scatter graphs and bar and line graphs.
➢ Reporting and presenting □ndings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.
➢ Using test results to make predictions to set up further comparative and fair tests.

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Feel the force

(Snappy Science Lessons 1, 2, 4, 5, 7, 8, 9, 10)

Links Forces ONA

- Identify the effects of air resistance, water resistance and friction, which act between moving surfaces.
- Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.
- Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

➢ Taking measurements, using a wide range of scienti□c equipment, with increasing accuracy and precision, and taking repeat readings when appropriate.
➢ Identifying scienti□c evidence that has been used to support or refute ideas or arguments.
➢ Using test results to make predictions to set up further comparative and fair tests.
➢ Recording data and results of increasing complexity using scienti□c diagrams and labels, classi□cation keys, tables, scatter graphs and bar and line graphs.

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Reproduction in plants and animals

(Snappy Science Lessons 1, 2, 3, 6, 7, 8)

Links reproductive cycles ONA

- Describe the life process of reproduction in some plants and animals.
- Describe the changes as humans develop to old age.

➢ Reporting and presenting □ndings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.
➢ Identifying scienti□c evidence that has been used to support or refute ideas or arguments.
➢ Recording data and results of increasing complexity using scienti□c diagrams and labels, classi□cation keys, tables, scatter graphs and bar and line graphs.

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Get sorted

(Snappy Science Lessons 1, 2, 3, 4, 5 and Everyday Materials 1, 2, 4, 5, 6)

- Compare and group together everyday materials based on evidence from comparative and fair tests, including hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets.
- Give reasons, based on evidence from comparative and fair tests, for speci□c uses of everyday materials, including metals, wood and plastic.

➢ Recording data and results of increasing complexity using scienti□c diagrams and labels, classi□cation keys, tables, scatter graphs and bar and line graphs.
➢ Planning different types of scienti□c enquiries to answer questions, including recognising and controlling variables where necessary.
➢ Taking measurements, using a wide range of scienti□c equipment, with increasing accuracy and precision, and taking repeat readings when appropriate.

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Circle of life

(Snappy Science Lessons 1, 3, 4, 5, 6, 7 and Reproduction in plants and animals Lessons 4, 5)

Links reproductive cycles ONA

- Explain the differences in the life cycles of a mammal, an amphibian, an insect and a bird.
- Describe the life process of reproduction in some plants and animals.

➢ Reporting and presenting □ndings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.
➢ Identifying scienti□c evidence that has been used to support or refute ideas or arguments.

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Marvellous mixtures

Snappy Science Lessons 1, 2, 3, 4 and **All change!** Lessons 1, 2, 3, 4, 5

Links separating mixtures and particles in physical and chemical change ONA

- Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through □ltering, sieving and evaporating.
- Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.
- Demonstrate that dissolving, mixing and changes of state are reversible changes
- Explain that some changes result in the formation of new materials and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

➢ Using test results to make predictions to set up further comparative and fair tests.

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<td>Year 6</td>
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Light up your world

Snappy Science Lessons 1, 2, 3, 4, 5

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Everything changes

Snappy Science Lessons 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

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Body pump

(Snappy Science Lessons 1, 2, 4, 5)

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	Links light ONA • Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. • Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye. • Recognise that light appears to travel in straight lines. • Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. ➢ Identifying scientific evidence that has been used to support or refute ideas or arguments. ➢ Using test results to make predictions to set up further comparative and fair tests. ➢ Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	Links adaptions and humans and animals over time ONA • Recognise that living things produce offspring of the same kind, but that offspring normally vary and are not identical to their parents. • Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. • Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. ➢ Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, and bar and line graphs. ➢ Identifying scientific evidence that has been used to support or refute ideas or arguments. ➢ Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.	Links lesson 5 human anatomy ONA • Identify and name the main parts of the human circulatory system and describe the functions of the heart, blood vessels and blood. ➢ Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, and bar and line graphs. ➢ Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.
	Nature library (Snappy Science Lessons 1, 2, 3, 4, 5, 6, 7) • Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro- organisms, plants and animals. • Give reasons for classifying plants and animals based on specific characteristics. ➢ Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, and bar and line graphs. ➢ Identifying scientific evidence that has been used to support or refute ideas or arguments. ➢ Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	**Danger! low voltage** (Snappy Science Lessons 1, 2, 3, 4, 5, 6) Links electrical circuits ONA • Use recognised symbols when representing a simple circuit in a diagram. • Compare the functions of different components, giving reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off positions of switches. • Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit, compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches, and use recognised symbols when representing a simple circuit in a diagram. ➢ Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, and bar and line graphs.	**Body health** (Snappy Science Lessons 1, 2, 4, 5, 7) Links diet and lifestyle ONA • Recognise the impact of diet, exercise, drugs and lifestyle on the way bodies function. ➢ Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. ➢ Identifying scientific evidence that has been used to support or refute ideas or arguments. ➢ Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate.