



# Mendell Primary School

*Aspire Challenge Achieve*

## Medium Term Plan Science



<b>Year Group: 2</b>	<b>Term: Spring 1</b>	<b>Teacher: Sarah Bride</b>	<b>Subject lead: Sarah Bride</b>	<b>Overview: Animals including Humans:</b>	<b>Key End Points: By the end of this unit children will be able to:</b>	
<b>Common Misconceptions:</b> Some children may think: <ul style="list-style-type: none"> <li>• an animal's habitat is like its 'home'</li> <li>• all animals that live in the sea are fish</li> <li>• respiration is breathing</li> <li>• breathing is respiration.</li> </ul>		<b>Unit key Vocabulary:</b> exercise, heartbeat, breathing, hygiene, germs, disease, food types (examples – meat, fish, vegetables, bread, rice, pasta)		<div style="background-color: #e91e63; color: white; padding: 5px; margin-bottom: 5px;"> <small>Identifying, grouping and classifying</small>  <small>Making observations to name, sort and organise items.</small> </div> <div style="background-color: #f44336; color: white; padding: 5px; margin-bottom: 5px;"> <small>Observation over time</small>  <small>Observing changes that occur over a period of time ranging from minutes to months.</small> </div> <div style="background-color: #4caf50; color: white; padding: 5px; margin-bottom: 5px;"> <small>Research</small>  <small>Using secondary sources of information to answer scientific questions.</small> </div> <ul style="list-style-type: none"> <li>• Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).</li> <li>• Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</li> </ul>	Talk about and describe how to look after themselves – what foods are best to eat; why we need to exercise; why and how to rest.  Look after their own health e.g. brushing their teeth, washing hands, drinking water, choosing appropriate clothing, appropriate activities, bedtimes etc.	
<b>Links to other learning:</b>  DT- healthy eating – fruit based snack Aut2	<b>Prior Learning:</b> Identify and name a variety of common animals that are carnivores, herbivores and omnivores. <b>(Y1 - Animals, including humans)</b> • Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. <b>(Y1 - Animals, including humans)</b>	<b>Future Learning:</b> 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. <b>(Y3 - Animals, including humans)</b> <ul style="list-style-type: none"> <li>• Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. <b>(Y5 - Living things and their habitats)</b></li> <li>• Describe the life process of reproduction in some plants and animals. <b>(Y5 - Living things and their habitats)</b></li> <li>• Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. <b>(Y6 - Animals, including humans)</b></li> </ul>	<b>High Quality Text:</b>  <i>The Desert Island</i> by Morgan Georgia Banks <b>or</b> <i>Moomin's Desert Island</i> by Tove Jansson. <b>Scientist to study:</b> Elizabeth Garrett Anderson (First English woman to qualify as a doctor) Florence Nightingale (Nurse and founder of modern nursing)	<b>Risk Assessment:</b>  Inhalers for exercise lesson.	<b>Teacher CPD:</b>  ASE plan exemplification – Max  Reach out CPD <a href="https://www.reachoutcpd.com/">https://www.reachoutcpd.com/</a> sign up for free.	
<u>Learning Intention</u>	<u>Lesson Outline</u> (Key Questions in colour)			<u>Resources</u>	<u>Vocabulary</u>	<u>Lowest 20%</u>

