

Beaumont Curriculum Overview



Science

THE FIVE ENQUIRY TYPES



Identifying, classifying & grouping

Pupils make sense of how the world is organised. Identification is the process of using differences to name something and classification is organising things into groups. Opportunities to identify arise when pupils recognise not all birds are the same for example and can identify and name them. They can then use observable and behavioural similarities to group them and add new things.



Comparative & Fair testing

Helps pupils explore relationship between variables. Comparative tests children compare one event with another e.g. does the red car go faster than the green car? A fair test identifies the causal relationship between two variable. E.g. does the height of the ramp affect how quickly the toy car rolls down the ramp and everything else remains the same.



Observing Over Time

Pupils identify and measure events and changes in living things, materials and physical process or events. These observations may take place over time spans of minutes or hours (e.g. puddles evaporating) up to several weeks or months (e.g. rearing young chicks).



Pattern seeking

Pupils observe, measure and record events and systems when carrying out pattern seeking enquires. They also collect and interpret data from secondary sources. They make observations and conduct surveys where the variables can't easily be controlled for practical or ethical reasons



Research using secondary sources

Where the answer is found using secondary sources. This is usually where it is impossible or unsafe for pupils to answer with first hand enquiries. This enquiry helps them evaluate sources, distinguish between fact and opinion and recognise conflicting evidence and bias.

Year 1

Biology

Chemistry

Animals, including Humans

- Name common animals
- Carnivores, etc

- Identify and name a variety of common animals by **amphibian, reptile, mammal, fish** and **birds**.
- Identify and name a variety of common animals (carnivore, herbivore and omnivore)
- Describe and compare the structure of a variety of common animals (see above and including pets).

Animals, including Humans

- Human body and the five senses
- Identify, name, draw, label the basic parts of the human body and say which part of the body is associated with each sense.

Plants

- Common plants
- Plant structure
- Know and name a variety of common wild and garden plants, including deciduous and evergreen trees.
- Know and name the petals, stem, leaves and root of a plant
- Know and name the roots, trunk, branches and leaves of a tree.

Everyday Materials

- Properties of materials
- Grouping materials
- Distinguish between an object and the material from which it is made.
- Identify and name a variety of everyday materials including wood, plastic, glass, metal, water, and rock.
- Describe the physical properties of everyday materials.
- Compare and group together a variety of every day materials on the basis of their simple physical properties. (rough, hard, soft, smooth. Etc)
- NON STATUTORY OGDEN TRUST UNIT ENQUIRY A – Ear defenders



Seasonal Change

- The four seasons
- Seasonal weather
- Observe changes across the four seasons.
- Observe and describe weather associated with the seasons and how day length varies.
- NON STATUTORY OGDEN TRUST UNIT
- Enquiry B – Make it dark (links with light)



Year 1

Working Scientifically

☐ **Ask simple questions and recognising that they can be answered in different ways.** Eg
What plants and animals are in our local environment?

☐ **Perform simple tests.**
Which material is the best for keeping Dogger dry?

☐ **Observing closely using simple equipment.**
How does the weather change through the four seasons?

☐ **Identifying and classifying.**
Can you identify parts of the body?

NON STATUROT – **Use simple secondary sources to find answers.**
Research to Scientists. Find out about Charles Macintosh. Find out about Louis Braille or Helen Keller.

☐ NON STATUROT – **Measures (within Year 1 mathematical limits)** to help find out more about the investigations undertaken).

Year 1 – ENQUIRY TYPE INVESTIGATIONS



• **ANIMALS, INCLUDING HUMANS**

- Identify and name a variety of common animals (carnivore, herbivore and omnivore)

How can we group animals based on what they eat?(Classify/group)

Sort pictures and information into the correct group

* Identify, name, draw, label the basic parts of the human body

Can you Identify the parts of your body? **(identify)**

PLANTS (local area)

Know and name a variety of common wild and garden plants, including deciduous and evergreen trees.

Can you sort leaves based on characteristics? (identify)

Which trees grow in our local area? (identify)

MATERIALS

Compare and group together a variety of every day materials on the basis of their simple physical properties. (rough, hard, soft, smooth. Etc)

Are all fabrics the same?
(Classify)



• **ANIMALS, INCLUDING HUMANS**

- Identify, name, draw, label the basic parts of the human body
- Just because we are older are we taller/bigger?
- Identify and name a variety of common animals (carnivore, herbivore and omnivore)

- How are the teeth of an animal related to the type of food they eat?

