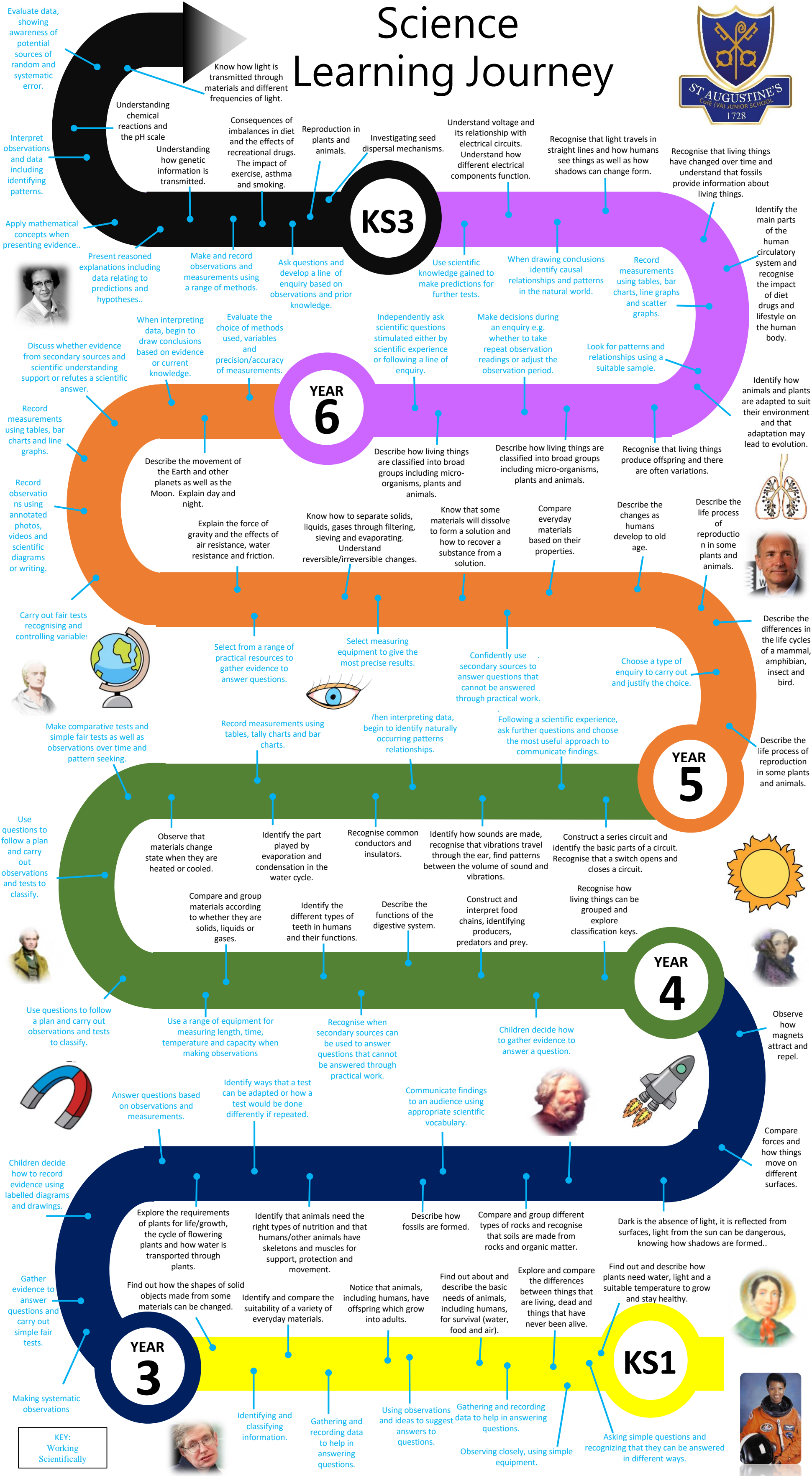


Science Learning Journey



KS3

YEAR 6

YEAR 5

YEAR 4

YEAR 3

KS1

Evaluate data, showing awareness of potential sources of random and systematic error.

Interpret observations and data including identifying patterns.

Apply mathematical concepts when presenting evidence..

Understand chemical reactions and the pH scale

Understand how genetic information is transmitted.

Consequences of imbalances in diet and the effects of recreational drugs. The impact of exercise, asthma and smoking.

Reproduction in plants and animals.

