



SS John Fisher & Thomas More Catholic Primary School

A Voluntary Academy



Year Group: Year 6	Term: Autumn 1	Topic: Animals Including Humans
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National Curriculum Links
 Pupils in Key Stage Two should be taught to:

- 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 within animals, including humans

Working Scientifically

- plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- use test results to make predictions to set up further comparative and fair tests
- report and present 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
- identify scientific evidence that has been used to support or refute ideas or arguments.

Prior Learning	Future Learning
<ul style="list-style-type: none"> • Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. (Y2 - Animals, including humans) • 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. (Y3 - Animals, including humans) • Describe the simple functions of the basic parts of the digestive system in humans. (Y4 - Animals, including humans) • Identify the different types of teeth in humans and their simple functions. (Y4 - Animals, including humans) 	<ul style="list-style-type: none"> • The consequences of imbalances in the diet, including obesity, starvation and deficiency diseases. (KS3) • The effects of recreational drugs (including substance misuse) on behaviour, health and life processes. (KS3) • The structure and functions of the gas exchange system in humans, including adaptations to function. (KS3) • The mechanism of breathing to move air in and out of the lungs. (KS3) • The impact of exercise, asthma and smoking on the human gas exchange system. (KS3)

Common Misconceptions

Some children may think:

- your heart is on the left side of your chest
- the heart makes blood
- the blood travels in one loop from the heart to the lungs and around the body
- when we exercise, our heart beats faster to work the muscles more
- some blood in our bodies is blue and some blood is red
- we just eat food for energy
- all fat is bad for you
- all dairy is good for you
- protein is good for you, so you can eat as much as you want
- foods only contain fat if you can see it
- all drugs are bad for you.

Sustainable Development Goals & Catholic Social Teaching

These Sustainable Development Global Goals would be perfect to fit with this unit of learning

Add your activities here



These Catholic Social Teaching strands would be perfect to fit with this unit of learning:

- Add your activities here

Applied Write Opportunities

- Our bodies are incredible (see lesson 6)
- How the respiratory system works (see lesson 3)

Enrichment Opportunities

Assessment Opportunities

- Use the role play model to explain the main parts of the circulatory system and their role
- Can use subject knowledge about the heart whilst writing conclusions for investigations

- Can explain both the positive and negative effects of diet, exercise, drugs and lifestyle on the body
- Present information e.g. in a health leaflet describing impact of drugs and lifestyle on the body

Key Vocabulary

Tier Two:

heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs, lifestyle, Caffeine, Tobacco, Inhalants, Alcohol, Cannabis, Aorta, Arteries, Capillaries, Veins, Organ, Inhale, Exhale White blood cells Red blood cells Platelets Plasma Nutrients Hormones



Tier Three:

Septum, Atrium



Knowledge and Skills Objectives	Activity	Differentiation
<p><u>Lesson One</u> I understand the functions and importance of blood.</p> <p>Add w/s here</p>	<p>Children to watch video on blood, looking at how blood moves around the body. (BBC bitesize)</p> <p>Children to then see PPT about four functions of blood and how they support the body.</p> <ul style="list-style-type: none"> -plasma -white blood cells -red blood cells -platelets <p>Children to understand each different function of blood and its role within the body .</p> <p>For example, red blood cells are like postmen, they drop off oxygen. Plasma has nutrient and hormones. White blood cells are like policemen stopping bacteria and viruses etc.</p> <p>Children to watch class experiment with fruit, oil and water. This is an example of what can be seen under a microscope and what we see.</p> <p>Explain to children that when you look at blood through a microscope you see all the different cells. But when we see blood we just see red (almost like water) liquid. So when we blend the fruit (platelets, WBC, RBC) and oil (Plasma) together that's blood that we see. But before blending this is what is under a microscope.</p>	<p><u>SEN -</u></p> <p><u>LA -</u> Draw pictures with labels</p> <p><u>MA -</u> Draw pictures with sentence explaining what the function is</p> <p><u>HA -</u> Draw pictures explain what each component is and how they work make reference to how they work together.</p> <p>All children to draw and explain what each function of blood is and how it works within the body.</p>
Knowledge and Skills Objectives	Activity	Differentiation

<p><u>Lesson Two</u> I can understand the hearts role within the human body and its functions.</p> <p>Add w/s here</p>	<p>Recap previous lesson about blood and the role blood plays within the body see lesson1.</p> <p>Explain to children that everytime the heart beats it is sending blood around the body (WBC, RBC, plasma, platelets). Ask children to put hand on chest and feel heart beating. The heart never stops which makes it an amazing organism.</p> <p><u>The heart</u> Four chambers, each chamber is blood filled and has a different role. Draw this for them to see. Two chambers: Atria (both together called atrium). These are located top sides from each other. Left atrium and right atrium.</p> <p>Two chambers: Ventricles (left and right) their job is to squirt out blood which travels to body and lungs. These two chambers are split in half by the septum (thick mucus).</p>	<p><u>SEN -</u></p> <p><u>LA</u> - Children to have picture of heart in books and be able to label the heart.</p> <p><u>MA</u> - Children to have picture of heart in books and be able to label the heart.</p> <p><u>HA</u> - Children to have picture of heart in books and be able to label the heart. Write an explanation as to how the heart and blood link together.</p>
Knowledge and Skills Objectives	Activity	Differentiation
<p><u>Lesson Three</u> I understand how the respiratory system works.</p> <p>Add w/s here</p>	<p>Children should understand that the respiratory system is the main system that allows oxygen to travel around the body, to vital organs and muscles. Chn should make links to RBC for this.</p> <p>Teach chn that oxygen is taken to and from the lungs by the inhaling and exhaling that we do daily. Oxygen is taken during inhaling and carbon dioxide (waste gas) is let out during exhaling.</p> <p>Make reference to the nose and mouth.</p> <p>Experiment with balloon and plastic bottle to show how this works. As the balloon fills to with oxygen that is the lungs getting bigger. Then release the balloon into a plastic bottle so</p>	<p><u>SEN -</u></p> <p><u>LA</u> - write own paragraph about the respiratory system explaining its importance for humans and animals. (heavily guided layout worksheet and diagrams)</p> <p><u>MA</u> - write own paragraph about the respiratory system explaining its importance for humans and animals.</p>