• **SEASONAL CHANGES**

- Observe and describe weather associated with the seasons and how day length varies.
- How does the length of daylight in a day change throughout the year?



SEASONAL CHANGES

- Observe changes across the four seasons. What happens to trees in each season?
- Observe changes across the four seasons.
How do habitats change over time?



MATERIALS

Describe the physical properties of everyday materials. Which material is the best to keep Dogger dry? compare and group everyday materials on basis of simple physical properties. Carry out simple tests to determine which material is best? How wet is Dogger?

WHOLE CLASS FAIR TESTING USING DISCOVERY DOG



MATERIALS – Scientist link

Find out who was Charles Macintosh?

ANIMALS, INCLUDING HUMANS

Find out about Louis Braille or Helen Keller.

Year 2

Biology

Chemistry

All living things and their habitats

Animals, including Humans

Plants

Everyday Materials

- Living, dead or never been alive
- Habitats
- Simple food chains

- Animal reproduction
- Healthy living
- Basic needs

- Grown bulbs (tulips/crocuses/daffodils) and seeds (cress/sunflowers)
- Investigate the growth of seeds

- Identify different materials
- Name everyday materials
- Properties of materials

- Compare the use of different materials

- Classify things by living, dead or never lived.
- Identify that most living things live in 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. Identify and name a variety of plants and animals in their habitats, including micro habitats.
- Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain. Identify and name sources of food.

- Know the basic stages in a life cycle for animals, (including humans)
- Know why exercise, a balanced diet and good hygiene are important for humans.

- 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.
- Compare life cycle of a seed and a bulb (Non-Statutory)

- Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.

- Find out how the shapes of objects made from some materials can be changed by squashing, bending, twisting and stretching.
- **Non statutory** - Think about the properties of materials that make them suitable or unsuitable for particular purposes.

NON STATUTORY – FLC
AND
SINKING- PHYSICS
ENCLOSURE 2



The
Ogden
Trust

Year 2

Working Scientifically

☐ **Ask simple questions and recognising that they can be answered in different ways.** eg

Which material is the best to absorb a liquid?

How long does it take for a seed to grow?

☐ **Observing closely, using simple equipment.**

Observe and describe how plants grow from bulbs and seeds.

☐ **Performing simple tests.**

Which material is the best to absorb a liquid?

☐ **Identifying and classifying.**

Which materials float and sink?

☐ **Using their observations and ideas to suggest answers to questions.**

☐ **Gathering and recording data to help in answering questions.**

☐ NON STATUTORY - **Use measures** (within Year 2 mathematical limits) to help find out more about the investigations they are engaged with.

☐ NON STATUTORY - **Use Research** to find out about Dunlop and MacAdam.
Research about habitats.

Year 2 – ENQUIRY TYPE INVESTIGATIONS

				
ALL LIVING THINGS AND THEIR HABITATS Classify things by living, dead or never lived. Living, dead and never alive. How can you tell? ANIMALS, INCLUDING HUMANS - Know the basic stages in a life cycle for animals, (including humans) Can you match the animal to its offspring? (Identify) MATERIALS RRR – Can you find a way of grouping different materials? Can you explain how you have grouped them? MATERIALS/OGDEN TRUST Can you find out which materials float and sink? Can you explain why? 	ALL LIVING THINGS AND THEIR HABITATS Know how a specific habitat provides for the basic needs of things living there . How is an animal's body suited to its habitat? (start off with research using secondary sources) Chn should identify similarities and differences. MATERIALS <i>Which shape is the slowest when it i through a cylinder of water?</i> 	PLANTS Observe and describe how seeds and bulbs grow into mature plants How does a plant change as it grows? (Bean diary) <i>Plant bulbs in Nov/Dec Plant sunflowers in Spring.</i>	MATERIALS Non statutory – Ogden Trust Earth and Space Investigation A – Astronappy PHIZZI FORCES ENQUIRY B – <i>Which plasticine boat shape will hold the largest mass?</i> 	MATERIALS Research and create a fact file about Dunlop and MacAdam. ALL LIVING THINGS AND THEIR HABITATS Choose a habitat and research about that place. Present the information back in class.