				<u>Adaptations</u>	
1	<p>L.I. I can identify the basic needs for animals and humans to survive.</p> 	<p><b>This is a Science lesson. In Science, we study nature and the behaviour of natural things. The skill we will be using this lesson is asking questions and making observations.</b></p> <p><b>Pre topic Assessment;</b> Provide the children with the unit title – Animals including humans – encourage discussions about what they children already know about animals and humans and encourage them to record ideas as a thought shower. Provide the following prompts:</p> <ul style="list-style-type: none"> <li>• How do we classify animals?</li> <li>• What do we call animals that only eat other animals? Plants? Both?</li> <li>• What do we need to stay healthy?</li> <li>• How to animals and humans change?</li> </ul> <p><b>Big Question: What do animals including humans need to survive?</b></p> <p><b>Word of the week: basic needs</b></p> <p>In the hall, prepare an area using yellow and blue material to represent a desert island. Ask the children to go and sit on the yellow sheets and explain that they are now stranded on a desert island. The sun is beating down and no boats have been seen for ages. Ask them how they feel and emphasise that they might be really hot, frightened or excited by the adventure. Around the hall place plastic bottles with items listed on them e.g. Xbox, water, bedding, sun cream etc. including a range of key items to help the children survive and also items the children would like to have. Send a handful of children to go out and choose one item. Explore items and discuss its usefulness etc... explain we need to make a list of things to help them survive (clean water, basic food, something to keep them warm and a means of keeping clean) – remind children of their work about Florence Nightingale and the importance of hygiene.</p> <p>Ask the class: <b>So what do humans need to survive? Why do we need food and water?</b> (Nutrients and to keep hydrated so that our bodies keep working properly.) <b>If we had our pets on the island with us, how would the list change? What do our pets need to survive? How would our list change?</b> Ask the class to imagine being on the island with a child's pet. Ask the child what their pet needs to survive. <b>Could it survive on the same things we could?</b></p> <p>Ask the more able children to write a more thorough list for their bottle, with two headings such as: "Things I need to survive", "Things I need for happiness". Ask the most able to explain in the letter why the items in the second group are non-essential but how they would help them be comfortable and happy.</p> <p>Gently throw the bottles in the 'sea' at the same time (away from each other but across the classroom). Read the chn this story: 'The Desert Island' by Morgan Georgia Blanks or 'Moomin's Desert Island' By Tove Jansson.</p> <p><a href="http://www.bbc.co.uk/guides/zxvkd2p">http://www.bbc.co.uk/guides/zxvkd2p</a> BBC Bitesize: What do Humans need to stay healthy?;  <a href="http://www.educationquizzes.com/ks1/science/staying-healthy-what-sort-of-food-should-we-eat/">http://www.educationquizzes.com/ks1/science/staying-healthy-what-sort-of-food-should-we-eat/</a></p>	<p>Quiz: <i>What Foods should we eat?</i> Blue and yellow sheets of material, plastic bottles for each child or pair of children, pieces of paper and pencils, shell, <i>The Desert Island</i> by Morgan Georgia Banks <b>or</b> <i>Moomin's Desert Island</i> by Tove Jansson.</p>	<p><b>basic needs, water, food, air, breathing, survival.</b></p>	
2	<p>L.I. I can identify and classify a range of food.</p>	<p><b>This is a Science lesson. In Science, we study nature and the behaviour of natural things. The skill we will be using this lesson is making observations and asking questions.</b></p> <p><b>Prior learning:</b> using the image as stimulus ask the children to discuss what they would need to survive on mars. Discuss as a class. Ensure children recall prior learning.</p> <p><b>Word of the week: balanced diet</b></p> 	<p>Food cards</p> <p>Mars picture.</p> <p>Eat well meal plate template.</p>	<p><b>fruit, vegetables, bread, rice, potatoes, pasta,</b></p>	



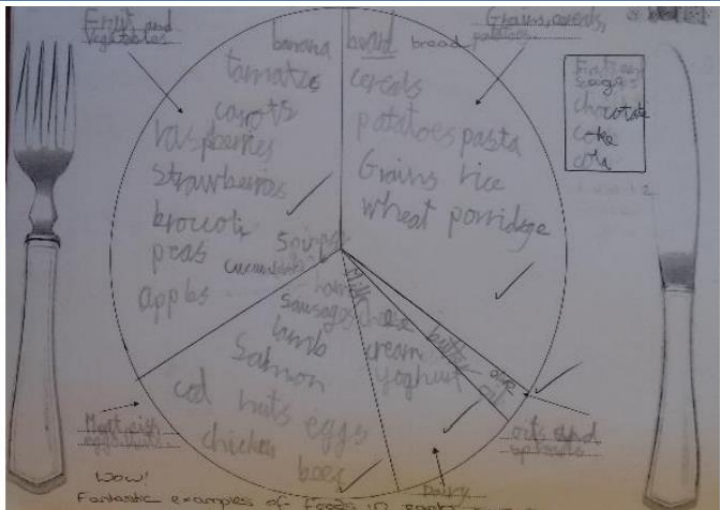
**Big question: what is a balanced diet?**

Provide the children with pictures of different types of food and ask them to sort them in different ways. Review and discuss. Discuss prior learning on fruits and vegetables.