	<p>that children can see the 'condensation' (oxygen) land on the bottle this is what happens to our bodies. Fill balloon up again and just release in the air (carbon dioxide) leaving the body.</p> 	<p>HA – write own paragraph about the respiratory system explaining its importance for humans and animals. Make links to coughing and sneezing (these help the respiratory system stay clean and not blocked)</p> <p>Ask children to write up what happened during experiment. (stick pic collage in books).</p> <p>Give children chance to explain how the respiratory system links with the last 2 lessons on blood and heart. They should be able to make the link between how they all work together to create one big system. Eg RBC picking up oxygen.</p>
Knowledge and Skills Objectives	Activity	Differentiation
<p><u>Lesson Four</u> I know the impact that diet and exercise has on the body.</p> <p>Linked to PE & PSHE</p>	<p>Children to explore how diet and exercise impacts the body. They should use previous knowledge about how the circulatory system works and the impact that a healthy lifestyle plays.</p> <p>The most important area of this lesson is to create a positive body image for children. Using Ten Ten resources about peer pressure. Children need to explore both the negative and positive effects of diet.</p> <p><i>discuss that children aged 7-10 needs lots of energy and nutrients because they're still growing. Average 10-year-old</i></p> 	<p>No differentiation.</p> <p><u>Ideas</u></p> <ul style="list-style-type: none"> -Children to create their own healthy lunch. -Create a questionnaire to ask children in the school about healthy lifestyle (research and then write up results). -Design a menu – Mr Hemington to pick winning menu based of healthy choices. -Design a poster about positive Body images.

	<i>boys: 2032 calories; girls 1936 cal. But this depends on how active they are. Men – 2500; women 2000.</i>	
Knowledge and Skills Objectives	Activity	Differentiation
<u>Lesson Five</u> I understand the impact drugs has on the bodies functions/ <u>Add w/s here</u> Linked to PE & PSHE	For this lesson we are using a plan created my IMatters which we used last year as part of a pilot lesson. Children responded well. See plan attached at bottom called lesson 5.	<u>Group work</u> Children create a presentation around how substances can impact our bodies. A poster to display the impacts.
Knowledge and Skills Objectives	Activity	Differentiation
<u>Lesson Six</u> I understand how nutrients and water is carried within animals. <u>Add w/s here</u>	<u>Our bodies are incredible</u> To look at how animals and humans adapt depending on where they live. This lesson is based around a research task in which children will be asked to create a report based on the title above 'OBAL' . Children will have the opportunity to research one animal or human that has pushed their bodies to do some incredible feats. E.G Wim Hof, Usain Bolt, Mo Farah (humans), animals, elephants, camels, eagle. Think about how their bodies have adapted to their job or environment.	<u>SEN -</u> <u>LA -</u> <u>MA -</u> <u>HA -</u> Add differentiation

Types of Drugs - Year 6 - Lesson 5

PSHE Programme of Study Links:

KS2 H17. Which, why and how, commonly available substances and drugs (including alcohol, tobacco and 'energy drinks') can damage their immediate and future health and safety; that some are restricted and some are illegal to own, use and give to others.

Learning Objectives:

- To know which, why and how, commonly available drugs can damage health and safety and the law relating to these.

Time	Session Outline	Slide	Learning Outcomes	Resources
			Learners will be able to:	
5	Introduce the topic to pupils, explaining that they will be learning about how some drugs affect health and safety and how some are legal/illegal to own or give to others. Clarify that there is understanding amongst pupils about what is legal/illegal. You may wish to invite pupils to share examples of legal/illegal/prescription medicines that they have heard of.		Setting the scene	
25	Divide the class into small groups and explain that each group will be working as a team to research a drug and prepare a presentation about the effects of the drug. You may wish to give pupils copies of a body outline for them to record their ideas or you may wish to ask them to use ICT to prepare a presentation. Give each group a different drug card set to support their research.		<ul style="list-style-type: none"> Identify some common effects of some commonly used drugs. 	Body boards
30	Invite pupils to take turns in presenting to their peers. Ask pupils that are listening to the presentations to choose 3 facts that they feel are important to know and record it on the Drugs Worksheet.		<ul style="list-style-type: none"> Develop and present to peers (as part of a team) about the effects of one commonly available drug. 	Drugs Worksheet



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A Voluntary Academy



Year Group: Year 6	Term: Spring 2	Topic: Electricity
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National Curriculum Links

Pupils in Key Stage Two should be taught to:

- 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
- use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

Working Scientifically

- plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- use test results to make predictions to set up further comparative and fair tests
- report and present 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
- identify scientific evidence that has been used to support or refute ideas or arguments.

Prior Learning	Future Learning
<ul style="list-style-type: none"> • Recognise that they need light in order to see things and that dark is the absence of light. (Y3 - Light) • Notice that light is reflected from surfaces. (Y3 - Light) • Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. (Y3 - Light) • Recognise that shadows are formed when the light from a light source is blocked by an opaque object. (Y3 - Light) • Find patterns in the way that the size of shadows change. (Y3 - Light) • Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, 	<ul style="list-style-type: none"> • The similarities and differences between light waves and waves in matter. (KS3) • Light waves travelling through a vacuum; speed of light. (KS3) • The transmission of light through materials: absorption, diffuse scattering and specular reflection at a surface. (KS3) • Use of ray model to explain imaging in mirrors, the pinhole camera, the refraction of light and action of convex lens in focusing (qualitative); the human eye. (KS3) • Light transferring energy from source to absorber leading to chemical and electrical effects; photo-sensitive material in the retina and in cameras. (KS3)

conductivity (electrical and thermal), and response to magnets. (Y5
- Properties and changes of materials)

- Colours and the different frequencies of light, white light and prisms (qualitative only); differential colour effects in absorption and diffuse reflection. (KS3)

Common Misconceptions

Some children may think:

- we see objects because light travels from our eyes to the object.

Sustainable Development Goals & Catholic Social Teaching

Global Goals

This global goal would be perfect to fit with this unit of learning:

- Add your activities here



Catholic Social Teaching

- Add your activities here

Applied Write Opportunities

- Humphry Davy – biography on Davy who invented the light bulb.
- Instructional text on how to create a circuit.

Enrichment Opportunities

Assessment Opportunities

- Can explain how evidence from enquiries shows that light travels in straight lines
- Can predict and explain, with diagrams or models as appropriate, how the path of light rays can be directed by reflection to be seen, e.g. the reflection in car rear view mirrors or in a periscope
- Can predict and explain, with diagrams or models as appropriate, how the shape of shadows can be varied

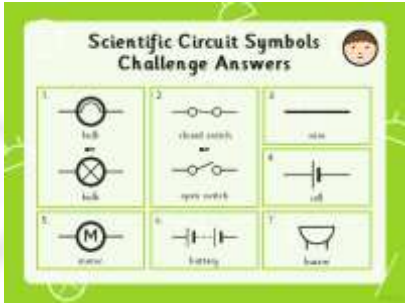
Key Vocabulary


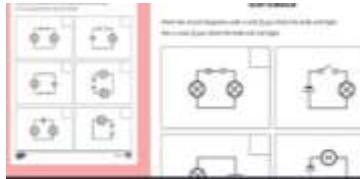
Tier Two:

bulbs, cell, battery, buzzers, investigation, plan, fair test, wire, length, wires, switch, scientific,