Biology			Chemistry	Physics	
Animals, including humans	Plants	Plants	Rocks	Forces	Light
- Skeleton and muscles - Nutrition - Exercise and health	Basic structure and functions (lillies)	- Life cycle - Water transportation (celery/carnation investigation)	- Fossil formation - Compare and group rocks - Sedimentary rocks and their link to fossils	- Different Forces - Magnets	Shadows
- Identify that animals, including humans, need the right types of nutrition and that they cannot make their own food; they get their nutrition from what they eat. - Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	- Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. - Investigate the way which water is transported within plants.	- Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. (grass seed/lillies) - Explore the requirements of plants for life and growth. (air, light, water, nutrients from soil and room to grow) and how they vary from plant to plant.	- Compare and group rocks based on their appearance and physical properties. - Describe in simple terms how fossils are formed when things that have lived are trapped within a rock. (fossils). - Recognise that soils are made from rocks and organic matter. SPACE SOILS – Ogden Trust - Earth and Space Enquiry C  	- Compare how things move on different surfaces. - Know how some forces need contact between two objects, but magnetic forces can act at a distance. - Observe how magnets attract or repel each other and attract some materials and not others. - 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. - Predict whether two magnets will attract or repel each other, depending on which poles are facing.	- Recognise that they need light in order to see things and that dark is the absence of light. - Notice that light is reflected from surfaces. - Know about the danger of direct sunlight and describe how to keep protected. - Recognise that shadows are formed when the light from a light source is blocked by an opaque object. - Find patterns in the way that the size of shadows change.

Year 3

Working Scientifically

☐ **Asking relevant questions and using different types of scientific enquiries to answer them.**

Which materials are magnetic and not magnetic? **(FORCES)**

How do growing conditions affect seed germination? **(PLANTS)**

☐ **Setting up simple practical enquiries, comparative and fair tests.**

What can you do to make the shadow created by a shadow puppet as large as possible? (Fair test) **(LIGHT)**

What materials reflect the most light? (Comparative) **(LIGHT)**

Which types of surface are the most slippery? (Comparative) **(FORCES)**

How can we organise forces into groups? (Identify and classifying). **(FORCES)**

☐ **making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. (LUX app)**

How does water travel up the stem to flowers? **(PLANTS)**

Do shadows change their shape and size throughout the day? **(LIGHT)**

Use data loggers to record light.



☐ **gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.**

Classifying rocks, according to simple physical properties and appearance. **(ROCKS)**

Using research to find out about Mary Anning and Wilhelm Röntgen. **(ROCKS and ANIMALS, INCLUDING HUMANS).**

☐ **recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.**

(Uses measures within the Year 3 mathematical curriculum)

☐ reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.

☐ using results to draw simple **conclusions**, make **predictions** for new values, suggest improvements and raise further questions.

☐ identifying differences, similarities or changes related to simple scientific ideas and processes.

☐ using straightforward scientific evidence to answer questions or to support their findings.

Year 3 – ENQUIRY TYPE INVESTIGATIONS



Pattern seeking



Observing over time



FORCES

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.
Which materials are magnetic or non magnetic? (identify)

ROCKS

Compare and group rocks based on their appearance and physical properties. Classify the rocks according to simple physical properties / appearance (**Classify**)

PHIZZI FORCES - OGDEN TRUST

ENQUIRY D – Making contact

Know how some forces need contact between two objects, but magnetic forces can act at a distance.



PLANTS

Explore the requirements of plants for life and growth. (**air, light, water, nutrients from soil and room to grow**) and how they vary from plant to plant.

How do growing conditions affect seed germination?

PHIZZI FORCES –

OGDEN

TRUST

ENQUIRY E – Attract and repel

Why do magnets sometimes attract and sometimes repel?



PLANTS

Investigate the way which water is transported within plants.

How does water travel up the stem to the flowers?
Use dye, carnations/white roses or celery.

LIGHT

Find patterns in the way that the size of shadows change.
Do shadows change their shape/size throughout the day?

PHIZZI FORCES -

OGDEN

TRUST

ENQUIRY C – Slippy shoes (comparative test) Compare how things move on different surfaces.

