SPRING HILL SCIENCE CURRICULUM- EYFS

AUTUMN

Kapow Primary-Science
Changing Seasons
Lesson 1
Autumn treasures (A1)
To recognise changes outside in autumn
Lesson 2
Whatever the weather (A2)
To recognise different types of weather
I am a scientist
Lesson 1
Push or pull
To explore ways to make objects move
Lesson 2
Loud or quiet
To explore different sounds
Lesson 3
Floating or sinking
To explore whether objects float or sink

SPRING

Kapow Primary-Science
Changing Seasons
Lesson 1
Winter wildlife (Sp1)
To recognise how animals prepare for winter
Lesson 2
Springtime magic (Sp2)
To recognise changes outside in spring
I am a scientist
Lesson 1
Freeze or melt
To explore freezing and melting
Lesson 2
Light or dark
To explore how light makes shadows
Animal adventure
Lesson 1
Describing Mini-beasts (Sp2)
To find and describe minibeasts

SUMMER

Kapow Primary-Science
Changing Seasons
Lesson 1
Sandcastle science (Sm1)
To investigate the mixture needed to build a sandcastle
Lesson 2
Summer senses (Sm2)
To recognise changes outside in summer
Animal adventure
Lesson 1
Living and non-living (Sm1)
To sort objects into living and non-living
Lesson 2
On the farm (Sm1)
To sort and describe farm animals
Lesson 3
Animal homes(Sm1)
To sort animals based on where they live
I am a scientist
Lesson 1
Floating or sinking
To explore whether objects float or sink

SPRING HILL SCIENCE CURRICULUM- YEAR 1

AUTUMN 1

How do our seasons change?

Lesson 1:
To identify how the weather changes across the four seasons.
Lesson 2:
To identify events and activities that take place in different seasons.
Lesson 3:
To recognise how trees change across the four seasons
Lesson 4:
To recognise that daylight hours change across the four seasons
WS: To record data in a pictogram
Lesson 5:
To observe changes across the four seasons.
WS: To gather and record data about how seasons change over time
Lesson 6:
To plan and carry out a weather report.

SPRING 1

How sensitive are our bodies?

Lesson 1
To name parts of the human body.
WS: To sort body parts into groups
Lesson 2:
To name the body parts used for each sense.
WS: To spot patterns in data
Lesson 3:
To identify the body parts used for the sense of taste and touch.
WS: To use the senses to make observations.
Lesson 4:
To identify the body parts used for the sense of smell and sight.
Lesson 5:
To identify the body part used for the sense of hearing.
WS: To investigate how sound changes as you move further away
Lesson 6:
To recognise how the senses are used in everyday life.
WS: To recognise the importance of the senses in certain jobs.

SUMMER 1

What do plants need to grow?

Lesson 1
To identify plants in the school grounds.
WS: To plan an investigation.
Lesson 2:
To identify parts of a flowering plant.
WS: To draw and label a diagram
Lesson 3:
To identify and name wild and garden plants.
WS: To sort flowers into groups.
Lesson 4:
To identify and name deciduous and evergreen trees.
WS: To measure and compare leaves.
Lesson 5:
To recognise that new plants come from seeds and bulbs.
WS: To recognise that observations do not always match predictions.
Lesson 6:
To recognise the importance of a scientist's role
WS: To use observations to find answers to questions.

SPRING HILL SCIENCE CURRICULUM- YEAR 1

AUTUMN 2

How are materials different?

Lesson 1:
To identify everyday materials.
WS: To sort objects into groups based on the materials they are made from.
Lesson 2:
To recognise the difference between objects and materials.
Lesson 3:
To describe the properties of materials.
Lesson 4:
To group materials based on their properties (absorbency).
WS: To make observations and record data.
Lesson 5:
To group materials based on their properties (waterproofness).
WS: To plan a test and suggest what might happen
Lesson 6:
To group materials based on their properties (toughness).
WS: To answer questions based on results.

SPRING 2

Are all animals the same?