Tier Three:

motor, informal, circuit, comparative test

Knowledge and Skills Objectives	Activity	Differentiation
<p><u>Lesson 1:</u> I can use recognised symbols when representing a simple circuit in a diagram.</p> <p>Add w/s here</p>	<p>Circuits: What is a circuit? What parts do all circuits contain? Can you draw a circuit which includes a bulb? All children draw a circuit containing a bulb on a whiteboard.</p> <p>Circuit Diagram: Reveal a correct circuit diagram. How close is your drawing to this one? What did you miss out? Is there anything about this circuit diagram you don't remember or understand?</p> <p>Address misconceptions and issues that arise. Battery or Cell? State that they will be learning the scientific symbols for parts of a circuit in this lesson.</p> <p>Explain that there are different drawings for 'battery' and 'cell' and highlight the differences between them. Scientific Circuit Symbols: Show children the symbols they would have used in Year 4 and explain that these were informal rather than scientific symbols.</p> <p>On the presentation, children match the informal and scientific symbols used to draw circuit diagrams. Show children the correct symbols.</p> <p>Circuit Symbols Memory Test: Children work in pairs. All circuit symbols are shown on the Lesson Presentation.</p>	<p>Add clear differentiation and outline of activity</p> <p>Complete the following sheet:</p> 

	Children to be given a minute to memorise them. Their partner will select one of the physical Circuit Symbols Memory Cards and ask their partner to draw it. Children take it in turns to test each other.	
Knowledge and Skills Objectives	Activity	Differentiation
<p><u>Lesson 2</u> I can understand key vocabulary.</p> <p>Is this an LO?</p> <p>Add w/s here</p>	<p>Chn to learn the key vocabulary they will need for this topic. At the back of CLJ book there is a key vocab sheet. Children should be able to tick this off by the end of lesson.</p> <p>Chn to define each part of an electrically circuit and understand its purpose within a circuit.</p> <p>They will be able to identify the symbols and link the symbols to the definitions using sheet provided. See powerpoint</p>	<p>Key voab: Cell, switch, bulb, motor, buzzer, wire, conductor, insulator, circuit</p>  <p>https://www.bbc.co.uk/bitesize/topics/z2882hv/articles/zcwnv9g https://www.bbc.co.uk/bitesize/topics/zq99q6f/articles/zt8vg82 https://www.bbc.co.uk/bitesize/topics/z2882hv/articles/zxv482p</p> <p>What is the task and what is the differentiation?</p>
Knowledge and Skills Objectives	Activity	Differentiation
<p><u>Lesson 3</u> I can give reason and compare why circuits do and do not work.</p> <p>Add w/s here</p>	<p>Chn to compare pictures of circuits, each of the 6 circuits has a different amount of functions.</p> <p>Why might one circuit work better than another? Will the circuit work or not? Why? What about the Cells within the circuit does this influence the loudness of motor, movement or light? If the circuit is incomplete will this have an effect?</p> <p>Is this substantial for a 2 hour lesson?</p>	<p>Key vocab:</p>  <p>Components, function, Cell, switch, bulb, motor, buzzer, wire, conductor, insulator, circuit</p> <p>Are all children expected to do this? How do you challenge the HA?</p>

Knowledge and Skills Objectives	Activity	Differentiation																																				
<p><u>Lesson 4</u> I can identify hazards within my home.</p> <p>Add w/s here</p> <p>PSHE – UIP</p>	<p>Chn to identify the risks of electricity within their homes. Show chn picture of rooms within a house and ask them to identify the risks which they might come across associated with electricity. Eg. Water bottle on the tele. Straighteners plugged in. Get chn to TTYP about their own home. Then identify risks on sheet. Under sheet get children to write how they could prevent risks in their home.</p>	<p>Add differentiation here</p>																																				
Knowledge and Skills Objectives	Activity	Differentiation																																				
<p><u>Lesson 5</u> I can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells.</p>	<p>Current and Voltage: Watch this BBC video about current and voltage. State the main points related to current and voltage.</p> <p>How Many Volts? Allow children to examine a range of different batteries and check the number of volts each one supplies.</p> <p>Labelling Volts: Show children a circuit diagram with the volts labelled. Discuss the location of the label and how to label a battery containing multiple cells, as opposed to a single cell.</p> <p>What Difference Do the Volts Make? Make predictions together about what will happen to a bulb, motor or buzzer depending on the voltage of the cell or battery. Discuss what difference they would expect (e.g. bulb will get brighter, it will increase in brightness, the brightness will stay the same). Model one example using a bulb, including how to draw the circuit diagram of each step with volts labelled accurately.</p> <p>Observing the Effect of Volts: In mixed ability pairs, children obtain the appropriate equipment and record their observations and circuit drawings on the Volts Activity Sheet.</p>	<p>Add differentiation here</p> <table border="1" data-bbox="1563 820 2078 1102"> <tbody> <tr> <td> bulb</td> <td> 0V</td> <td> 1.5V</td> <td> 3.0V</td> </tr> <tr> <td> Prediction</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Results</td> <td></td> <td></td> <td></td> </tr> <tr> <td> bulb</td> <td> 0V</td> <td> 1.5V</td> <td> 3.0V</td> </tr> <tr> <td> Prediction</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Results</td> <td></td> <td></td> <td></td> </tr> <tr> <td> bulb</td> <td> 0V</td> <td> 1.5V</td> <td> 3.0V</td> </tr> <tr> <td> Prediction</td> <td></td> <td></td> <td></td> </tr> <tr> <td> Results</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	bulb	0V	1.5V	3.0V	Prediction				Results				bulb	0V	1.5V	3.0V	Prediction				Results				bulb	0V	1.5V	3.0V	Prediction				Results			
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	<p>Appropriate Volts: What would happen to an electrical appliance that requires 3V if it were powered by 5V cell or battery? Discuss as a whole class.</p>							
<p><u>Lesson 6 - Investigation Part 1</u></p> <p>I can understand variations in how components function.</p> <p>Add all w/s here</p> <p>I can plan an investigation.</p>	<p>Length: Does wire length affect how components in a circuit work?</p> <p>Children discuss the question with their talk partners and feed back.</p> <p>Planning Your Investigation: Outline the three different types of scientific enquiries they can choose from. Which are? Address any misconceptions or errors.</p> <p>Investigation: All children select a type of enquiry and plan their investigation using the differentiated Electricity Investigation Activity Sheets.</p> <p>More detail required</p>	<p>Are all children doing this? How? Mixed pairs? Groups?</p> <p>I can plan an investigation to understand variations in how components function.</p> <p>Practical Enquiry</p> <p>Key Words bulb, cell, battery, buzzer, wire, length, junction, components, variation</p> <p>Question: Does wire length affect how components in a circuit work?</p> <p>Prediction: _____</p> <p>Equipment: Tick the equipment you will need</p> <table border="0"> <tr> <td><input type="checkbox"/> bulb</td> <td><input type="checkbox"/> battery</td> </tr> <tr> <td><input type="checkbox"/> buzzer</td> <td><input type="checkbox"/> switch</td> </tr> <tr> <td><input type="checkbox"/> wires (short)</td> <td><input type="checkbox"/> wires (long)</td> </tr> </table> <p>Method: _____</p>	<input type="checkbox"/> bulb	<input type="checkbox"/> battery	<input type="checkbox"/> buzzer	<input type="checkbox"/> switch	<input type="checkbox"/> wires (short)	<input type="checkbox"/> wires (long)
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<input type="checkbox"/> buzzer	<input type="checkbox"/> switch							
<input type="checkbox"/> wires (short)	<input type="checkbox"/> wires (long)							
<p>Knowledge and Skills Objectives</p>	<p>Activity</p>	<p>Differentiation</p>						