Discuss what the children recall about the Eatwell plate from their DT work last half term – **What is the eatwell plate? What does it tell us? How does it classify types of food?** <http://archive.foodafactoflife.org.uk/section.aspx?t=35&siteId=19&sectionId=131>

Ask the children to now sort the pictures using the eat well plate template. Recording example below:

CH: can they add any other examples of their own?

EVIDENCE OF LEARNING		ASSESSMENT
Oral evidence	Examples of work	Knowledge
"Fruit and vegetables are healthy. Don't eat ice cream and cakes."		After seeing the Eatwell plate, Max correctly identifies his own examples to put in each part of the plate.
Teacher observations		Working scientifically

milk,  
dairy,  
food  
high in  
fat,  
sugar,  
meat,  
fish, egg,  
beans

3

L.I. I can design a balanced meal



**This is a Science lesson. In Science, we study nature and the behaviour of natural things. The skill we will be using this lesson is asking questions and using secondary sources.**


**Prior learning recap;** As a class take the 'Eatwell Challenge' and see if you can work out together where all the items go on the Eatwell Plate <https://www.foodafactoflife.org.uk/5-7-years/healthy-eating/interactive-resources/>

Share the examples of lunchboxes and ask the children what they have in common.

Ask for children to talk about which of the foods they regularly have in their lunch or eat frequently at home. For some children they will have hot lunches at school but may have lunch-box type foods at home. On a large piece of paper, draw an example of the lunch box template from the Healthy lunch boxes resource and ask the children to talk about what they know about the sections, starting with what is probably the easiest to recognise: the fruit. Together, place the fruit in the middle of the large lunch box. Then, together, add the vegetables. Explain that carbs is short for carbohydrates and includes the usual lunch box items of bread, pasta, rice or potatoes. Place the bread in this section. Tell the children that protein is mainly the lunch box items of cheese, meat, eggs or milk. Fill this section up using the protein sample foods. Together look at the large lunch box. Ask: **What do you notice? Which section is biggest (vegetables)? Are you surprised?**

Healthy lunch boxes resource, different breads, cheeses, fruits and vegetables suitable for lunchboxes, packaged foods for lunch boxes, large sheet of paper, internet access.

fruit,  
vegetables,  
bread,  
rice,  
potatoes,  
pasta,  
milk,  
dairy,  
food  
high in  
fat,  
sugar,  
meat,