Lesson 1:
To identify and group animals.
Lesson 2:
To describe a variety of animals.
Lesson 3:
To compare the features of animals.
Lesson 4:
To identify animals that are carnivores, herbivores and omnivores.
WS: To research using non-fiction texts.
Lesson 5:
To recognise animals that make suitable pets.
WS: To gather and record data to help in answering questions.
Lesson 6:
To describe and compare the structure of animals.
WS: To know about famous scientists throughout history.

SUMMER 2

Science through stories

Lesson 1:
To observe changes across the seasons.
WS: To spot patterns in data.
Lesson 2:
To describe and compare the features of animals.
WS: To carry out research to find specific information.
Lesson 3:
To identify differences in animal features.
WS: To use a ruler to measure
Lesson 4:
To describe the properties of everyday materials.
WS: To plan how to carry out a test.
Lesson 5:
To identify animals that are carnivores, herbivores and omnivores.

SPRING HILL SCIENCE CURRICULUM- YEAR 2

AUTUMN 1

What are habitats?

Lesson 1:
To identify some of the characteristics of living things.
Lesson 2:
To recognise the difference between things that are alive, were once alive or have never been alive.
WS: To classify objects into groups.
Lesson 3:
To identify plants and animals in different habitats.
Lesson 4:
To identify how a habitat provides animals and plants with what they need to survive.
WS: To carry out research to find answers to questions.
Lesson 5:
To recognise how animals and plants depend on each other.
Lesson 6:
To recall how animals get their food from plants and other animals.

SPRING 1

How do we use materials?

Lesson 1
To recognise that objects are made from materials that suit their uses.
WS: To recognise that objects can be grouped.
Lesson 2:
To recognise that objects are made from materials that suit their uses.
Lesson 3:
To recognise that the shape of some solid objects can be changed.
WS: To record data in a table.
Lesson 4:
To compare the suitability of materials for particular uses
WS: To gather data and use it to answer a question.
Lesson 5:
To recognise that the strength of some materials can be changed.
WS: To record data in a block graph.
Lesson 6:
To compare the suitability of materials for particular uses.
WS: To recognise that some materials are harmful to the environment.

SUMMER 1

How do plants germinate and grow?

Lesson 1
To recognise that seeds need certain conditions for growth.
WS: To plan comparative tests
Lesson 2:
To recognise that seeds and bulbs contain what they need to grow into a plant.
WS: To measure with a ruler.
Lesson 3:
To describe what seeds need to germinate.
WS: To record data in a table.
Lesson 4:
To describe the effect of light on plant growth.
WS: To observe using a magnifying glass.
Lesson 5:
To identify stages of a plant's life cycle.
WS: To draw and label diagrams.
Lesson 6:
To recognise what plants need for healthy growth.

SPRING HILL SCIENCE CURRICULUM- YEAR 2

AUTUMN 2

Where do minibeasts live?

Lesson 1
WS: To classify a variety of minibeasts.
Lesson 2:
WS: To recognise how scientists answer questions
Lesson 3:
To recognise that living things live in habitats to which they are suited.
WS: To gather and record data to answer a question.
Lesson 4:
WS: To ask questions and plan how to carry out an experiment.
Lesson 5:
WS: To carry out an experiment and record data in a table.
Lesson 6:
To identify a variety of flowering plants.

SPRING 2

How do life cycles work?

Lesson 1
To identify different stages of the human life cycle.
Lesson 2:
To know which offspring come from which parent animal.
Lesson 3:
To observe and measure growth in humans.
WS: To use simple measuring equipment.
Lesson 4:
To identify and list the basic needs for survival for humans and animals.
WS: To use secondary sources to research.
Lesson 5:
To recognise the importance of exercise and personal hygiene.
WS: To make observations over time.
Lesson 6:
To identify how to have a balanced diet
WS: To interpret collected results.