Lesson 7 - Investigation Part

2

What is the LO?

Add all the w/s here

I can record my data and report my findings

Investigation: Children given their Electricity Investigation Activity Sheet and given time to read and edit if necessary.

Degree of Trust: Define what degrees of trust are. Discuss the different criteria. Which of these should you bear in mind while conducting your investigation? What will you do to ensure you can have a high degree of trust in your results?

Conducting the Investigation: Discuss the important points relating to how the investigation should be conducted. Children to create a table to record their results before conducting the investigation.

Reporting Findings: Children use the Electricity Reporting Activity Structure to report their findings - no sheet needed.

Are all children able to access this?

How do you plan to challenge the HA?



The form is titled "Electricity Reporting" and includes a header for a name and a date. It contains several sections with horizontal lines for writing: "Who your prediction correct?", "Conclusion:", "In what way did you establish a high degree of trust in your results? Explain", "What else can you do to establish a high degree of trust in your results?", and "What would you do differently next time?".



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Year Group: Year 6	Term: Spring 2	Topic: Evolution and inheritance
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National Curriculum Links

Pupils in Key Stage Two should be taught to:

- recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago
- 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.

Working Scientifically

- plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- use test results to make predictions to set up further comparative and fair tests
- report and present 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
- identify scientific evidence that has been used to support or refute ideas or arguments.

Prior Learning	Future Learning
<ul style="list-style-type: none"> • 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. (Y2 - Living things and their habitats) • Notice that animals, including humans, have offspring which grow into adults. (Y2 - Animals, including humans) • Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. (Y3 - Plants) Describe in simple terms how fossils are formed when things that have lived are trapped within rock. (Y3 - Rocks) • Recognise that environments can change and that this can sometimes pose dangers to living things. (Y4 - Living things and their habitats) <p>Describe the life process of reproduction in some plants and animals. (Living things and their habitats - Y5)</p>	<ul style="list-style-type: none"> • Heredity as the process by which genetic information is transmitted from one generation to the next. (KS3) • A simple model of chromosomes, genes and DNA in heredity, including the part played by Watson, Crick, Wilkins and Franklin in the development of the DNA model. (KS3) • The variation between species and between individuals of the same species means some organisms compete more successfully, which can drive natural selection. (KS3) • Changes in the environment may leave individuals within a species, and some entire species, less well adapted to compete successfully and reproduce, which in turn may lead to extinction. (KS3)

Common Misconceptions

Some children may think:

- your heart is on the left side of your chest
- the heart makes blood
- the blood travels in one loop from the heart to the lungs and around the body
- when we exercise, our heart beats faster to work the muscles more
- some blood in our bodies is blue and some blood is red
- we just eat food for energy
- all fat is bad for you
- all dairy is good for you
- protein is good for you, so you can eat as much as you want
- foods only contain fat if you can see it
- all drugs are bad for you.

Sustainable Development Goals & Catholic Social Teaching

These Sustainable Development Global Goals would be perfect to fit with this unit of learning:

These Catholic Social Teaching strands would be perfect to fit with this unit of learning:

Assessment Opportunities

- Can explain the process of evolution
- Can give examples of how plants and animals are suited to an environment

- Can give examples of how an animal or plant has evolved over time e.g. penguin, peppered moth
- Give examples of living things that lived millions of years ago and the fossil evidence we have to support this
- Can give examples of fossil evidence that can be used to support the theory of evolution

Applied Write Opportunities	Enrichment Opportunities
<ul style="list-style-type: none"> • To write a biography about Charles Darwin. • Create a website about a range of different animals and how they have adapted – computing 	

Key Vocabulary

Tier Two:
soils, sandstone, crystals, animals, herbivore, omnivore, carnivore, bones, skeletons, fossils, adaption,

Tier Three:
evolution, characteristics, reproduction, genetics



Knowledge and Skills Objectives	Activity	Differentiation
<p><u>Lesson 1</u> I can understand the importance of fossils.</p> <p>Add the W/S that you are developing in this lesson</p>	<p>Children should be able to identify why fossils are important and how they have enabled scientists to figure out what happened years ago.</p> <p>Allow time during this lesson to retrieve previous knowledge from LKS2.</p> <p>By the end of the lesson children will be able to answer the question what is a fossil and why are the important?</p> <p>Task 1: Watch video https://www.nhm.ac.uk/discover/how-are-fossils-formed.html</p> <p>Allow children to record notes on paper or white boards.</p> <p>P1 & P2 describe the stages of how a fossil is created e.g</p> <ol style="list-style-type: none"> 1. The animal dies. 2. Soft parts of the animal's body, including skin and muscles, start to rot away. Scavengers may come and eat some of the remains. 3. Before the body disappears completely, it is buried by sediment - usually mud, sand or silt. Often at this point only the bones and teeth remain. 4. Many more layers of sediment build up on top. This puts a lot of weight and pressure onto the layers below, squashing them. Eventually, they turn into sedimentary rock. 5. While this is happening, water seeps into the bones and teeth, turning them to stone as it leaves behind minerals. <p>This process can take thousands or even millions of years.</p> <p>Task 2: Children to stick in how a fossil is made work sheet and match up the sequences. Creating a booklet to stick in books.</p>	<p>LA to have a simple zig zag booklet to stick in.</p> <p>HA to be able to summarise how a fossil is made in writing</p> <p>Add a WAGOLL</p>
Knowledge and Skills Objectives	Activity	Differentiation

Lesson 1 (continued)

I can understand key words and use them in context.

See knowledge organiser

Add the W/S that you are developing in this lesson

Chn must learn and understand what key vocabulary they will come across in this unit. So that they can use these words in context with their own work. Children to create their own knowledge organise / glossary.

