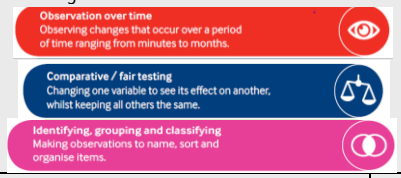
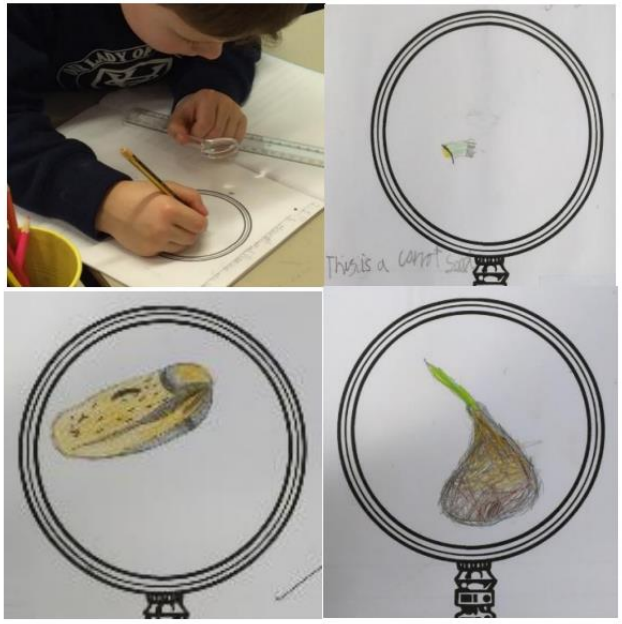
Mendell Primary School

Aspire Challenge Achieve

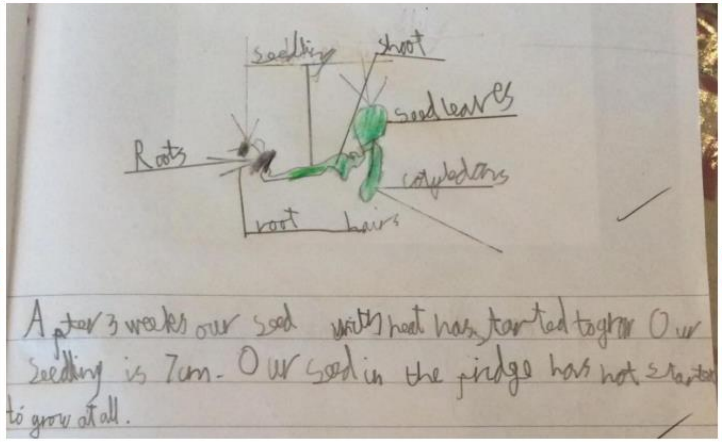
Medium Term Plan Science

Year Group: 2	**Term: Summer 1**	**Teacher: Sarah Bride**	**Subject lead: Sarah Bride**	**Overview: Animals including Humans:** • Observe and describe how seeds and bulbs grow into mature plants. • Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. 	**Key End Points: By the end of this unit children will be able to:** ☐Talk about how to grow a variety of plants. ☐ Grow a variety of plants from seeds and bulbs ☐ Care for a variety of houseplants/plants over the whole of Y2 ☐ Describe different seeds – what they look like, what they grow in to and how we use the plant. ☐ Talk about how to grow a variety of bulbs. ☐ Describe different bulbs – what they look like, what they grow in to and how we use the plant. ☐ Talk about the parts of the plants we eat.
Common Misconceptions: **Some children may think**: • plants are not alive as they cannot be seen to move • seeds are not alive • all plants start out as seeds • seeds and bulbs need sunlight to germinate.		**Unit key Vocabulary:** light, shade, sun, warm, cool, water, grow, healthy, Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud			
Links to other learning:	**Prior Learning:** • Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. **(Y1 - Plants)** • Identify and describe the basic structure of a variety of common flowering plants, including trees. **(Y1 - Plants)**	**Future Learning:** • Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. **(Y3 - Plants)** • Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. **(Y3 - Plants)** • Investigate the way in which water is transported within plants. **(Y3 - Plants)** • Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. **(Y3 - Plants)**	**High Quality Text:** Jack and the Beanstalk. Jasper's Beanstalk—Nick Butterworth **Scientist to study:** **Angie Burnett** – (Plant Biologist who grows plants and sees how they react to different conditions that make it more difficult for them to grow)	**Risk Assessment:**	**Teacher CPD:** ASE plan exemplification – Max Reach out CPD https://www.reachoutcpd.com/ sign up for free.