SUMMER 2

Plant based materials

Lesson 1:
To describe how materials can be reused.
Lesson 2:
To identify human-made and natural materials.
WS: To group based on characteristics.
Lesson 3:
To identify suitable materials based on their properties.
WS: To perform a test and gather data.
Lesson 4:
To identify a material to help plant growth.
WS: To use observations to answer a simple question.
Lesson 5:
To choose materials to create a suitable plant pot.
WS: To identify and classify living things.

SPRING HILL SCIENCE CURRICULUM- YEAR 3

AUTUMN 1

Why do we need energy?

Lesson 1:
To explain the role of a skeleton
WS: To group animals based on their physical properties
Lesson 2:
To recognise the main bones in the body.
WS: To measure and sort data.
Lesson 3:
To explain how muscles are used for movement.
WS: To explore scientific advances.
Lesson 4:
To explain how food is an essential energy source for animals.
WS: To gather and compare data to answer questions.
Lesson 5
To identify the main nutrient groups and their simple functions
WS: To record information using secondary sources.
Lesson 6
To explain what makes a balanced diet.

SPRING 1

How are rocks and fossils formed?

Lesson 1
To group rocks using their appearance.
WS: To observe the appearance of rocks closely, using a magnifying glass.
Lesson 2:
To group rocks using their physical properties.
WS: To make predictions, suggest improvements and explain observations over time.
Lesson 3:
To describe the process of fossil formation.
WS: To present research on fossil formation.
Lesson 4:
To identify fossils and group rocks accordingly.
WS: To use the fossil record to answer questions about the past.
Lesson 5:
To compare soils and how they were formed.
WS: To record the drainage rate for different soils in a bar chart.
Lesson 6:
To describe a soil sample using sedimentation.
WS: To draw and label a diagram.

SUMMER 1

What do plants look like inside?

Lesson 1
To recall how different people work with light and shadows.
WS: Lesson 1 To recall how different people work with light and shadows.
Lesson 2
To describe the relationship between structure and function in plants.
WS: To design simple results tables.
Lesson 3
To investigate how water is transported in plants.
WS: To investigate how water is transported in plants.
Lesson 4
To investigate how water is transported in plants.
WS: To investigate how water is transported in plants.
Lesson 5
To apply knowledge of plant life and growth.
WS: To identify and suggest changes to an enquiry.
Lesson 6:
To explore seed dispersal methods.
WS: To use results to draw conclusions.

SPRING HILL SCIENCE CURRICULUM- YEAR 3

AUTUMN 2

What type of forces are there?

Lesson 1
To describe the effects of contact forces.
WS: To label a diagram using arrows and scientific vocabulary.
Lesson 2
To recognise the effects and uses of forces.
WS: To write a scientific conclusion identifying cause and effect.
Lesson 3
To interpret how and why things move differently on different surfaces.
WS: To plan an investigation using variables
Lesson 4
To describe the effects of magnets.
.WS: To write a method
Lesson 5
To compare the properties of different types of magnets.
WS: To display data using a bar chart.
Lesson 6
To explain the uses of magnets.
WS: To research the uses of magnets.

SPRING 2

Can we make a shadow?

Lesson 1
To explain the role of light sources.
WS: To plan and draw a results table.
Lesson 2
To compare light reflecting on different surfaces.
Lesson 3
To recognise which materials cast a shadow
WS: To ask testable questions and plan how to answer them.
Lesson 4:
To summarise how shadows change throughout the day.
WS: To evaluate a method.
Lesson 5:
To investigate how the distance of the light source affects the size of its shadow.
WS: To find patterns in data and form conclusions.
Lesson 6:
To tell a story using shadow puppets

SUMMER 2

Can I make connections?

Lesson 1
To revise the units Movement and nutrition and Rocks and soil.
WS: To plan a pattern seeking enquiry.
Lesson 2
To revise the units *Movement and nutrition* and *Plant reproduction*.
WS: To gather and record data.
Lesson 3:
To revise the unit *Forces and magnets*.
WS: To conclude and evaluate the investigation.
Lesson 4
To revise the unit *Uses of materials*.
WS: To use sets of data to inform design
Lesson 5:
To revise the units Light and shadows and Movement and nutrition.
WS: To report on my findings using a shadow puppet display.