More lesson structure needed.
Add retrieval activities for example.

offspring	The young animal or plant that is produced by the reproduction of the species.
inheritance	How the genetic characteristics are passed on to offspring from their parents.
variation	The differences between individuals within a species.
adaptation	The characteristics, processes or qualities that are specific to a habitat.
habitat	A habitat is a place for an organism to live. It is the surrounding environment in which the organism lives and reproduces.
habitat	Places in a specific area or place in which animals, plants and plants live.
environment	An environment consists of living and non-living things that affect the living and non-living things.

Offspring
Inheritance
Variation
Characteristic adaptation habitat environment

What are the expectations of all pupils?

Knowledge and Skills Objectives

Activity

Differentiation

Lesson 2:

I can understand adaptation.

Add the W/S that you are developing in this lesson

Animals or plants feature are suited to its habitat and to the type of food and environment it lives in – habitat.

What is a habitat?

A place a plant or animal lives. Can we name any?

Carnivores eat meat.

Herbivores eat plants.

Omnivores eat both.

Some animals are adaptable (which is great) it means they can move around and live in different places and climates, others are less so.

<https://www.youtube.com/watch?v=ZT8YswmQuAg> – watch video on Flamingo.

Can you think of any adaptable animals?

Cats, dogs, red foxes,

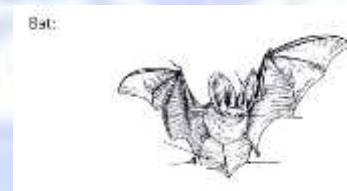
Understand how animals adapt to stay within their habitat (explore that some animals migrate).

To be able to discuss how animals have adapted over time.

The otter:

The badger:

The bats:



Show children pictures of animals in groups and allow them time to write the features of these animals.

This to be done in groups.


Show children answers and then in books recall three things about the animals next to pictures.


Plenary:

Describe each animal in 15 words or less verbal.

LA - To have picture of a common animal that they will be able to identify traits of. Such as a cat or dog.

HA to be able to explain what adaptation is and retrieve three facts about an animal.

Knowledge and Skills Objectives	Activity	Differentiation
<p><u>Lesson 3:</u> I can understand that creatures adapt to their habitat.</p> <p>Add the W/S that you are developing in this lesson</p>	<p>Recap: what is a fossil? What is adaptation? Give children some key vocabulary from previous lesson and ask them to write a power paragraph using the words (knowledge organiser can be used).</p> <p>Chn to look at pictures and film clips, talk about which animals might live where, what makes that habitat liveable for that animal.</p> <p>https://www.youtube.com/watch?v=B_73M4FHbOw</p> <p>Talk about animals around the world and how the environment is changing for these animals how might that affect them. (world link) Link to how humans are affecting the world and what we can do to help. CLIMATE CHANGE! Show image of animals losing home.</p> <p>What can we do to help?</p> <p>Task 1: Children to pick a habitat and discuss how humans are damaging that part of the world. How might this impact on those animals?</p> <p>Polar Bears (rising water levels), Turtles (building cities near seas), Albatross (litter).</p> <p>What impact does this have on the next generation of animals? Extinction.</p>	<p>LA to have pictures as prompts and to label around the outside.</p> <p>Year 1 & 2 do a similar activity – can this be extended or adapted for challenge?</p> 
Knowledge and	Activity	Differentiation

Skills Objectives		
<p><u>Lesson 4</u> I can understand that living things produce offspring.</p> <p>Add the W/S that you are developing in this lesson</p>	<p>Starter question: Recap plants sexual and asexual what do these mean?</p> <p>Cross breeding is the process of breeding two of the same species together but with different characteristics which then create a new type of species. Chn should understand that all living things produce offspring, but it is not always identical.</p> <p>Task 1: Variety of different characteristics in front of children. Children match up characteristics with animals. Such as black and white animal with trunk (zebra and elephant). Although these are extremely different it is teaching children that these characteristics are taken from both set of parents and a new species is created. Poodle and a Labrador (labradoodle).</p> <p>Task 2: Plants, children visited RHS and discussed plants and how they have changed and adapted over time. RE discuss the spider plant and tulips. One is cross breeds (sexual and the other not (asexual). Chn should consider how humans influence offspring through selective breeding and cross-breeding (dogs).</p> <p>Task 3: Advantages and Disadvantages of cross breeding. Chn should explore the question should humans intervene? Should humans intervene in this way? Why? Why not? What effect will this have on living things in the future?</p> 	<p>Add differentiation</p>
<p>Knowledge and Skills Objectives</p>	<p>Activity</p>	<p>Differentiation</p>

Lesson 5
I can understand the theories of evolution.

Add the W/S that you are developing in this lesson

Read the theories of evolution to the children, explaining that over time these thoughts changed.

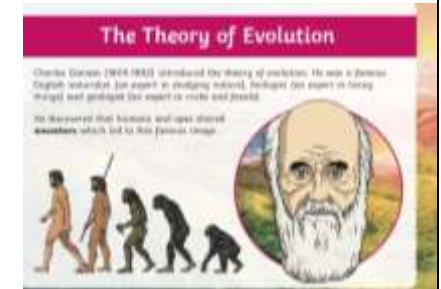
Whose theories? Where from? Is there a text/reading paper?

Retell the story of evolution with just words and actions.

Chn will create a timeline and put the theories in order from the earliest to the latest.

Chn will then record what they can remember about each theorist.

add differentiation



<https://www.youtube.com/watch?v=TOB6os-6uuc>

Knowledge and Skills Objectives

Activity

Differentiation

Lesson 6

I can examine evidence for evolution.

Add the W/S that you are developing in this lesson

Explain why the idea of human evolution was a controversial idea and how it was received.

Highlight the main sources of evidence that supports the idea of human evolution. *Where is this evidence from?*

Children sort the pictures into the three categories based on physical features. *What features are you expecting the children to look for?*

Why do you think it is more/less closely related to humans? What similarities and differences can you see?

Explain the current understanding of how humans evolved. Address the fact that this is a field of study where new discoveries are common and there are competing theories e.g. whether Homo Neanderthalensis is a different species and where our genetic inheritance comes from.

Children compare modern humans with Australopithecus Afarensis.

Children compare modern humans with Homo Neanderthalensis, and Australopithecus Afarensis.

Children to select and compare modern humans with three different human ancestors of their choice using the Human Evolution Faces Diagram and Human Evolution Skulls Diagram.