Learning Intention		Lesson Outline (Key Questions in colour)	Resources	Vocabulary	Lowest 20% Adaptations
1	L.I. I can explain that plants can grow form seeds or	**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.** **Pre topic Assessment:** thought shower – what do we already know about plants? Use the prompt questions to support the children's thinking and discussions. **What parts of a plant can you name?** **What types of trees can you name?** **What do plants need to grow?**	A range of seeds and bulbs for sorting. Amaryllis bulb and planting equipment.	**Bulb, seed, bean, plant, shoots.**	

	bulbs and explain similarities and differences.	**Are plants and trees living things?** **Big Question: what do different types of plants grow from?** Odd One Out starter: show the children a picture of a sunflower seeds, sunflower seedling and an amaryllis bulb ask them which they think is the odd one out and why. Possible outcomes: the seed is the odd one out because it hasn't started growing. The amaryllis is the odd one out because it isn't a sunflower or it is a bulb etc... Provide the children with a range of different seeds and bulbs. Allow the children time to examine them and talk about what they notice. Encourage the children in groups to sort the seeds and bulbs according to their observations and take feedback from each group. Photograph the children's sorting for books. **Word of the week: bulb** Ask the children to make detailed observational drawings of a seed, bulb and bean and encourage children to describe some of their similarities and differences. Together as a class plant an amaryllis bulb and explain to the children that they will make regular observations as the bulb grows and develops into a mature plant. Take regular measurements of the plants height. **Example outcome:** The children were asked to make careful observational drawings of seeds and bulbs. **EVIDENCE OF LEARNING** / **ASSESSMENT** Oral evidence: The bulbs already have shoots, whereas the seeds do not. Examples of work:  Assessment: Knowledge Teacher observations Assessment: Working scientifically Max uses a magnifying glass to help him make close observations.	Magnifying glasses.		

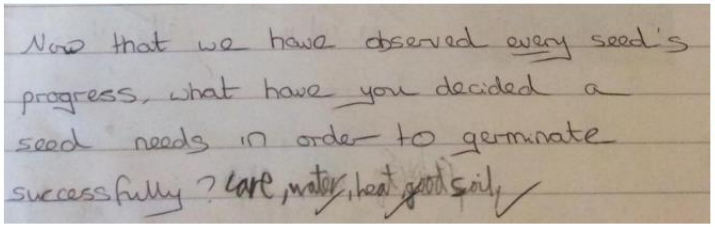
2.	L.I. I can set up a simple test to see if plants need sunlight to start to grow	**This is a Science lesson. In Science, we study nature and the behaviour of natural things. The skill we will be using this lesson is asking questions and setting up simple tests.** **Prior learning:** **What part of the plant is this? –** Point to different parts to ensure recall. **Big Question: Do plants need light to start to grow?** **Word of the week: germinate.** Ask the children to create a list in pairs of things plants need to grow e.g. light, water, soil/nutrients. Discuss children's lists and then share the concept cartoon with the class and gather ideas following discussions for each comment. Share the work of **Angie Burnett** – (Plant Biologist who grows plants and sees how they react to different conditions that make it more difficult for them to grow) Ask the children how we could find the answer as to whether light effects plant growth. Allow the children to discuss ideas and collectively come to a decision on how to answer the big question. Encourage the children to think about things to keep the same and only change the amount of light. **Ask the children what will we be measuring or observing?** – suggest the height of the plant, time taken to germination etc... using two seeds plant both in soil and leave one by the window and the other in a dark cupboard. **Ask the children to predict what they think will happen?** – Most will probably predict that the seed in the cupboard will not germinate – misconception that plants need light to germinate.   Ensure the children make regular observations of both plants.	Seeds, pots, soil, concept cartoon.	**Grow, germinate, sunlight, predict, water, soil.**	
3.	L.I. I can set up a simple test to see if temperature affects the growth of plants.	**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 setting up simple tests.** **Prior learning:** **What do plants grow from?** **What do plants need to be healthy?** **What is this?** – showing a tree trunk, then bud, then blossom. **Big question: Does temperature affect the growth of a plant?**	Seeds, soil, pots, fridge.	**Temperature, growth, germinate, seed, healthy, conditions.**	

