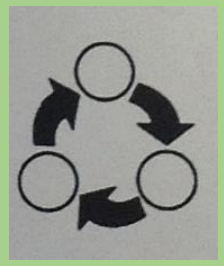
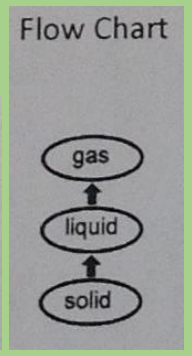
Waddington All Saints Academy
A L.E.A.D. Academy

Headteacher: Mr Paul Martin
Address: Mere Road, Waddington,
Lincoln, LN5 9NX
Telephone: 01522 820099
office@all-saints.lincs.sch.uk

<table>
<tr><td rowspan="3">BIOLOGY</td><td></td><td>Year 3</td><td>Year 4</td></tr>
<tr><td rowspan="2">Plants</td><td>Knowledge:
identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers
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
investigate the way in 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</td><td>Knowledge:

Not taught in Year 4</td></tr>
<tr><td>Working Scientifically:

Observations and observing changes over time:
Asks questions independently and generate own ideas to explore through scientific enquiry.
Makes relevant observations throughout an investigation.
Gathers, records, classifies and presents data in a variety of ways to help in answering questions.
 
 
Changes over time:

Create own tables and bar charts, using ICT where appropriate to represent changes over time.
Interprets a line graph with support.</td><td>Working Scientifically:</td></tr>
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<tr>
<td rowspan="2"></td>
<td rowspan="2">Animals, including humans</td>
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Knowledge:

- 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
- identify that humans and some other animals have skeletons and muscles for support, protection and movement

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Knowledge:

describe the simple functions of the basic parts of the digestive system in humans

- identify the different types of teeth in humans and their simple functions
- construct and interpret a variety of food chains, identifying producers, predators and prey

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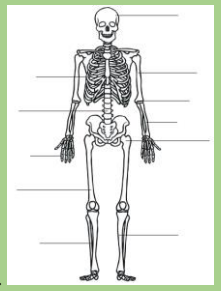
Working Scientifically:

Research:
Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations.
Asks questions independently and generate own ideas to explore through scientific enquiry.
Reports on findings from enquiries, including oral and written, displays or presentations of results and conclusions.

Could present as a story board.


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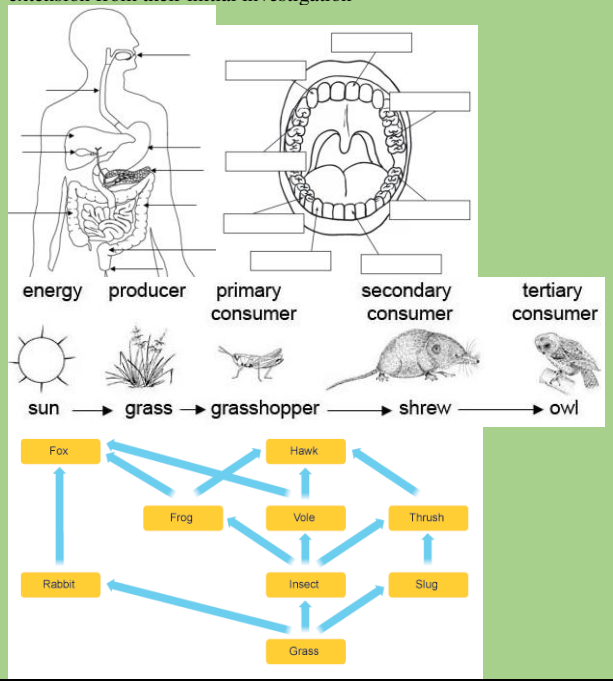
Working Scientifically:

Research:
Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations.
Uses simple scientific language effectively to communicate outcomes.
Are able to begin to suggest improvements for their investigation and also create new questions and predictions for setting up further tests as an extension from their initial investigation



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	Living things and their habitats	**Knowledge:** Not Taught in Year 3.	**Knowledge** • recognise that living things can be grouped 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
		Working Scientifically:	**Working Scientifically:** **Identification and classification.** Talk about criteria for grouping, sorting and classifying; and use simple keys. Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. Use relevant simple scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences.

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			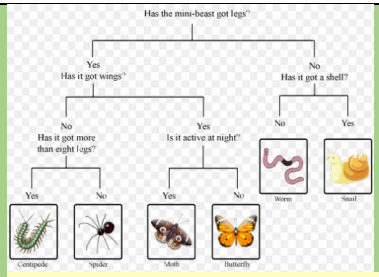 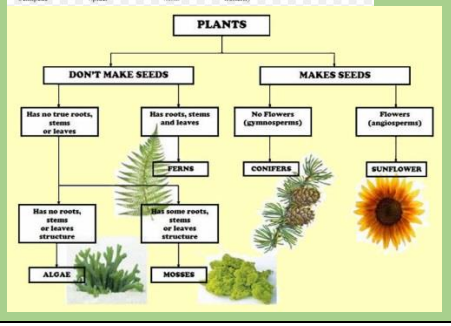

C	States of Matt	**Knowledge:** Not Taught in Year 3	**Knowledge:** • compare and group materials together, according to whether they are solids, liquids or gases

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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 (°C)
identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature

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<td>Working Scientifically:</td>
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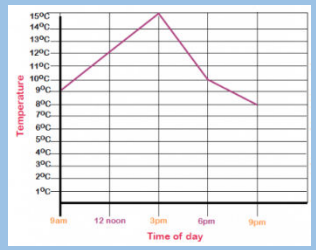
Observations and observing changes over time:
Asks questions independently and generate own ideas to explore through scientific enquiry.
Makes relevant observations throughout an investigation.
Gathers, records, classifies and presents data in a variety of ways to help in answering questions.