Investigating seed dispersal mechanisms.

Understand voltage and its relationship with electrical circuits. Understand how different electrical components function.

Recognise that light travels in straight lines and how humans see things as well as how shadows can change form.

Recognise that living things have changed over time and understand that fossils provide information about living things.

Identify the main parts of the human circulatory system and recognise the impact of diet drugs and lifestyle on the human body.

Record measurements using tables, bar charts, line graphs and scatter graphs.

When drawing conclusions identify causal relationships and patterns in the natural world.

Use scientific knowledge gained to make predictions for further tests.

Make decisions during an enquiry e.g. whether to take repeat observation readings or adjust the observation period.

Look for patterns and relationships using a suitable sample.

Identify how animals and plants are adapted to suit their environment and that adaptation may lead to evolution.

Describe the movement of the Earth and other planets as well as the Moon. Explain day and night.

Explain the force of gravity and the effects of air resistance, water resistance and friction.

Know how to separate solids, liquids, gases through filtering, sieving and evaporating. Understand reversible/irreversible changes.

Know that some materials will dissolve to form a solution and how to recover a substance from a solution.

Compare everyday materials based on their properties.

Describe the changes as humans develop to old age.

Describe the life process of reproduction in some plants and animals.

Describe the differences in the life cycles of a mammal, amphibian, insect and bird.

Describe the life process of reproduction in some plants and animals.

Choose a type of enquiry to carry out and justify the choice.

Confidently use secondary sources to answer questions that cannot be answered through practical work.

Following a scientific experience, ask further questions and choose the most useful approach to communicate findings.

When interpreting data, begin to identify naturally occurring patterns relationships.

Record measurements using tables, tally charts and bar charts.

Select a range of practical resources to gather evidence to answer questions.

Select measuring equipment to give the most precise results.

Carry out fair tests recognising and controlling variable:

Discuss whether evidence from secondary sources and scientific understanding support or refutes a scientific answer.

Record measurements using tables, bar charts and line graphs.

Record observations using annotated photos, videos and scientific diagrams or writing.

Make comparative tests and simple fair tests as well as observations over time and pattern seeking.

Use questions to follow a plan and carry out observations and tests to classify.

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Children decide how to record evidence using labelled diagrams and drawings.

Gather evidence to answer questions and carry out simple fair tests.

Making systematic observations

Present reasoned explanations including data relating to predictions and hypotheses..

Make and record observations and measurements using a range of methods.

Ask questions and develop a line of enquiry based on observations and prior knowledge.

Evaluate the choice of methods used, variables and precision/accuracy of measurements.

Independently ask scientific questions stimulated either by scientific experience or following a line of enquiry.

Make decisions during an enquiry e.g. whether to take repeat observation readings or adjust the observation period.

Look for patterns and relationships using a suitable sample.

Identify how animals and plants are adapted to suit their environment and that adaptation may lead to evolution.

Describe the life process of reproduction in some plants and animals.

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Carry out fair tests recognising and controlling variable:

Observe that materials change state when they are heated or cooled.

Identify the part played by evaporation and condensation in the water cycle.

Recognise common conductors and insulators.

Identify how sounds are made, recognise that vibrations travel through the ear, find patterns between the volume of sound and vibrations.

Construct a series circuit and identify the basic parts of a circuit. Recognise that a switch opens and closes a circuit.

Recognise how living things can be grouped and explore classification keys.

Observe how magnets attract and repel.

Compare forces and how things move on different surfaces.

Dark is the absence of light, it is reflected from surfaces, light from the sun can be dangerous, knowing how shadows are formed..

Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.

Explore the requirements of plants for life/growth, the cycle of flowering plants and how water is transported through plants.

Identify that animals need the right types of nutrition and that humans/other animals have skeletons and muscles for support, protection and movement.

Describe how fossils are formed.

Compare and group different types of rocks and recognise that soils are made from rocks and organic matter.

Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).

Explore and compare the differences between things that are living, dead and things that have never been alive.

Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.

Identify and compare the suitability of a variety of everyday materials.

Notice that animals, including humans, have offspring which grow into adults.

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Identifying and classifying information.

Gathering and recording data to help in answering questions.

Using observations and ideas to suggest answers to questions.

Gathering and recording data to help in answering questions.

Observing closely, using simple equipment.

Asking simple questions and recognizing that they can be answered in different ways.

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KEY:
Working Scientifically