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Year Group: Year 6	Term: Autumn 2	Topic: Light
<p>National Curriculum Links</p> <p>Pupils in Key Stage Two should be taught to:</p> <ul style="list-style-type: none"> 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 use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them <p>Working Scientifically</p> <ul style="list-style-type: none"> plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs use test results to make predictions to set up further comparative and fair tests report and present 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 identify scientific evidence that has been used to support or refute ideas or arguments. 		
Prior Learning		Future Learning
<ul style="list-style-type: none"> Recognise that they need light in order to see things and that dark is the absence of light. (Y3 - Light) Notice that light is reflected from surfaces. (Y3 - Light) Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. (Y3 - Light) Recognise that shadows are formed when the light from a light source is blocked by an opaque object. (Y3 - Light) Find patterns in the way that the size of shadows change. (Y3 - Light) Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, 		<ul style="list-style-type: none"> The similarities and differences between light waves and waves in matter. (KS3) Light waves travelling through a vacuum; speed of light. (KS3) The transmission of light through materials: absorption, diffuse scattering and specular reflection at a surface. (KS3) Use of ray model to explain imaging in mirrors, the pinhole camera, the refraction of light and action of convex lens in focusing (qualitative); the human eye. (KS3) Light transferring energy from source to absorber leading to chemical and electrical effects; photo-sensitive material in the retina and in cameras. (KS3)

conductivity (electrical and thermal), and response to magnets. (Y5
- Properties and changes **of materials**)

- Colours and the different frequencies of light, white light and prisms (qualitative only); differential colour effects in absorption and diffuse reflection. (KS3)
-

Common Misconceptions

Some children may think:

- we see objects
-
- because light travels from our eyes to the object.

Sustainable Development Goals & Catholic Social Teaching

These Sustainable Development Global Goals would be perfect to fit with this unit of learning:




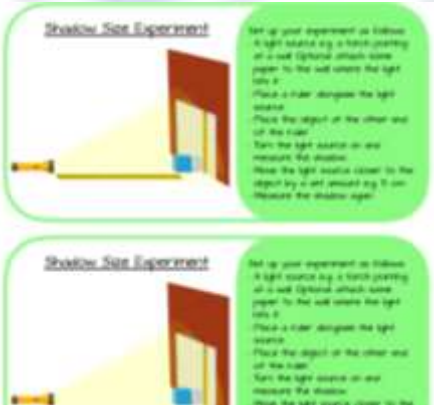
These Catholic Social Teaching strands would be perfect to fit with this unit of learning:


Add your activities here

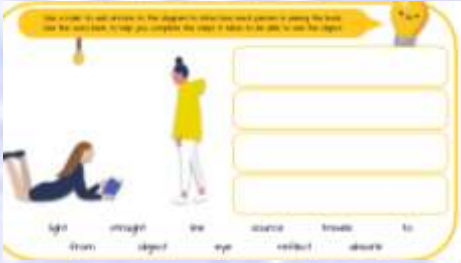


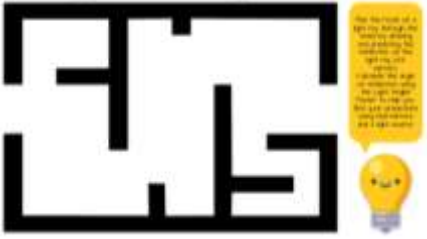
Applied Write Opportunities	Enrichment Opportunities
Assessment Opportunities	
<ul style="list-style-type: none"> • Can explain how evidence from enquiries shows that light travels in straight lines • Can predict and explain, with diagrams or models as appropriate, how the path of light rays can be directed by reflection to be seen, e.g. the reflection in car rear view mirrors or in a periscope • Can predict and explain, with diagrams or models as appropriate, how the shape of shadows can be varied 	
Key Vocabulary	
<p><u>Tier Two:</u> light, source, ray or beam, vacuum, reflection, absorb, refraction, focal point, transparent, opaque, cast, spectrum, prism, wavelength</p> <p><u>Tier Three:</u> incidence, periscope</p>	

Knowledge and Skills Objectives	Activity	Differentiation
<p><u>Lesson 1</u></p> <p>I can understand how shadows are formed.</p> <p>Add w/s here</p>	<p>Ask the children what a shadow is? How are they created? Are all shadows the same? Encourage the children to include some key words. Look more closely at light. What is it? Where does it come from? What kind of objects block light? Discuss how light comes from light sources and what kind of objects are light sources. Explore how light travels and ask the children why this is important to how shadows are made. Show the children a diagram of a shadow being made and make a special effort to look at the shape of the shadow. What do the children notice about the shape?</p> <p>Activity 1 – whole class</p> <p>Ask the children to pick the correct shadow from a selection to match the object casting it. How do they know? Why are the other options not correct?</p> <p>Children to understand how shadows are formed and that shadows are the same shape as the object.</p> <p>Children match the shadows to the objects that are casting them on worksheet. They draw the shadow for the final diagram</p> 	<p><u>SEN</u> –</p> <p><u>LA</u> –</p> <p><u>MA</u> – Match them up.</p> <p><u>HA</u> – Year 3 and 4 do this activity</p> <p>Draw the shadows that the object creates.</p> <p>All children must: Label the diagram to explain how the shadow is being made, using Word Bank 1A to help them.</p> <p>How are you challenging the HA?</p>

	using straight lines to show the light rays.	
Knowledge and Skills Objectives	Activity	Differentiation
<p><u>Lesson Two</u></p> <p>I can investigate how we change shadows.</p>	<p>Year 3 and 4 do this activity. Check if LKS2 OR UKS2 Objective</p> <p>Ask the children how they would change the direction of a shadow. Can they explain why the direction changes? Ask how they could change the length of a shadow. Have them explain how/why the length changes. Ask the children if they can change the size of the shadow. Can they make the shadow bigger? How/why does this happen?</p> <p>Explain that the children will be conducting their own investigation into the relationship between the size of the shadow being cast and the position of the light source and object casting the shadow.</p> <p>Give groups/pairs of children a light source (e.g. torch), a simple object that can easily be measured (as well as its shadow) and a perpendicular, flat surface for the shadow to be cast on (e.g. a space on a wall, preferably with paper</p> 	<p><u>SEN</u> –</p> <p><u>LA</u> – Children use card 1 for their activity</p> <p><u>MA</u> – Children use card 2 for their activity</p> <p><u>HA</u> – Children use card 3 for their activity</p>

	on so children can make marks to help with their measuring).	
Knowledge and Skills Objectives	Activity	Differentiation
<p><u>Lesson Three</u></p> <p>I can understand how eyes allow us to see.</p> <p>Add w/s here</p>	<p>Explain to children that light enters our eyes through our pupils and that when we are in a dark room we cannot see another as there is no light around.</p> <p>Activity - have a dark corner or table for children to sit in to experience dark area.</p> <p>Point out the sclera and the iris and what they do. Describe how the iris changes the size of the pupil depending on how much light there is. Have the children face the window and then away from it to see if their partners can spot the pupils changing size.</p>  <p>Children should be able to label and know the names of the parts of the eye.</p>	<p><u>SEN -</u></p> <p><u>LA</u> - Match the names to the specific part of the eye.</p> <p><u>MA</u> - Children use Eye Diagram 3A to match the labels to the right letters on worksheet 3B.</p> <p><u>HA</u> - They then use Word Bank 3A to finish the descriptions of each part of the eye.</p> <p>Where are the 3A cards? What resource?</p>
Knowledge and Skills Objectives	Activity	Differentiation
<p><u>Lesson Four</u></p> <p>I know how we see objects.</p>	<p>Explain to children that we see objects in different ways and that light reacts to different objects in different ways.</p>	<p><u>SEN -</u></p>