LIGHT AND

SOUND –

OGDEN TRUST

ENQUIRY D –

Reflective materials (Comparative test)
LUX DATA LOGGER
ON IPADS NEEDED

LIGHT AND

SOUND –

OGDEN TRUST

ENQUIRY C –

Shadows (Fair test)

OPTIONAL

LIGHT AND

SOUND –

OGDEN TRUST

ENQUIRY E–

Sunglasses
LUX DATA LOGGER
ON IPADS NEEDED



ANIMALS, INCLUDING HUMANS

Research and produce a fact file about Wilhelm Rontgen. (X-rays)

ROCKS

Find out about Mary Anning.

Year 4

Biology		Chemistry	Physics	
Animals, including humans	All living things and their habitats	States of Matter	Electricity	Sound
- Digestive system - Teeth - Food chains	- Grouping living things - Classification keys - Adaptation of living things	- Group and classify materials into Solids, liquids and gases - Water cycle	- Uses of electricity - Simple circuits and switches - Conductors and insulators	- Sound is made through vibrations - Pitch and Volume
- Describe the simple functions of the basic parts of the digestive system in humans. - Identify the different types of human teeth and their simple functions - Construct and interpret a variety of food chains, identify producers, predators and prey	- Recognise that living things can be group in a variety of ways. - Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. - Recognise that environments can change and that this can sometimes pose dangers to living things.	- 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. - Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	- Identify common appliances that run on electricity. Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. - Identify whether or not a lamp will light within a simple series circuit, based on whether or not the 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 simple series circuit. - Recognise some common conductors and insulators and associate metals with being good conductors.	- Identify how sounds are made, associating some of them with vibrating. - Recognise that vibrations from sounds travel through a medium to the ear. - Find patterns between the pitch of a sound and the features of the object that produced it. - 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.

Year 4

Working Scientifically

- ☐ **Asking relevant questions and using different types of scientific enquiries to answer them.**

What happens if I heat or cool an object? **(STATES OF MATTER)**

What happens to puddles when it is sunny? **(STATES OF MATTER)**

- ☐ **Setting up simple practical enquiries, comparative and fair tests.**

How can a string telephone be used to pass on secret messages? **(SOUND) Fair test**

How do sounds change as you move further from the source? **(SOUND Fair test)**

- ☐ **Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.** (Decibel app)

Which liquid is the least healthy for our teeth? **(ANIMALS, INCLUDING HUMANS)**

What happens to the puddles when it is sunny? **(STATES OF MATTER)**

What happens if I heat or cool an object? **(STATES OF MATTER)**

Use data loggers to record sound.



- ☐ **Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.**

Which materials are conductors/insulators? **(ELECTRICITY)** classify

Is it a solid, liquid or gas? **(STATES OF MATTER)** identify

How can we organise objects (animals/plants) based on common observable characteristics? **(ALL LIVING THINGS AND THEIR HABITATS)** identify

- ☐ **Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.**

(Uses measures within the Year 4 mathematical curriculum)

- ☐ **Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.** **RESEARCH (NON STATUTORY)** – About an endangered animal **(ALL LIVING THINGS AND THEIR HABITATS)**

Find out about the water cycle **(STATES OF MATTER)**

Find out about a famous scientist **(ELECTRICITY)**

- ☐ **Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.**

Begin to identify anomalies on data.

- ☐ **Identifying differences, similarities or changes related to simple scientific ideas and processes.**

- ☐ **Using straightforward scientific evidence to answer questions or to support their findings.**

Year 4 – ENQUIRY TYPE INVESTIGATIONS



ELECTRICITY

Recognise some common conductors and insulators and associate metals with being good conductors. Which materials are conductors/insulators? **(Classify)**

STATE OF MATTER

Compare and group materials together, according to whether they are solids, liquids or gases. Is it a solid, liquid or gas? **(identify)**

ALL LIVING THINGS AND THEIR HABITATS

Recognise that living things can be group in a variety of ways. How can we organise objects (animals/plants) based on common observable characteristics? **(identify)**

**SOUND
OGDEN TRUST
ENQUIRY F –**

Sound circus
*Decibel X DATA LOGGER
ON IPADS NEEDED*



**SOUND
OGDEN TRUST –
ENQUIRY H –**

Pitch perfect
*Decibel X DATA LOGGER
ON IPADS NEE*



ANIMALS, INCLUDING HUMANS

Identify the different types of human teeth and their simple
Which liquid is the least healthy for our teeth?

STATES OF MATTER

Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.
What happens to the puddles when it is sunny?

STATES OF MATTER

Observe that some materials change state when they are heated or cooled.
What happens if I heat or cool an object?

