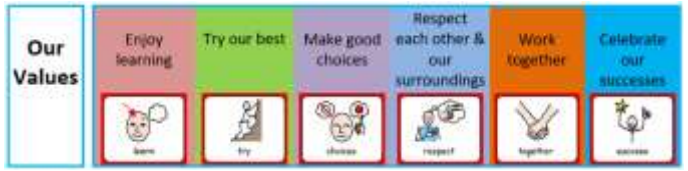
Science



SUBJECT MEDIUM TERM PLANNING – SCIENCE

Year Group: 2	**TERM:** Summer 1	**Theme:** Ready, Steady, Grow

National Curriculum:

- 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

Context:. Children will build on Year 1 knowledge of plants and knowing what a living thing needs to grow to find out what a seed/bulb needs to grow and stay healthy. They will be building on displinary knowledge by recording their observations of change over time. Children will also be using prior knowledge to make plausable predictions as to the most appropriate conditions a seed/bulb needs to germinate.	**Concepts:** Plants	**Vocabulary:** light, shade, Sun, warm, cool, water, space, grow, healthy, bulb, germinate, shoot, seedling

Prior Substantive Knowledge:

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)

Prior Displinary Knowledge

• Asking Questions with a yes/no question to aid sorting
• Ask 1 or 2 simple research questions linked to a topic
• Observation - compare objects based on obvious features
• Predictions - Children consider in advance what might happen or what they may find out

Future Substative Knowledge:.

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)

Future Displinary Knowledge

• asking relevant questions and using different types of scientific enquiries to answer them
• setting up simple practical enquiries, comparative and fair tests

	• making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • identifying differences, similarities or changes related to simple scientific ideas and processes • using straightforward scientific evidence to answer questions or to support their findings.
End points /by the end of this unit pupils will… • Children will be able to make predictions and say whether they were correct • Children will be able to use observational skills to observe changes in plants over time • Children will be able to say what a plant needs to germinate and grow healthy	**Crucial Knowledge** • Know that seeds and bulbs grow into mature plants • Know that a plant needs water and the correct temperature to grow and stay alive. • Most plants do not need light to grow.

Lesson Number 1

Key learning: I can label the parts of a plant and identify a variety of common wild and garden plants.	**Concepts:** Plants	**Lesson structure: Introduction, direct teaching, activities, key questions** Complete concept map of year 1 knowledge – use as an assessment tool for gaps of knowledge Recap – the parts of a plant – identify theses on a real plant Identify different types of plants – garden vs wild flowers – How do we knoe the difference? Where would find these flowers? Where did they come from? Go on a hunt around school to identify the different flowers around. Discuss what was found.
Success Criteria: This should what the children should be able to do by the end of the lesson I can label the different parts of a plant. I can identify the functions of different parts of a plant I know the difference between wild and garden plants.	**Suggested resources:** Ipad – to help children identify the plants.	

I can identify and name some common plants around the school. 		
Vocabulary: **Plant, stem, root, leaf roots, petal, branch – Year 1 plant key vocabulary**		

Lesson Number 2		
Key learning: identify what plants need to grow and survive.	**Concepts:** Plants	**Lesson structure: Introduction, direct teaching, activities, key questions** Concept cartoon to initate conversation  Recap the 7 life process of a living thing – MRS NERG Read The Tiny Seed book by Eric Game – Childern to think about the different conditions for growth in different areas/seasons. Act out the book to ensure children remember the key elements of books – Can perform to the rest of the class. Recap – how a plant grows – discuss both seed and bulb . Play bbc bitesixe viedo – What does a plant need to grow https://www.bbc.co.uk/bitesize/articles/zxxsyrd Discuss evergreen plants (recap year 1 knowledge of what an evergreen plant is) Create a quiz on Kakoot or Purple Mash to record/assess childrens knowledge 
Success Criteria: This should what the children should be able to do by the end of the lesson - I know the 7 characteristics of living things. - I know what conditions plants need to grow and survive. - I understand how plants grow in different places and conditions. - I can answer quiz questions about plant growth. Deepening: concept cartoon - What do you think?	**Suggested resources:** The Tiny Seed book by Eric Game Will need to create a quiz on Purple Mash or Kakoot,	

		Reflection – concept map of knowledge taught through lesson
Vocabulary: **Germinate, growth, water, light, temperature**		

Lesson Number 3		
Key learning: Plant a seed and use scintific knowledge to find a location	**Concepts:** Plants	**Lesson structure: Introduction, direct teaching, activities, key questions** Children draw the seed or bulb they have chosen (using a magnifine glass) Children to predict what they think will happen to their seed and explain why they think that. Class plant a amaryllis bulb. Individual plant there own seed. Over the next month children will record any observational changes and measurement. Using prior year 1 and year 2 knowledge children can decide where to locate their seed – children mmust explain using scientific vocabulary why they have placed the seed in that location. Teacher to plant more seeds – put one in a cupboard, fridge, don't water one
Success Criteria: This should what the children should be able to do by the end of the lesson - I can plant a seed - I can decide where to plant my seed - I can apply my knowledge of what a healthy plant needs to explain my choices - I know how to record changes and observations Deepening: I can make predictions about my plant growing  	**Suggested resources:** Magnifine glass Bulbs Seeds Plant pots – 1 per child plus a few extra Compost Grorth record book – to record observations and findings over the next few weeks. On last sheet write the evaluation question **Using your knowledge obvservations and findings what does a plant need to germinate and grow healthy?**	
Vocabulary:		

Germinate seed bulb water light temperature

Each week activity for the term		
Key learning: Use observations to record changes to plant	**Concepts:** Plants	**Lesson structure: Introduction, direct teaching, activities, key questions** Each week children to record their observations, and measurements of their flower and the class flower grown from bulbs At the end of the term children to use their knowledge, observations and finding to answer the question What does a seed need to germinate and grow healthy? **(Seeds need water but don't need light to grow)** Children to refer back to their prediction at the start of the term – Did the generate a correct prediction? If they weren't correct what happened?
Success Criteria: This should what the children should be able to do by the end of the lesson 	**Suggested resources:** Grorth record book – to record observations and findings over the next few weeks	
Vocabulary: Germinate, temperature water light growth		