<p>Add w/s here</p>	<p>For example, some materials absorbed light, some reflect and objects like mirrors are highly reflective.</p> <p>Use the diagrams on the slides to describe how light travels from a light source, reflects off of an object and travels to our eye, which is how we see it.</p> <p>Show the children the picture of the person looking at an object again. Can the children draw some arrows to show how light travels? Be explicit in noting which direction the light is travelling from and where the light source is. Task in books</p> 	<p><u>LA</u> - ?</p> <p><u>MA</u> - Children write explanation for seeing an object on worksheet, using the word bank to help them. They then complete the diagram to show the light rays' direction and route clearly.</p> <p><u>HA</u> - Children write the steps to describe how someone sees themselves in a mirror on worksheet 4C. They will complete the diagram to show how the light ray has travelled.</p>
<p>Knowledge and Skills Objectives</p>	<p>Activity</p>	<p>Differentiation</p>
<p><u>Lesson Five</u></p> <p>I can investigate reflection.</p> <p>Add w/s here</p>	<p>Use the power point to explain how both objects will reflect the light in different amounts. The jumper will absorb most of the light and reflect a small amount, which will be scattered in lots of different directions because of its rougher/bumpier surface. The mirror is better at reflecting as it is smooth and shiny. The light reflecting off this object will travel in a specific direction.</p> <p>Show them another beam of light with a different angle of reflection. What do they notice about this reflection? Compare the two reflections.</p>	<p><u>SEN</u> -</p> <p><u>LA</u> -</p> <p><u>MA</u> - As a pair, give children Light Maze, Light Angles Poster, protractors and some mirrors. Children need to draw the path of a light ray around the maze using the mirrors. They need to calculate the angle of incidence and reflection from where they</p>

	<p>Explain and label the incident ray, reflected ray, the normal, angle of incidence and angle of reflection.</p>  <p>Describe and define the angles of incidence and the angle of reflection and how they are equal.</p> <p>Use the following slides to explain how both objects will reflect the light in different amounts. The jumper will absorb most of the light and reflect a small amount, which will be scattered in lots of different directions because of its rougher/bumpier surface. The mirror is better at reflecting as it is smooth and shiny. The light reflecting off this object will travel in a specific direction.</p> <p>Children will design their own maze using light reflections.</p>	<p>place the mirrors and add these measurements to the light's path on the sheet.</p> <p>Children to make periscopes which they can take home with them.</p> <p>These are to be done during lesson instead of maze.</p> <p><u>HA</u> – How do you challenge your HA?</p>
Knowledge and Skills Objectives	Activity	Differentiation
<p><u>Lesson Six</u></p> <p>I can understand what is meant by refraction.</p> <p>ADD W/S HERE</p>	<p>Refraction happens when a light ray travels between different mediums, e.g. from air to glass, air to water etc.</p> <p>Travelling through a transparent medium at an angle, the new medium can change the speed of the light ray, which also changes its direction, 'bending' the path of the ray.</p>	<p><u>SEN</u> –</p> <p><u>LA</u> – ?</p> <p><u>MA</u> – Children sort the Sorting Cards based on if the facts are referring to, or if the objects will (mainly) refract or reflect light, they write on worksheets.</p>

	<p>Travelling through a transparent medium at an angle, the new medium can change the speed of the light ray, which also changes its direction, 'bending' the path of the ray.</p> <p>Show this using an image (or practically if you have the resources) of a cuboid prism, highlighting where the light ray has slowed down and sped up.</p> <p>Show the children convex and concave lenses and show what happens to the light as it travels through them.</p>	<p><u>HA</u> – Difference between refraction and reflection on worksheet 6B using the word bank to help them.</p>
<p>Knowledge and Skills Objectives</p>	<p>Activity</p>	<p>Differentiation</p>
<p><u>Lesson Seven</u></p> <p>I can investigate colours in white light.</p> <p>ADD W/S</p>	<p>Introduce Newton and his discovery that white light is a mixture of seven different colours and can be split into these colours. Do the children know what these colours could be?</p> <p>Explain that the colours are the colours of the rainbow. Show</p>	<p><u>SEN</u> –</p> <p><u>LA</u> –</p> <p>ADD DIFFERENTIATION</p> <p><u>MA</u> –</p> <p><u>HA</u> –</p>



	<p>the colours in a spectrum and briefly explain the visible section and ultraviolet and infrared sections at either end.</p>	
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Children to create their own colour wheel.





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Subject: Science	Topic: Living Things and Habitats	Differentiation
<p>NC Links:</p> <ul style="list-style-type: none"> 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. 		
<p>Lesson 1: I can group animals</p> <p>Working Scientifically objectives:</p> <ul style="list-style-type: none"> 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 identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings. 	<p>Show chn the PPT explaining what classification is.</p> <p>Ask chn to discuss and sort how various fruit, vegetables and snacks would be grouped, giving reasons for their answers.</p> <p>Provide chn a zoo animal list and set them the challenge of being taxonomists: can they group them based on their similarities and differences?</p> <p>Reflect with the whole-class on how the children have grouped the animals then give them a classification key template.</p> <p>Explain really carefully how the animals selected for the top boxes must then be the only animals used for the boxes below for the diagram to work effectively.</p>	<p>WT: Children to classify 16 animals.</p> <p>EXP: Children to classify 32 animals.</p> <p>Challenge: Children to classify tricky species: turtle, toad, penguin, ostrich, shark, whale.</p> <p>Intervention Groups Taking Place Maths with Jordan James DLD/Lego Therapy with Sarah Roberts</p>
<p>Lesson 2: I can classify my own creature</p> <p>Working Scientifically objectives:</p> <ul style="list-style-type: none"> gathering, recording, classifying and presenting data 	<p>Recap Y4 living things unit – what is a vertebrate? What is an invertebrate? What animal groups can we remember? E.g. mammals, reptiles, amphibians etc (Children found this difficult to do and required more time on this)</p>	<p>WT: Support them to ensure that they do not mix groups together.</p> <p>EXP: Use fact file sheet for support.</p>



