



Swainswick Science concepts

Whole school definition: **science is knowledge of the physical and natural world gained through observation and experimentation,**

Key concepts

Twelve key concepts of Science repeat throughout the curriculum.

Structure

Function

Variation

Adaptation

Cause and effect

Changes

Evolution

Growth

Energy

Process

Similarity and Difference

Working scientifically

<u>Concept</u>	<u>Why learn this concept?</u>	<u>Year group</u>
Structure	Anything composed of parts arranged together in some way	<u>1-6</u>
Function	A specific job or procedure	<u>1-6</u>
Variation	The presence of differences between living things of the same species	<u>1-6</u>
Adaptation	The process by which animals, plants and other living things have changed so that they better suit their habitat	<u>1-6</u>
Cause and effect	Cause is why something happens Effect is what event has happened as a result of this	<u>1-6</u>
Changes	Changing from one material/state to another	<u>1-6</u>
Evolution	The way that living things change over time	<u>6</u>
Growth	The process of increasing in size	<u>1-6</u>
Energy	Strength and power. There are many forms such as thermal (heat), radiant (light) or kinetic (movement)	<u>1-6</u>
Process	A series of actions or steps taken in order to achieve a particular end	<u>1-6</u>
Similarity and Difference	Similarity is sameness or a likeness between things and differences are a point or way in which people or things are dissimilar	<u>1-6</u>
Working scientifically	The processes of science: asking questions, designing experiments, reasoning and arguing with scientific evidence and analysing and interpreting data	<u>1-6</u>

Our curriculum concepts progression

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Apple A	<u>Every day materials</u> Structure, Function, Variation, Changes, Process, Similarity and Difference, Working scientifically	<u>All about me</u> Function, Variation, Cause and effect, Growth, Changes, Similarity and Difference, Working scientifically	<u>Identifying animals</u> Variation, Growth, Similarity and Difference, Working scientifically	<u>Seasonal changes</u> Variation, Adaptation, Changes, Growth, Similarity and Difference, Working scientifically	<u>Identifying plants</u> Structure, Function, Variation, Changes, Similarity and Difference, Working scientifically	<u>Ocean animals</u> Adaption, Similarity and Difference, Variation, Function, Working scientifically
Apple B	<u>All about me</u> Function, Variation, Cause and effect, Growth, Changes, Similarity and Difference, Working scientifically	<u>What toys are made from:</u> Structure, Function, Variation, Changes, Process, Similarity and Difference, Working scientifically	<u>Identifying plants</u> Structure, Function, Variation, Changes, Similarity and Difference, Working scientifically	<u>Seasonal changes:</u> Variation, Adaptation, Changes, Growth, Similarity and Difference, Working scientifically	<u>Minibeasts</u> Variation, Adaptation, Cause and effect, Changes, Growth, Energy, Process, Similarity and Difference, Working scientifically	<u>Super-senses</u> Structure, Function, Variation, Cause and effect, Changes, Similarity and Difference, Working scientifically
Hazel A	<u>Animals including humans (habitats)</u> Variation, Adaptation, Cause and effect, Changes, Growth, Energy, Process, Similarity and Difference, Working scientifically	<u>Viking Science</u> Structure, Function, Variation, Cause and effect, Changes, Growth, Energy, Process, Similarity and Difference, Working scientifically	<u>Plants – fruits and seeds</u> Variation, Adaptation, Cause and effect, Changes, Growth, Energy, Process, Similarity and Difference, Working scientifically	<u>Arctic Animals</u> Variation, Adaptation, Cause and effect, Changes, Growth, Energy, Process, Similarity and Difference, Working scientifically	<u>Rocks and fossils</u> Structure, Function, Variation, Cause and effect, Changes, Process, Similarity and Difference, Working scientifically	<u>Forces including magnetism</u> Structure, Function, Variation, Cause and effect, Changes, , Growth, Energy, Process, Similarity and Difference, Working scientifically
Hazel B	<u>Animals including humans (Skeletons and bones)</u> Variation, Adaptation, Cause and effect, Changes, Growth, Energy, Process, Similarity and Difference, Working scientifically	<u>Light and shadow</u> Structure, Function, Variation, Cause and effect, Changes, Growth, Energy, Process, Similarity and Difference, Working scientifically	<u>Materials</u> Structure, Function, Variation, Cause and effect, Changes, Process, Similarity and Difference, Working scientifically	<u>Animals including humans – keeping healthy</u> Variation, Adaptation, Cause and effect, Changes, Growth, Energy, Process, Similarity and Difference, Working scientifically	<u>The environment</u> Structure, Function, Variation, Cause and effect, Changes, Growth, Energy, Process, Similarity and Difference, Working scientifically	<u>Plants</u> Structure, Function, Variation, Cause and effect, Changes, Growth, Energy, Process, Similarity and Difference, Working scientifically
Oak A	<u>Light</u> Structure, Function, Variation, Cause and effect, Changes, Growth, Energy, Process, Similarity and Difference, Working scientifically		<u>Animals including humans (human body)</u> Variation, Adaptation, Cause and effect, Changes, Growth, Energy, Process, Similarity and Difference, Working scientifically		<u>Forces</u> Structure, Function, Variation, Cause and effect, Changes, , Growth, Energy, Process, Similarity and Difference, Working scientifically	
Oak B	<u>Electricity</u> Structure, Function, Variation, Cause and effect, Changes, Energy, Process, Similarity and Difference, Working scientifically		<u>Earth and space</u> Structure, Function, Variation, Cause and effect, Changes, Growth, Energy, Process, Similarity and Difference, Working scientifically		<u>Living things and their habitats</u> Variation, Adaptation, Cause and effect, Changes, Growth, Energy, Process, Similarity and Difference, Working scientifically	
Oak C	<u>Sound</u> Structure, Function, Variation, Cause and effect, Changes, Energy, Process, Similarity and Difference, Working scientifically		<u>Materials</u> Structure, Function, Variation, Cause and effect, Changes, Process, Similarity and Difference, Working scientifically		<u>Evolution and inheritance</u> Structure, Function, Variation, Adaptation, Cause and effect, Changes, Evolution, Growth, Energy, Process, Similarity and Difference, Working scientifically	