**SOUND
OGDEN TRUST –
ENQUIRY H – String
telephones**

Fair test



How can a string Telephone be used to pass on secret messages?

**SOUND
OGDEN TRUST –
ENQUIRY H – Can you
hear me? Fair test**



How do sounds change as you move further from the source?

ALL LIVING THINGS AND THEIR HABITATS

Recognise that environments can change and that this can sometimes pose dangers to living things. Research about an endangered animal.

STATES OF MATTER

Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. Use research to find out about the water cycle

ELECTRICITY

Find out about a famous Scientist. Thomas Eddison.

Research about Tesler.

Year 5

Biology

Chemistry

Physics

All living things and their habitats

Animals, including humans

Properties and changes in materials

Forces

Earth and Space

- Life cycles
- Reproductive processes
- Famous naturalist

- Changes as humans develop from birth to old age

- Soluble/ dissolving
- Reversible and irreversible changes

- Gravity
- Friction
- Forces and motion of mechanical devices

- Movement of the Earth and the planets
- Movement of the Moon
- Night and day

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

- Describe that changes as humans develop to old age.

- Compare and group together everyday materials on the basis of their properties (e.g. hardness, solubility, transparency, conductivity, [electrical & thermal], and response to magnets.
- Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.
- Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.
- Give reasons based on evidence from comparative and fair tests for the particular uses of everyday materials, including metals, wood and plastic.
- Demonstrate that dissolving, mixing and changes of state are reversible.
- 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.

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

- Describe that movement of the Earth and other planets relative to the Sun in the solar system.
- Describe the movement of the Moon relative to the Earth.
- Describe the Sun, Earth and Moon (using the term spherical).
- Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.

Year 5

Working Scientifically

- ☐ **planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.**

How can we group materials properties? **(PROPERTIES AND CHANGES IN MATERIALS)** Classify and grouping)

Is there a relationship between a mammal's size and its gestation period? **(ALL LIVING THINGS AND THEIR HABITATS)**

Controlling variables links to the fair tests and comparative data.

- ☐ **taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.**

Thermal conductors investigation – Using thermometers to record the temperature.

(PROPERTIES AND CHANGES IN MATERIALS)

MEASUREMENTS LINKED TO THE YEAR 5 CURRICULUM.

- ☐ **recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.**

Look at data and identify any anomalies. Give reasons why this might have happened. Look at repeating some investigations.

- ☐ **using test results to make predictions to set up further comparative and fair tests.**

Parachute landing investigation (FAIR TEST)

Balloon race (COMPARATIVE TEST)

Planetary landings (COMPARATIVE TEST)

Simple machines (COMPARATIVE TEST)

- ☐ **reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations.**

RESEARCH (NON STATUTORY) – Research about the solar system. **(Earth and Space)**

Find out about Jane Goodall **(ALL LIVING THINGS AND THEIR HABITATS)**

Find out about Isaac Newton **(FORCES)**

- ☐ **identifying scientific evidence that has been used to support or refute ideas or arguments.**

Year 5 – ENQUIRY TYPE INVESTIGATIONS

Identifying,
classifying
& grouping



PROPERTIES AND CHANGES IN MATERIALS

Compare and group together everyday materials on the basis of their properties (e.g. hardness, solubility, transparency, conductivity, [electrical & thermal], and response to magnets. How can we group materials based on their property? **(Classify/group)**

Pattern seeking



ALL LIVING THINGS AND THEIR HABITATS

Describe the differences between different life cycles of a mammal, an amphibian, an insect and a bird. Is there a relationship between a mammal's size and its gestation period?

Observing over time



EARTH AND SPACE/PROPERTIES AND CHANGES IN MATERIALS

Thermal conductors

OGDEN TRUST – ENQUIRY D – (old book)



EARTH AND SPACE OGDEN TRUST – ENQUIRY F –



Describe the movement of the Moon relative to the Earth. Does the moon really change shape?

Comparative & fair testing



FORCES OGDEN TRUST – ENQUIRY G –



Balloon race (Comparative test) Identify and know the effect of air resist

EARTH AND SPACE/FORCES OGDEN TRUST – ENQUIRY E



Parachutes FAIR TEST) Explain that unsupported objects fall towards that Earth because of the force of gravity acting between the Earth and the falling object.