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<p>in a variety of ways to help in answering questions</p> <ul style="list-style-type: none"> identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings. 	<p>Chn to match animals to each group – e.g. rabbit to mammals and say why.</p> <p>Explain very carefully that in today's lesson we are going to create our own creature that fits within one of the groups – that is, we are not mixing two groups together. Therefore, we cannot have a mammal full of fur that can breathe under water with gills.</p> <p>Ask chn to design their own creature and write about their characteristics.</p>	<p>Challenge: Children to work out the group that certain animals drawn by peers belong to.</p> <p>Intervention Groups Taking Place Maths with Jordan James DLD/Lego Therapy with Sarah Roberts</p>
<p>Lesson 3: I can describe and investigate harmful micro-organisms</p> <p>Working Scientifically objectives:</p> <ul style="list-style-type: none"> planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary taking measurements, using a range of scientific equipment, with increasing accuracy and precision 	<p>Describe and explain micro-organisms and show examples in real-life.</p> <p>E.g. virus, yoghurt, cheese.</p> <p>Show chn a selection of images and ask them to vote whether they are helpful or harmful.</p> <p>Then give them 10 seconds for each with their partner to name the micro-organism responsible for it.</p> <p>Explain to chn that they are going to investigate the conditions that cause mould to grow on bread.</p> <p>Conclude the lesson by asking chn to unscramble the anagrams on the PPT. Then discuss the effects of micro-organisms.</p>	<p>WT: Use the prompt investigation sheet for support.</p> <p>EXP: Explain their prediction, referring to micro-organisms.</p> <p>Intervention Groups Taking Place Maths with Jordan James DLD/Lego Therapy with Sarah Roberts</p>
<p>Lesson 4: I can conclusions from my investigation</p>	<p>Chn to observe their bread set-up from the previous lesson.</p>	<p>WT: Complete their results table.</p>



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<ul style="list-style-type: none">• recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, and bar and line graphs• reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of results, in oral and written forms such as displays and other presentations	<p>Ask chn to explain their conclusions and describe how they could use their results to keep bread mould-free for longer.</p> <p>Gallery Walk: Chn to walk around and share results with other groups in the classroom.</p> <p>Show chn PPT to explain the difference between fungi and bacteria. Can chn identify which cell is which?</p> <p>Chn to share 3 things they have learnt with their partner about micro-organisms.</p>	<p>EXP: Complete their results table and write a clear conclusion.</p> <p>Intervention Groups Taking Place Maths with Jordan James DLD/Lego Therapy with Sarah Roberts</p> <p>*Print photograph of bread for chn's books.</p>
<p>Lesson 5: I can describe and investigate how virus' spread</p> <p>Working Scientifically objectives:</p> <ul style="list-style-type: none">• planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary• taking measurements, using a range of scientific equipment, with increasing accuracy and precision	<p>Explain to chn that today they will learn about why soap works and why it is better than just using water to wash your hands.</p> <p>The surface of the water in the bowl represents your hands.</p> <p>The pepper represents harmful dirt and germs that need to be washed away.</p> <ol style="list-style-type: none">1) Fill the bowl halfway with water.2) Sprinkle some black pepper on.3) Dip your finger in the centre of the bowl and observe.4) Dry your hand.5) Dip your finger into the bowl after applying soap and observe. <p>Photograph what happens.</p>	<p>Intervention Groups Taking Place Maths with Jordan James DLD/Lego Therapy with Sarah Roberts</p> <p>*Print photograph of pepper bowl for chn's books.</p>



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Medium Term Planning Creative Learning Journey

<p>Lesson 6: I can plan a set of instructions on staying safe during the pandemic.</p> <p><u>Working Scientifically objectives:</u></p> <ul style="list-style-type: none">gathering, recording, classifying and presenting data in a variety of ways to help in answering questionsrecording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	<p>Explain to the chn that we will be writing a set of instructions telling the public how to stay safe during the Covid-19 pandemic.</p> <p>Ask chn to talk to their partners and mind-map as many ways as possible to keep safe during this time.</p> <p>Show children using the iPad some example mind-maps. Give chn a few more minutes to include any missing information.</p> <p>After chn have done this, challenge the chn to rank their ideas in order of importance.</p> <p>Share ideas with the class and give reasons why.</p>	<p>Mixed Ability Groupings</p> <p>Work in teams to create a mind-map and hook the children in to the writing task that will follow.</p>
<p>Lesson 7: I can write a set of instructions on staying safe during the pandemic.</p>	<p>Explain to the chn that they will be writing an introduction & listing what materials will be needed to stay safe.</p> <p>Ask chn to talk to their partner to discuss what makes an effective introduction.</p> <p>Using pupils' ideas, model an example introduction for chn to read.</p> <p>Emphasise the importance of:</p> <ul style="list-style-type: none">A clear titleA clear topic sentenceSome background information to set the contextA clear reason for following these instructions – highlighting the dangers of not. <p>Give chn time to craft their introduction.</p>	<p>Independent Write:</p> <p>All pupils can use word banks/models provided.</p> <p>Intervention Groups Taking Place</p> <p>Maths with Jordan James DLD/Lego Therapy with Sarah Roberts</p>



SS John Fisher & Thomas More Catholic Primary School

A Voluntary Academy

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<p>Lesson 8: I can write a set of instructions on staying safe during the pandemic.</p>	<p>Chn to continue their independent writing: write a list of bullet points which clarify how to stay safe.</p> <p>Encourage chn to consider clause structure / SPaG features to make more interesting.</p>	<p>Independent Write: All pupils can use word banks/models provided.</p> <p>Intervention Groups Taking Place Maths with Jordan James DLD/Lego Therapy with Sarah Roberts</p> <p>*Print photograph of bread for chn's books.</p>
<p>Lesson 9: I can write a set of instructions on staying safe during the pandemic.</p>	<p>Chn to continue their independent writing: conclude by detailing why these suggestions must be followed, what the signs of Coronavirus are and what to do if you suspect you have Coronavirus.</p>	<p>Independent Write: All pupils can use word banks/models provided.</p> <p>Intervention Groups Taking Place Maths with Jordan James DLD/Lego Therapy with Sarah Roberts</p> <p>*Print photograph of bread for chn's books.</p>
<p>Applied Write opportunities: Children to write a letter to Boris Johnson about the effects of Covid-19. Children to write a set of instruction on how to keep safe during the pandemic.</p>		
<p>Key Vocabulary: Tier 2 – mammals, reptiles, amphibians, insects, birds, fish, species Covid-19, Coronavirus, virus, mould, habitat, similarities, differences, characteristics Tier 3 – micro-organisms, fungi, bacteria, , classification, taxonomists, vertebrate, invertebrate, pandemic</p>		