SPRING HILL SCIENCE CURRICULUM- YEAR 4

AUTUMN 1

How do our teeth affect our diet?

Lesson 1:
To describe the function of the human digestive system.
WS: To evaluate a model.
Lesson 2:
To recognise the different types of human teeth and their roles in eating.
Lesson 3:
To explain how to care for our teeth.
WS: To plan an enquiry by considering which variables should be changed, measured and controlled.
Lesson 4
To recognise that differences in teeth relate to an animal's diet.
WS: To group animals based on their diet.
Lesson 5
To recognise producers, predators and prey in food chains.
WS: To analyse patterns and form conclusions using scientific knowledge.
Lesson 6
To recognise that animal poo can give us clues about digestion, teeth and diet.
WS: To construct a results table for recording observations.

SPRING 1

Why do things change state?

Lesson 1:
To identify solids using their properties
WS: To ask relevant questions about the properties of solids.
Lesson 2
To identify liquids and gases using their properties.
WS: To use results to draw simple conclusions about the properties of liquids.
Lesson 3:
To describe melting and freezing.
To use thermometers to take accurate measurements before and after melting.
Lesson 4
To describe condensing and evaporating.
WS: To make predictions for new values about evaporation rates.
Lesson 5
To describe the different stages of the water cycle.
WS: To record the stages of the water cycle using a labelled diagram.
Lesson 6
To describe how temperature affects evaporation rates and the water cycle.
WS: To research climate change and the water cycle.

SUMMER 1

How can we group living things?

Lesson 1
To group animals in various ways.
WS: To record data in different ways.
Lesson 2:
To group plants in various ways.
WS: To apply and create classification keys.
Lesson 3
WS: To make careful observations.
WS: To make and use classification keys.
Lesson 4:
To recognise and describe different habitats and their inhabitants.
WS: To gather, record, classify and present data.
Lesson 5:
To recognise the impact humans can have on habitats.
WS: To research using an information sheet.
Lesson 6:
To recognise the impact of natural disasters on habitats.

SPRING HILL SCIENCE CURRICULUM- YEAR 4

AUTUMN 2

How does electricity work?

Lesson 1
To recognise how electrical appliances are powered
WS: To record and classify qualitative data.
Lesson 2:
To construct an electrical circuit.
WS: To draw a scientific diagram.
Lesson 3:
To explain the use of switches in a circuit.
Lesson 4:
To explain the use of materials as electrical conductors or insulators.
WS: To write a method.
Lesson 5:
To investigate what affects bulb brightness.
WS: To pose questions and plan ways to test them.
Lesson 6:
To explain how to be safe around electricity.
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SPRING 2

How does sound travel?

Lesson 1:
To describe how sounds are made.
WS: To observe closely how different instruments create a sound.
Lesson 2:
To describe how sounds are heard through different mediums.
WS: To research how whales and dolphins communicate underwater.
Lesson 3:
To describe the relationship between vibration strength and volume.
WS: To present results using a bar chart.
Lesson 4:
To describe the relationship between volume and distance.
WS: To suggest which variables to measure and for how long.
Lesson 5:
To describe pitch and how to change it.
WS: To design simple results tables.
Lesson 6:
To explain how insulating materials can be used to muffle sound.
WS: To identify when results or observations do not match predictions.

SUMMER 2

Do all liquids flow in the same way?

Lesson 1:
To revise the units States of matter and Classification and changing habitats.
WS: To plan a comparative test.
Lesson 2:
To revise the unit *Electricity and circuits*.
WS: To gather and record data.
Lesson 3:
To revise the units *States of matter* and *Sound and vibrations*.
WS: To conclude and evaluate the investigation.
Lesson 4:
To revise the unit Digestion and food.
WS: To observe carefully and apply these observations to problem solve
Lesson 5
To revise the unit *States of matter*.
WS: To report on my findings.

SPRING HILL SCIENCE CURRICULUM- YEAR 5

AUTUMN 1

How do we separate mixtures?

