YEAR 5 LIVING THINGS AND THEIR HABITATS PLANNING

Class: Term: Subject: Science Unit: Living things and their habitats

Differentiation and support (Detailed differentiation in weekly plans.)

SEN: write up investigations on writing frames. Support from more able partners in mixed ability work. Additional adult support.

GT: Provide extension activities to apply their own knowledge and to research information independently

English: using dictionaries, sequencing, and listening for information in video clips, biographical information and giving and listening to presentations

Maths: sorting and classifying and measuring plants

ICT: videos on IWB, researching information on websites and creating presentations

Art / D+T: drawing and annotating diagrams

PSHCE & PE: reproduction

At the start of the unit have children try to grow a new plant from seeds, stems, root cuttings, tubers and bulbs

w	Learning objective	Teaching activities	Resources	Assessment: Success Criteria
1a	To show what existing knowledge	Children to complete given a mind map with named branches e.g. parts of a flower, how a baby develops etc	Mind maps	Formative assessment

1b	To be able to name and know the function/s of each of the parts of a flowering plant (1 hour)	Intro: Ask children to think, pair, share what they have learnt in previous years about the parts of a plant and their functions (root, stem, leaves, flower and fruit) Ask children to think, pair, share what they have learnt in previous years about how plants reproduce (seeds, fruit and pollination) Explain that we are going to be learning in more detail how a plant reproduces and the parts of a flower Watch video about the parts of a flower at: https://www.youtube.com/watch?v=bLhTgTwbYMI (if the link does not work, Google 'BBC Teach Youtube Parts of a plant Primary Biology – Plants') https://www.youtube.com/watch?v=A5Pf4_LXyC4 (if the link does not work, Google 'The anatomy of the flower Primary Biology – Plants') https://www.bbc.co.uk/teach/class-clips-video/how-plants-and-animals-reproduce/zm8fbdm (if the link does not work, Google 'BBC Teach class clips Science KS2 / KS3: How plants and animals reproduce') – watch the video up to 2 mins 26 secs Explain independent work, including how 'annotate' means label Display words to use to label the parts of a flower	Real flowers e.g. lilies Words to label the parts of a flower printed Crosswords Dictionaries and non-fiction books on plants Cards for plenary (laminated and cut up)	MUST: name <i>some</i> of the parts of a flower and their functions SHOULD: name <i>more</i> of the parts of a flower and their functions COULD: name <i>all</i> of the parts of a flower and their functions
		Main: While watching the videos again, children to either: Draw and label a diagram with the parts of a flower OR Label the parts of a flower that has been drawn for them: Go to https://schoolgardening.rhs.org.uk/Resources/Info-Sheet/Flower-structure-diagram (if the link does not work, Google 'RHS school gardening flower structure diagram') and scroll down to the black and white worksheet Extension: children to complete a crossword involving the parts of a flower (without looking at their labelled diagrams) LA to be given letters in the crossword to make it easier; HA not given any letters in the crossword to make it more challenging In pairs, children to test each other's knowledge of the function of each part of a flower		
		Plenary: Collect children's work and give out non-fiction books and dictionaries In groups, children given the parts of a flower, images of the parts of a flower and the function of each part of a flower Each group needs to sort them so that they are in their sets of 3 e.g. petal, picture of a petal and brightly coloured to attract insects (Or the above could be completed with the whole class, with each child being given either the name of a part of a plant, an image of a part of a plant or a function of part of a plant, and then children needing to find their corresponding name / image / function — note that there are 36 cards to be given out) In groups, give the children a real flower e.g. a lily to see if they can identify the parts of the flower		

To understand how sexual and asexual reproduction occurs in plants

(1 hour)

Intro:

Ask children to think, pair, share the names of as many parts of a flower, and the functions of each of these, as they can from the previous lesson

Explain that plants can reproduce in two different ways: sexual reproduction and asexual reproduction

Watch the video at https://www.bbc.co.uk/bitesize/topics/zgssgk7/articles/zyv3jty (if the link does not work, Google 'BBC Bitesize What are the stages of a plant's life cycle?')