		Discuss our findings so far about what plants need to grow – at this point the seeds with and without light should have started to germinate. Make observations of the bulb planted in week one – **what have we been giving it to keep it healthy?** **Prior learning link: what do we need to survive? Is a plant the same? Pose the question does temperature affect plant growth? How could we find out the answer?** Share and discuss ideas. **Ask the children to think about how can we keep this test fair? What will we be changing? –** the temperature**. What things will we keep the same? –** amount of water, soil and light. Allow the children time to make decisions about where to place their seeds and allow them to observe how quickly the seed germinates in different temperature conditions. Take predictions on what they think will happen. After two weeks, ask the children to draw their results. E.g. **EVIDENCE OF LEARNING** / **ASSESSMENT** Oral evidence / Examples of work / Knowledge  Max has observed that seeds need warmth to germinate. Teacher observations / Working scientifically Max picked up the word, "cotyledons" from a book the class were reading together. Max makes careful observations of the seedling and produces a labelled diagram of the basic parts, including root hairs which he read about in a book. He uses his observations to compare the two conditions for germination. After three weeks, our seed with heat has started to grow. Our seedling is 7cm. Our seed in the fridge has not started to grow at all.			
4.	L.I. I can explain what a plant needs to germinate. Making conclusions of	**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 conclusions.** **Prior learning:** **What does germinate mean?** **What is a bulb?** Allow children time to make observations about all of the seeds they have planted over the weeks in order to answer the big question. **Big question: what do plants need to germinate?**	Plants grown so far in different conditions.	**light, shade, sun, warm, cool, water, grow, healthy,**	

Discuss with the children what we have found out after observing our different seeds in different conditions? What do we now know plants need to germinate? Is this different to what they need to stay healthy?

Ask the children to choose a method of explaining e.g. poster, report, information page everything they now know about plants. Also encourage the children to go back to their pre assessment thought shower and add everything they now know about plants.

The children were asked to reflect on what they had learnt by trying to germinate the seeds in different conditions.

EVIDENCE OF LEARNING		ASSESSMENT
Oral evidence	Examples of work	Knowledge
		Max now shows that he understands that seeds do not need light to germinate.
Teacher observations		Working scientifically
Max recognises that seeds grown indoors need to be looked after – they need love.		Max uses the results of all the investigations to answer the enquiry question about conditions for germination.

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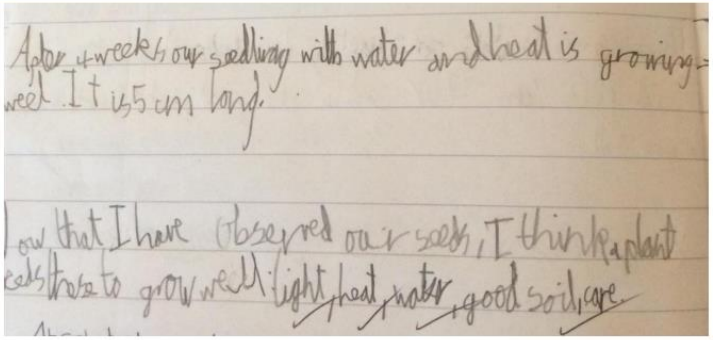
Oral evidence	Examples of work	Knowledge
		Max shows that he understands that plants need different conditions to germinate and grow healthily.
Teacher observations		Working scientifically
		Max uses his observation to draw a conclusion about what plants need to grow well.