Lesson 1:
To describe mixtures.
WS: To research using a range of secondary resources.
Lesson 2:
To explain the process of sieving.
WS: To draw and annotate a diagram to explain a concept.
Lesson 3:
To explain the process of filtering.
WS: To identify testable questions and how to answer them.
Lesson 4:
To describe solutions and how they can be identified.
WS: To make observations about solutions.
Lesson 5:
To identify which factors affect the time taken to dissolve.
WS: To plan a fair test with consideration of variables and measurements.
Lesson 6:
To describe the process of evaporation.

SPRING 1

How do the Earth, Moon and plants move?

Lesson 1
To compare the contributions of Ptolemy, Alhazen and Copernicus to models of the Solar system.
WS: To pose testable questions about the solar system.
Lesson 2:
To describe the movement and shapes of the celestial bodies in our Solar System.
WS: To develop a model to represent the Solar System.
Lesson 3:
To describe the movement of the Moon relative to the Earth.
WS: To design and draw a table.
Lesson 4:
To explain the causes of day and night and the seasons.
WS: To draw a diagram to explain day and night.
Lesson 5:
To devise a sundial to tell the time.
WS: To calibrate and use a sundial to measure time.
Lesson 6:
To describe some uses of satellites and the problems posed by space junk.
WS: To use temperature data to make predictions about climate change.

SUMMER 1

Are all forces balanced?

Lesson 1:
To describe gravity and its effects.
WS: To analyse data to write a conclusion.
Lesson 2:
To describe air resistance and its effects.
WS: To plan a fair test to investigate air resistance.
Lesson 3
To describe water resistance and its effects.
WS: To design a results table.
Lesson 4:
To describe friction and its effects.
WS: To evaluate a method.
Lesson 5:
To describe the effects of levers, pulleys and simple machines on movement.
WS: To draw and label a diagram.
Lesson 6:
To describe the relationship between lever length and effort.
WS: To draw an accurate line graph.

SPRING HILL SCIENCE CURRICULUM- YEAR 5

AUTUMN 2

Can we reverse a change?

Lesson 1:
To determine the hardness of materials and link this to their uses.
WS: To evaluate the hardness test to determine the degree of trust in the results.
Lesson 2:
To determine the transparency of different materials and link this to their uses.
WS: To plan and draw a table of results.
Lesson 3:
To determine the conductivity of different materials and link this to their uses.
WS: To write a detailed, organised method that is easy to follow.
Lesson 4:
To demonstrate reversible changes.
WS: To write a prediction using prior knowledge of the states of matter.
Lesson 5:
To demonstrate irreversible changes.
WS: To analyse observations about rusting and use them to support a conclusion.
Lesson 6
To demonstrate irreversible changes.
WS: To measure the circumference of a balloon accurately.

SPRING 2

Are all life cycles the same?

Lesson 1
To describe the life cycle of a plant, including the reproductive stage.
WS: To observe and compare equivalent parts in different flowers.
Lesson 2:
To describe the life cycle of a mammal.
WS: To research the life cycles of different mammals.
Lesson 3:
To describe the life cycle of a bird and compare it with that of a mammal.
WS: To pose questions to compare the life cycles of different birds.
Lesson 4:
To describe the life cycle of an amphibian.
WS: To suggest how temperature may affect egg hatching.
Lesson 5:
To describe the life cycle of an insect and compare it with that of an amphibian.
WS: To use data to describe a relationship and make predictions.
Lesson 6
To describe asexual reproduction in plants.
WS: To represent root growth over time on a line graph.

SUMMER 2

How do we change as we age?

Lesson 1
To describe how humans change from babies through to old age.
WS: To use a line graph to identify patterns in height and predict values.
Lesson 2
To identify changes in males and females as a result of puberty.
Lesson 3
To explore the gestation periods of humans and other animals.
WS: To plot data on a scatter graph.

Does the size of something affect the impact?