Changes over time:
Set up simple practical enquiries and fair tests where changes can be observed over time.
Take accurate measure and represent data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<tr>
<td>Roc</td>
<td>Knowledge:

compare and group together different kinds of rocks on the basis of their appearance and simple physical properties
describe in simple terms how fossils are formed when things that have lived are trapped within rock
recognise that soils are made from rocks and organic matter

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<td>Knowledge:

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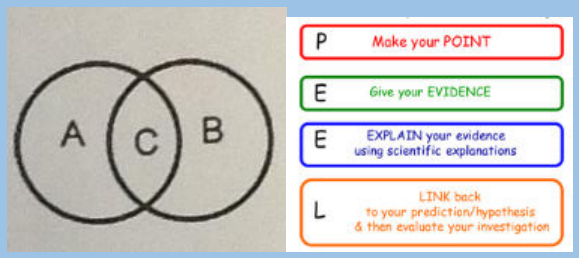
		Working Scientifically: **Identifying and classification:** Talk about criteria for grouping, sorting and classifying; and use of simple keys. Gathers, records, classifies and presents data in a variety of ways to help in answering questions. Sometimes creates own tables and bar charts, using ICT where appropriate. Recognise the link between cause and effect. Reports on findings from enquiries, including oral and written, displays or presentations of results and conclusions. 	**Working Scientifically:**
Physic	Forces and Magnets	**Knowledge:** • compare how things move on different surfaces • notice that some forces need contact between 2 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	**Knowledge:** Not Taught in Year 4

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		• describe magnets as having 2 poles • predict whether 2 magnets will attract or repel each other, depending on which poles are facing	
		Working Scientifically: **Fair Testing:** Recognises when to answer a question by using a fair test method and when other methods might be needed. In a fair test, identifies what to keep the same and sometimes what to change and measure. Uses basic equipment correctly, safely and with increasing accuracy Makes relevant observations throughout an investigation. Reports on findings from enquiries, including oral and written, displays or presentations of results and conclusions. Recognise the link between cause and effect. Suggests how an enquiry might be improved. With support, recognises some of the limitations and significance of evidence.	**Working Scientifically:**
	Sound	**Knowledge:** **Not Taught in Year 3**	**Knowledge:** • identify how sounds are made, associating some of them with something vibrating • recognise that vibrations from sounds travel through a medium to the ear • find patterns between the pitch of a sound and 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
		Working Scientifically:	**Working Scientifically:** **Fair Testing:** asking relevant questions and using different types of scientific enquiries to answer them setting up simple practical enquiries, comparative and fair tests recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

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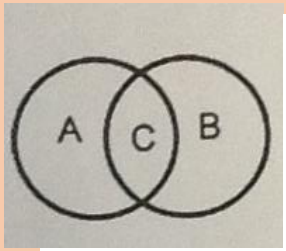
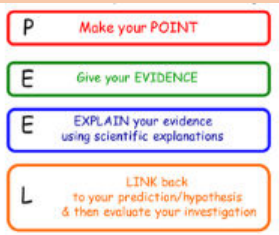
			Recognise the link between cause and effect. using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Uses a wide range of equipment, for example thermometers and data loggers, correctly, safely and accurately.  
	Electricity	**Knowledge:** **Not Taught in Year 3**	**Knowledge:** • 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 in 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 a simple series circuit • recognise some common conductors and insulators, and associate metals with being good conductors
		Working Scientifically:	**Working Scientifically:** **Noticing Patterns** Asks questions and offers ideas for a range of scientific enquiry Begin to look for occurring patterns and relationships and decide what data to collect to identify them.

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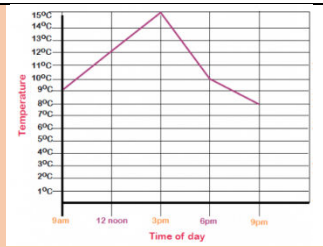
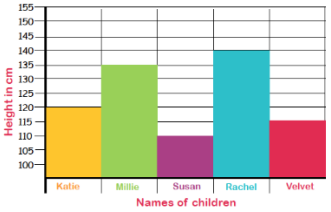
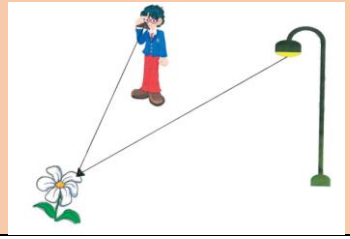
			 
	Light	**Knowledge:** • recognise that they need light in order to see things and that dark is the absence of light • notice that light is reflected from surfaces • recognise that light from the sun can be dangerous and that there are ways to protect their eyes • recognise that shadows are formed when the light from a light source is blocked by an opaque object • find patterns in the way that the size of shadows change	**Knowledge:** Not Taught in Year 4
		Working Scientifically: **Noticing Patterns:** Asks questions and offers ideas for a range of scientific enquiry Recognise the link between cause and effect. Begin to look for occurring patterns and relationships and decide what data to collect to identify them. 	**Working Scientifically:**

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