FORCES OGDEN TRUST – ENQUIRY I –



Planetary landing (comparative test) Identify and know the effect of water resistance.

FORCES OGDEN TRUST – ENQUIRY J –



Simple machines (Comparative test) Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller forces to have a greater effect.



FORCES

Research about Isaac Newton.

EARTH AND SPACE
Research about the History of the solar system.

ALL LIVING THINGS AND THEIR HABITATS
Find out about Jane Goodall.

ANIMALS INCLUDING HUMANS

Year 6

Biology			Physics	
Animals, including humans	Living things and their habitats	Evolution and Inheritance	Electricity	Light
<i>The circulatory system</i> <i>Water transportation</i> <i>Impact of exercise on body</i>	<i>Classification of living things and the reasons for it</i> <i>Carl Lineus</i>	<i>Identical and non identical off-spring</i> <i>Fossil evidence and evolution</i> <i>Adaptation and evolution</i>	<i>Electrical components</i> <i>Simple circuits</i> <i>Fuses and voltage</i>	<i>How light travels</i> <i>Reflection</i>
- Identify and name the main parts of the human circulatory system and describe the functions of the heart, blood vessels and blood. - Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. - Describe the ways in which nutrients and water are transported in animals, including humans.	- 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.	- Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Know how fossils can be used to find out about the past - Recognise that living things produce offspring of the same kind, but normally offspring 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.	- 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 the reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. - Use recognised symbols when representing a simple circuit diagram.	- Recognise that light appears to travel in straight lines. - 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. - 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. - Know why shadows have the same shape as the object that casts them - Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

Year 6

Working Scientifically

- ❑ **planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.**

How can we group materials properties? **(PROPERTIES AND CHANGES IN MATERIALS)** Classify and grouping)

Is there a relationship between a mammal's size and its gestation period? **(ALL LIVING THINGS AND THEIR HABITATS)**

Controlling variables links to the fair tests and comparative data.

- ❑ **taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.**

Using the data loggers to record light and sound. (Use the LUX and decibel apps)

(ELECTRICITY AND LIGHT)

MEASUREMENTS LINKED TO THE YEAR 6 CURRICULUM.

Look at data and identify any anomalies. Give reasons why this might have happened. Look at repeating some investigations. Continued from the Year 5 objectives.



- ❑ **recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.**

- ❑ **using test results to make predictions to set up further comparative and fair tests.**

Turn it up(FAIR TEST) **(ELECTRICITY)**

Christmas lights (FAIR TEST) **(ELECTRICITY)**M

- ❑ **reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations.**

RESEARCH (NON STATUTORY) – Research about Carl Lineaus **(ALL LIVING THINGS AND THEIR HABITATS)**

What impact has Charles Darwin had on how we think about evolution? **(EVOLUTION AND INHERITANCE)**

Research about the peppered moth **(EVOLUTION AND INHERITANCE)**

- ❑ **identifying scientific evidence that has been used to support or refute ideas or arguments.**

Year 6 – ENQUIRY TYPE INVESTIGATIONS

				
LIVING THINGS AND THEIR HABITATS Can you use a classification key to identify plants and animals in the local environment? (POND DIPPING)	ANIMALS, INCLUDING HUMANS Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. How does exercise effect your heart rate? LIVING THINGS AND THEIR HABITATS Are all plants/animals adapted to their habitat? EVOLUTION AND INHERITANCE How do the skulls of horses show they have evolved over time? ELECTRICITY OGDEN TRUST - ENQUIRY E – Bright lights Compare and give the reasons for variations in how components function, including the brightness of bulbs.	LIVING THINGS AND THEIR HABITATS observable characteristics and based on similarities and differences, including micro-organisms, What conditions are needed for bread to go mouldy? LIGHT OGDEN TRUST – ENQUIRY I – Sun shadows Recognise that light appears to travel in straight lines. 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. LIGHT OGDEN TRUST – ENQUIRY J – Up periscope	ELECTRICITY OGDEN TRUST – ENQUIRY G– Christmas lights 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. ELECTRICITY OGDEN TRUST – ENQUIRY H– Turn it up (FAIR TEST) Compare and give the reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.	LIVING THINGS AND THEIR HABITATS Research about Carl Lineaus. EVOLUTION AND INHERITANCE What impact has Charles Darwin had on how we think about evolution? EVOLUTION AND INHERITANCE Research about the peppered moth.