Lesson 1
To revise the units Earth and space and Life cycles and reproduction.
WS: To plan a comparative test.
Lesson 2
To revise the units Unbalanced forces and Mixtures and separation.
WS: To gather and record data.
Lesson 3
To revise the units *Separating mixtures* and *Unbalanced forces*.
WS: To conclude and evaluate the investigation.

SPRING HILL SCIENCE CURRICULUM- YEAR 6

AUTUMN 1

How do we classify living things?

Lesson 1:
To explain how organisms are classified using the Linnaean system.
Lesson 2:
To classify the cold-blooded vertebrate groups using their common characteristics.
WS: To use a classification key to classify frog species.
Lesson 3:
To classify the warm-blooded vertebrate groups using their common characteristics.
WS: To use a classification key to classify vertebrates.
Lesson 4:
To classify invertebrates using their characteristics.
WS: To use a classification key to classify invertebrates.
Lesson 5:
To describe how the plant kingdom is organised (based on shared characteristics).
WS: To produce a working classification key.
Lesson 6:
To describe and classify micro-organisms.
WS: To use a classification key to classify bacteria

SPRING 1

Do all living things vary in the same way?

Lesson 1:
To explain why there are differences within a species.
WS: To group factors.
Lesson 2:
To recognise the inheritance of characteristics in plants and animals.
Lesson 3:
To explain why adaptation is necessary.
Lesson 4:
To model how natural selection affects population size.
WS: To evaluate the degree of trust and pose new questions for further enquiry.
Lesson 5:
To describe the theory of evolution.
WS: To consider evidence used to inform theories.
Lesson 6:
To recognise evidence that can be used for evolution.
WS: To consider the degree of trust in the evidence used.

SUMMER 1

How do our lifestyle choices affect our health?

Lesson 1:
To identify factors that affect our health and how to reduce their negative impact.
WS: To evaluate sources of information.
Lesson 2:
To summarise the key structures and purpose of the circulatory system.
Lesson 3:
To identify the key roles of blood.
WS: To evaluate a model.
Lesson 4:
To explore the relationship between animal size and heart rate.
WS: To interpret patterns in data.
Lesson 5:
To investigate the relationship between exercise and heart rate.
WS: To write a method.
Lesson 6:
To describe the relationship between heart rate and fitness.
WS: To draw a line graph.

SPRING HILL SCIENCE CURRICULUM- YEAR 6

AUTUMN 2

Does light always travel in a straight line?

Lesson 1:
To describe the pathway of light.
WS: To use evidence to form conclusion
Lesson 2:
To describe how we see
WS: To draw scientific diagrams
Lesson 3:
To explain how shadows change.
WS: To pose questions.
Lesson 4:
To investigate what affects the angle of the reflected ray.
WS: To record results as a line graph.
Lesson 5:
To explain how a periscope works.
Lesson 6
To explain how mirrors are helpful

SPRING 2

How do circuits, batteries and switches work together?

Lesson 1:
To use recognised symbols for electrical components.
Lesson 2:
To predict and present results for electrical circuits.
WS: To use standardised symbols when drawing diagrams.
Lesson 3:
To recognise a link between the number of components and resistance.
WS: To explain results using scientific knowledge.
Lesson 4:
To identify ways to change voltage within an electrical circuit.
WS: To design a results table.
Lesson 5:
To investigate how voltage affects bulb brightness.
WS: To plan an enquiry.
Lesson 6:
To apply knowledge of circuits and components to a practical solution.

SUMMER 2

How safe are they?

Lesson 1
To revise the units Circulation and health and Light and reflection.
WS: To plan a comparative test.
Lesson 2:
To revise the units Light and reflection and Circuits, batteries and switches.
WS: To gather and record data.
Lesson 3:
To revise the units *Light and reflection* and *Circulation and health*.
WS: To conclude and evaluate the investigation.
Lesson 4:
To revise the units *Classifying big and small*, *Evolution and inheritance*, *Light and reflection* and *Circulation and health*.
WS: To use further data to inform a conclusion.
Lesson 5:
To revise the units Light and reflection and Circulation and health.
WS: To report on findings in the form of an advert.