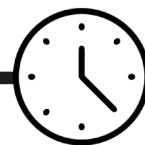


1. Crops for all purposes



1.5
hours

The children are introduced to the idea that some crops are grown for non-food purposes. They review the parts of a plant and their function

OBJECTIVES

- Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers (Y3 Plants)
- To understand that plants are grown as crops for a number of different uses
- Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

RESOURCES

(Per group of 4 children unless otherwise stated)

- 1 dried sunflower plant, or other plants that produce seed oils can be used e.g. maize, rape
- 3-4 clear food bags
- Sugar paper
- Adhesive labels
- A selection of photographs/ images linking crops to their end products. A suitable selection can be downloaded and printed from the teachers section of www.plants4products.org.uk.

ADVANCE PREPARATION

We recommend that sunflowers are planted during the summer term (planting seeds in early May will produce mature plants by September) ready for this activity.

Note: Sunflower seeds will be found only in the matured plants. The use of dried flower heads therefore provides the best introduction to subsequent activities. See [Appendix 1](#) for information on how to dry the heads and where to purchase pre-dried ones. The comparison of fresh and dried sunflowers using photographs or dried heads can overcome the problem of using pre-dried ones.

INTRODUCING THE ACTIVITY

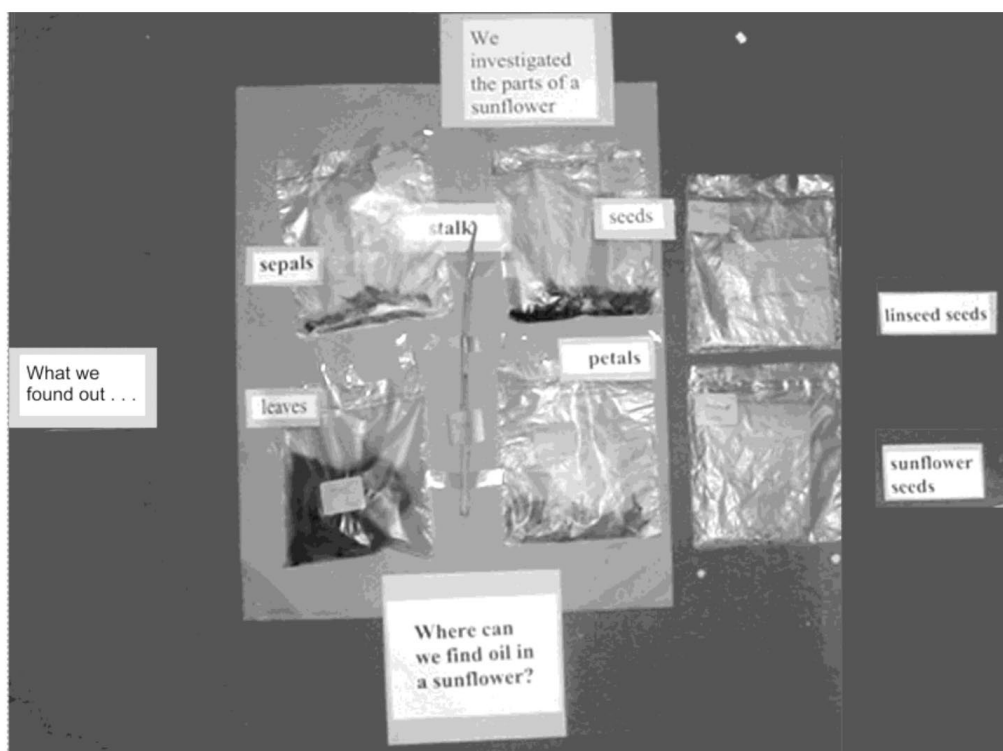
Each group of four children is provided with a set of images from the website. The groups are invited to sort the pictures using criteria of their choice. Once familiar with the pictures they are asked to record links between the photographs, matching the products to the plants that produced them.

Discuss the children's sorting criteria and consider other aspects of the pictures including:

- Do the pictures show living/non-living things?
- How many of the plants can be used for food?
- How many of the plants can be used for non-food purposes?
- Do any plants produce both food and non-food products? How many of the products does their family use; have they seen them in the shops?

MAIN ACTIVITY

Each group is given a sunflower plant to observe, separate into the different parts, label and display. They can include explanations about the function of the parts, e.g. 'leaves use sunlight and water to make food for the plant to grow'. A plastic bag may be useful to collect the seeds from the dried flower, as well as other small parts of the plant. Work can be mounted by the children and displayed.



Wall display of parts of a sunflower.

Extension: Weigh the whole plant before separating. Each separate part can be weighed and the percentage of the whole can be calculated. The weight distribution of the plant can then be displayed in a bar chart or pie chart. Charts representing different specimens can be compared to see if distribution is always the same.

PLENARY

Each group presents their displayed findings and explains what each part of the plant does and what the different parts of the plant could be used for.

The discussion can extend to include all the plants in the photographs, focusing on how they are used to make different products and which parts of the plants are used, e.g. the branches of the willow are used for wicker baskets, the fibres from the seed of the cotton plant are used to produce cotton thread and the sunflower produces seeds and oil.

HOMEWORK

Children can be asked to research one or more of the plants in the photographs and their non-food uses.

Appendix 1: Sourcing dried sunflowers

Dried sunflower head bird feeders can be purchased from some garden centres or via the internet from sites such as www.franceshilary.com

Drying Sunflowers

Outlined below are two different ways to dry sunflowers. Harvest the sunflowers when their heads become brown and dry and most of the leaves have fallen off the stem (the plant will look wilted).

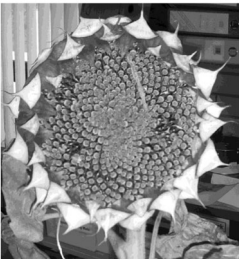
Method 1 – In the garden



The first method is to dry the head and the stem naturally. When the back of the flower's head turns yellow and the petals have fallen off, cover it with a brown paper bag. This prevents the seeds falling to the ground and it will also protect it from birds, squirrels and other animals. The bag allows the plant to 'breathe' and prevents moisture from building up which could cause the seeds to becoming mouldy. If it rains and the bag becomes soggy, it may need replacing. If just the flower head is needed it can be removed from the plant once the head has turned brown about 30cm down the stem, making sure the bag does not fall off in the process. If the whole plant is required, the

plant can be removed from the garden at this stage and stored somewhere dry.

Method 2 – Drying indoors



The sunflower head can be dried away from the plant if there is a strong risk of losing the seeds to wildlife. When the flower head starts to yellow and the petals have died away, harvest the head approximately 30cm down the stem. The head can be dried in any location which is warm, dry and has good ventilation to prevent the seed head becoming mouldy. As with the natural method, a brown bag can be placed over the seed head to prevent losing any seeds, and will protect against wildlife attack.

Further information regarding sunflowers can be obtained from www.sunflowerguide.com