



Mapping a world for pollinators

Learning Objectives:

- Communicate; take part in conversation, share experiences, ideas and information.
- Understand the importance of insect pollinators.
- Improve understanding of human impact on nature and the need to conserve wildlife habitat

Key Topics: Geography, the world around us.

Location: Indoors

Equipment:

- Copies of maps (if laminated, they can be cleaned and used again).
- Pens to write on maps.
- Tracing paper.

Key Words: Habitat, Pollinator, Flower, Nectar, Pollen, Shelter



Background:

Pollinators are relevant to all subjects in school. They have amazing design features which means that they are fascinating to study in science. They can be found individually, in small groups or large colonies making them great to observe and collect data for mathematical analysis. Pollinators such as bees move over great distance relative to their size, to find food and nesting sites, but don't use maps or SatNav systems like we do.

How much space is available in your local area for pollinators to feed and make their homes?

Activity 1

Meadows and metres: How big is the meadow? How many bee metres could the bee travel in your town/city?

Discuss the area of meadow that would be needed in your town/city to enable pollinators to find food. Also discuss the distance travelled by them and ask students to think about how many different types of food pollinators eat and how much land would be needed to grow all that food.



Honey bee (*Apis mellifera*)



Hoverfly (*Xanthogramma pedissequum*)



Red clover (*Trifolium pratense*)

Key stage 1 & 2

Check if your school has a subscription with Digimap for schools (<http://digimapforschools.edina.ac.uk/cosmo/home>). You can print out maps of your area from here for educational use. Give hand outs of maps to each student, ideally Ordnance Survey 1:25 000 (as these have squares of 1 kilometre on the map making measuring distance and area easier). Point out where the parks, wooded and wildlife ("green spaces") areas are on the map. You may wish to use tracing paper and trace over areas of your map. Try to have a variety of different area maps so that students will have different answers.

Next, ask students to carry out the following tasks:



Calculate the area of green space and grey space:

- Shade in the green spaces on the maps and work out the area of each one (i.e. one square is 1 km²).
- Calculate the total area of green space.
- Calculate the total area of the map minus the total area of green space to give an area called “grey space”.



Calculate bee kilometres:

- Draw in ‘B-Lines’ on the map to connect up the green space areas.
- Measure the ‘B-Lines’ using the background squares to help (or use rulers where 4 cm is 1 km).
- Calculate the total length of the B-Lines – multiply this by 1000 to give you the bee metres for your map (the lines which pollinators can travel on).

Key stage 2

Using the total area of green space and the total area of grey space, work out the percentage of each one for the map.

Share and show maps in class. Who has the best map for pollinators and why? Are all the green spaces connected together? What can you do to your school grounds to make them better for pollinators?

Why not map out your school grounds using the
[‘Our School Grounds’ download.](#)

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