From the booklet: Grouping and Classification

*Teaching Notes*

**Sorting seeds into groups**

This activity is suitable for younger pupils, and helps them move towards making and using keys. It should also encourage them to make close observations and develop appropriate vocabulary. As they do the activity, they can be encouraged to consider the value and purpose of sorting and classifying. The activity is likely to spread over two sessions.

***Resources and preparation for the activity***

Children should work in pairs and each pair has a selection of seeds in a small pot or other container with a lid. You can obtain a suitable range of seeds from supermarkets and health food shops. As these are for eating, this avoids risks that might be associated with seeds from other sources. The list below gives some ideas for you to choose from.

* Suggested seeds to choose from: avocado; various beans (e.g. black beans; Borlotti beans; butter beans; haricot beans; kidney beans; mung beans; soya beans); chick peas; dried peas; lentils; mango; poppy seed; sunflower; sweet corn (maize); wheat

***Other resources***

* Small pot (such as a yoghurt pot) per pair of pupils (to put the seeds in)
* Trays or large sheets of paper (to prevent the seeds falling off tables) Hand lenses
* Rulers
* Access to photographs of seeds and plants (an opportunity to use IT skills to search the website for suitable images)

In the pot for each pair of children, put at least 10 different kinds of seeds. Include a range of different sizes. They need at least 1 or 2 of each seed, but several for the very small seeds.

**The activity**

Start by giving one seed to each pair of children. A sunflower seed is good for this part of the activity. Let them look at the seed and talk about it, using appropriate vocabulary. Ask them to describe it in as much detail as possible. Use every opportunity to be accurate. If, for example, they say it is ‘small’, let them measure it. They may ask whether it is dead or alive, so they can try to work out if it fits any of the Mrs GREN categories.

Then produce the pot of seeds and ask the children to ‘sort’ them. Five minutes is enough for this, and it doesn’t matter if you stop them before they have finished. Ask them to talk about the groups they made and say what they did and why. List the features that they used to separate the seeds. Insist on accurate vocabulary. Depending on your selection of seeds, the children are likely to include words such as smooth, rough; small, big (with measurements); patterns and shapes; colours; hard, soft. You can build up a vocabulary list on the board as they do this.

This part of the discussion can go in different ways, depending on their grouping. Various questions may pop up ... *What sort of plants do they grow into? ... Do the biggest plants have the biggest seeds? ... Are they alive?*

Further discussion can lead on to who needs to identify and sort seeds, and why. Here are some ideas that may be brought into the discussion.

* birds – goldfinches prefer Niger seeds, blue tits love peanuts and chickens like black sunflower seeds
* cooks – haricot beans make baked beans, but red kidney beans are poisonous at one stage of cooking!
* gardeners – if they want a lettuce, they don’t plant runner bean seeds!
* farmers – they grow a lot of our food and the supermarkets ask them to grow particular fruits and vegetables

For the final part of the activity, get the children to choose two seeds. Give them hand lenses and ask them to draw the two seeds to highlight the differences between them. They need to use appropriate vocabulary for the labels and they can refer to the bank of words put up on the board.

Useful images of seeds can be found on various websites. Try [www.theseedsite.co.uk,](http://www.theseedsite.co.uk/) or various search engines.

You may decide to obtain seeds from other sources, such as: garden centres or similar outlets (for sowing); pet food shops (e.g. ‘bird seed’); or collected from an area outside, say around the school. Seeds you might obtain from these sources include: acorn (oak); ash; beech; conker (horse chestnut); dandelion; gourd; pumpkin; sycamore... and a coconut! These sources increase the range of seeds the children can sort, but you should be aware of possible risks and that some seeds may be poisonous.

**Note that seeds for sowing may be dusted with fungicide or other chemicals and that mixtures of ‘bird seed’ may contain peanuts. In all cases, whilst handling seeds, you should make sure that the children do not put their fingers in their mouth and that they wash their hands at the end of the activity. Generally, seeds being sold for food are the safest to use and potential allergens should always be considered and a risk assessment should be generated. Teachers are advised to obtain further information from appropriate organisations, such as** [**ASE**](https://www.ase.org.uk/)**,** [**CLEAPSS**](https://science.cleapss.org.uk/) **or** [**SSERC**](https://www.sserc.org.uk/advisory-service/advisory-home/)**.**

**Further activities**

* 1. At some point, it is a good idea to show them some familiar seeds. This can be done on an interactive whiteboard or other suitable method in the classroom.
	2. Repeat the exercise and see if there are other ways that they can sort the seeds. They may then begin to see that each seed ends up in a group of its own.
	3. Look in a supermarket at the huge variety of fruits and vegetables. See if they can find any seeds in a vegetable or fruit and bring them to school.
	4. Try to answer the question: Is the size of a seed related to the size of the plant it grows into? Think about a broad bean seed and an acorn. They are about the same size as seeds, but what size plant do they each grow into?

Note. Strictly speaking some of the ‘seeds’ listed above are fruits containing a single seed, but for this activity, treat all as seeds.