Explain that asexual rep<mark>roduction does not involve flowers and only ever involves one parent plant</mark>

Explain that sexual reproduction does involve flowers and requires pollination between two different flowers

Explain that we are going to be focusing on the process of sexual reproduction Watch the videos below:

https://www.bbc.co.uk/bitesize/topics/zgssgk7/articles/zqbcxfr (if the link does not work, Google 'BBC Bitesize How do flowering plants reproduce?')

https://www.bbc.co.uk/programmes/p0119t7t (if the link does not work, Google 'BBC Bitesize video How plants produce seeds')

https://www.youtube.com/watch?v=HLYPm2idSTE (if the link does not work, Google 'Plant Reproduction in Angiosperms Amoeba sisters') – watch from 1 min 35 secs to 4 mins 50 secs (A 'pistil', which is mentioned in the video, is an individual carpel or a collection of carpels fused together)

https://www.youtube.com/watch?v=R8_ScKzLAfE (if the link does not work, Google 'YouTube Sexual Reproduction in Plants | Plants | Biology | FuseSchool')

https://www.youtube.com/watch?v=HP21hIVJhWI (if the link does not work, Google YouTube MBD Alchemie Sexual Reproduction in Flowering Plants') – watch from 34 secs

Revise how the word 'fruit' has 2 definitions: the definition we use everyday e.g. strawberries and the biological definition – the seed-bearing structure created from the ovary e.g. an acorn

Explain independent work, including the need to arrange the steps into a cycle i.e. an oval-type shape and draw arrows between each step

Leave the video at https://www.youtube.com/watch?v=R8_ScKzLAfE paused at 1 min 22 secs with a diagram of the parts of a flower on display throughout the lesson

Main:

Children given the steps in the process of sexual reproduction of plants in a jumbled up order and need to order them correctly

LA children given the steps divided into 3 sections to order at a time; HA children given the steps all in one colour to order all at once

Extension: Children to look up the meaning of the following words related to sexual reproduction in plants: angiosperm, gymnosperm, embryo, genome, meiosis, haploid and diploid

Check videos open and play OK, have them at the correct point and skip and / or close ads

Steps to cut out and stick

Scissors

Glue

Dictionaries (for extension) – make sure include terms to look up MUST: know *some* of the steps in the sexual reproduction cycle of plants

SHOULD: know *all* of the steps in the sexual reproduction cycle of plants

COULD: find out the meaning of some more scientific terms related to the sexual reproduction cycle of plants

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	Plenary: Collect in books and any spare worksheets In pairs / teams, ask children to remember and write down as many steps in the of the plant sexual reproduction cycle as they can Award points to the pair / team that remembers the most correctly Watch the video at https://www.bbc.co.uk/bitesize/topics/zxfrwmn/articles/z28dpbk (if the link does not work, Google 'BBC Bitesize How do plants spread their seeds?) Revise the different methods of seed dispersal covered in previous school years: wind, water, eaten by animals, sticking to animals, buried by animals and explosion		
To compare sexual and asexual reproduction in plants (50 mins)	Intro: Ask children to think, pair, share the two types of reproduction that we learnt about in the previous lesson Ask children to think, pair, share the steps in the sexual reproduction cycle of flowering plants Explain that we are going to be comparing the asexual and sexual reproductive processes in plants Watch the video about methods of plant asexual reproduction at https://happylearning.tv/en/plant-asexual-reproduction/ (if the link does not work, Google 'Happy learning tv plant asexual reproduction') Read through the information text that explains the features of sexual and asexual reproduction in plants Main: Children given copies of the information text Children given a number of statements to classify as being part of asexual reproduction or part of sexual reproduction Extension: Children to look up the meaning of the following words: clone, plantlet, cutting, tuber, bulb, runner parthenogenesis and apomixis Plenary: Ask children who got on to the extension to share the meaning of some of the words that they looked up Ask the children to close their books / collect the books in Ask children to come and move each statement to be in the correct column	Copies of information text (keep these for Lesson 5) Statements to cut out and stick Scissors Glue Dictionaries (for extension) — make sure include terms to look up	MUST: correctly sort some of the features based on whether they are part of sexual reproduction or asexual reproduction SHOULD: correctly sort all of the features based on whether they are part of sexual reproduction or asexual reproduction or asexual reproduction COULD: find out the meaning of some more scientific terms related to asexual reproduction in plants

To access the complete version of this <u>Year 5 Living things and their Habitats planning</u>, and all of the resources to go with it, visit:

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