		<p><b>Which section were you expecting to have the most food in? What do we now know about keeping our lunch boxes healthy?</b> (More vegetables than other things, small amounts of snack and fruit, smaller, equal amounts of protein and carbs.)</p> <p>Ask the children to design their own healthy balanced lunch box. Using secondary sources, ask them: <i>Which foods have the most sugar? The most fats? Which have the least? Can you order them?</i> Ask them to be prepared to explain their findings to the rest of the class.</p> <p>Ask the children to share the meal they had created with a partner to talk about what they had included.</p> <p><b>Extension activity:</b> Can they edit their lunchbox to make it healthier after their research.</p>		fish, egg, beans	
4	<p>L.I. I can explain the importance of hygiene.</p> 	<p><b>This is a Science lesson. In Science, we study nature and the behaviour of natural things. The skill we will be using this lesson is using secondary sources and communication information.</b></p> <p><b>Prior learning recap: What is the eat well plate?</b></p> <p><b>Why do we need a balanced diet?</b></p> <p><b>What do we need to survive?</b></p> <p><b>Word of the week: hygiene</b> – <i>to keep clean and maintain health to prevent disease.</i></p> <p><b>Big question; How clean are your hands?</b></p> <p><b>How do you keep clean and healthy?</b> Encourage discussions around everyday things that keep us clean e.g. brushing teeth, taking a bath/shower, washing our hands, washing food, cleaning the house etc...</p> <p>Complete a hand washing exercise to demonstrate the importance of washing hands in order to keep germs from spreading (glitter hands). Refer to the work of Florence Nightingale again here – Mendell flashback.</p> <p><b>Task:</b> create a poster to share with the younger children on ways to keep clean and healthy.</p> <p><b>Extension:</b> Ask the children to use ipads and secondary sources to explore how animals stay clean.</p> <p><b>Exit pass;</b> hygiene quiz <a href="https://e-bug.eu/junior_pack.aspx?cc=eng&amp;ss=2&amp;t=Hand%20Hygiene">https://e-bug.eu/junior_pack.aspx?cc=eng&amp;ss=2&amp;t=Hand%20Hygiene</a></p>	Glitter, sink, paper, ipads, books.	Hygiene, hygienic, clean, washing, cleaning, germs, disease.	
5	<p>L.I. I can observe how exercise affects my body.</p>	<p><b>This is a Science lesson. In Science, we study nature and the behaviour of natural things. The skill we will be using this lesson is making observations and recording data.</b></p> <p><b>Prior learning recap: What do animals and humans need to survive?</b></p> <p><b>How can we stay healthy?</b></p> <p><b>What do we need to be hygienic?</b></p> <p><b>Word of the week : exercise</b></p> <p><b>Big question: How does exercise affect our hearts?</b></p> <p>In hall set up a carousel of activities. 1. Sprinting between cones, 2. Star jumps, 3. Walking with beanbag on head, 4. keeping a ball between the knees and walking between two cones.</p>	PE kits, timers for each pair, different PE equipment (hoops, skipping ropes, beanbags, etc.), observation chart, clipboards and pencils, whistle or instrument to mark change of activity,	heart, beating, healthy, exercise, thirsty, sweet, tired	



**Why is exercise important to stay healthy?** – Exercise is good for us because it helps burn off some of the energy food gives us, it keeps our bodies at a healthy weight and it makes us feel good.

**What types of exercise do you know? Why are they good for you?**

Play this clip to them about the major organs of the body: <http://www.bbc.co.uk/education/clips/zsw39q>. Explain that they are going to do different tests to find out what effect exercise has on their heart. Ask them to feel their heart whilst they are just sitting still and before exercise. Use the following link to teach children to take their pulse via their neck or their wrist.

<http://www.cyh.com/HealthTopics/HealthTopicDetailsKids.aspx?p=335&np=285&id=1467&1>.

Start a minute timer (on the IWB or an egg timer) and ask them to count quietly to themselves to see how many beats of their heart they can feel. Ask them to make a note of this on their Heartbeat Sheet. Then place the children in PE partners, give them a clipboard each, a copy of the Heartbeat Sheet each and a timer per pair. Tell them they are to work together to fill their own sheets in as they move around the carousel activities in the PE space.

Get the children into pairs and explain the activities and the record sheet. Move around the carousel, encouraging the children to predict if each activity is going to make their heart beat faster or slower and what other parts of their body will be working. Let them venture their own thinking about any patterns they notice and their own reasoning. Ask the more able to review the activities and to think about a design for a different carousel course that gets their hearts beating and then slows them down.

Ask the children to record how many of each activity they count complete in the time given, how they felt and what parts of their body they were exercising.

Examples of work

Exercise is Important Max			
Name of exercise	How many times could I do it in one minute?	Which parts of my body was I exercising?	How did I feel afterwards?
star jumps	90	arms and legs and heart and breast and lungs	fit and fresh
bouncing a ball	121	arms and legs and brain	exhausted
steps with bouncing on my head	110	leg, stomach and legs and heart	hot
hopping	124	legs and brain and heart and lungs	tired
stretching	44	back and heart and breast and lungs	serenity ✓

Play this clip to the children, explaining the role of the heart in the body: <http://www.aboutkidshealth.ca/en/justforkids/body/pages/heart.aspx>.

Ask the children: **What kinds of exercise do you enjoy doing? What exercise can you do outside school?**

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