

Topic: Mini-beasts

Worm watch

<http://www.kidspot.com.au/kids-activities-and-games/Gardening-for-kids+31/Make-a-wormery+11067.htm?>

What happens when worms are under the ground? Make a mini worm farm and see exactly what happens. Make your predictions and watch as it unfolds before your eyes. Science experiments are all about observing so watch and learn with science.

What you need:

- large plastic bottle
- soil
- sand
- dead leaves
- water
- earthworms
- food wrap
- dark paper
- pencil

What to do:

Cut the top off of a large plastic bottle.

Fill the bottle with layers of soil and sand.

Add 4 teaspoons of water to the soil and put dead leaves at the top of the soil.

Dig around some soil outside and try to find 2 or 3 earthworms and add them to your soil.

Cover the bottle with food wrap and poke some holes in it with a pencil.

Tape dark paper around the sides of the bottle.

Add 2 teaspoons of water each day to keep the soil damp.

After 2 weeks, take the dark paper off.

You should see that the worms have mixed up the soil and made tunnels.

Notes:

Don't forget to return the worms to where you found them.

Make sure you don't put the bottle into direct sunlight.

Attracting bees

Have you ever wondered how bees and butterflies know where to find good feeding spots? These insects don't have sharp vision, but they see polarized light (which tells them direction based on where the sun is) and patterns of ultraviolet light on bright-colored flowers with lots of nectar. Bees also recognize man-made patterns; sometimes beekeepers put a symbol on a new hive so their bees can remember which is the right one.

Do this experiment to test how well bees recognize patterns - and see if you can fool them! You'll need about a week to do this project, with time to check your homemade bee feeder every day.

What You Need:

- 5 pieces of card, about 12 cm x 9 cm
- 5 small dishes
- 5 plastic zip lock bags (Food storage bags)
- 1/4 cup sugar
- A black marker
- 3/4 cup water

What You Do:

1. On each piece of cards, draw a simple shape with the marker. (You might draw a star, circle, cross, triangle, and square.) Make the shape big enough to cover most of the card and fill in the shape so that it's solid black. When you're done, stick each card inside a zip lock. This will protect it from being ruined outside.
2. Set the bags outside in a flat, sunny spot where they won't be disturbed. Make sure the shapes are facing up. Each one should be placed about half a metre (2 feet) away from the others. If you live in a windy area, use rocks or a stake to hold down the bags!
3. Mix up some sugar water, the "nectar" that will attract bees and other insects. (Real nectar, from flowers, is a similar sugary liquid.) Heat the water until it's almost boiling. Then stir in the sugar until it's dissolved. Pour the sugar water into one of the small dishes; fill the other four with plain water. Set a dish outside by each of the zip lock bags. Make sure you remember which dish has the sugar water!
4. During the next few days, keep track of what kinds of insects visit the dishes. How many days does it take before bees find the one with sugar water? A few days after you've seen bees at the sugar water dish, switch cards so that the shape that was next to the sugar water is now by a dish of plain water. What happens in the next two days? Do the bees come right to the sugar water, or do they land on the dish with the card that used to be next to the

sugar water? Now leave the cards where they are, but switch the sugar water dish with another dish of plain water. How do the bees respond?

Taking it further:

While you watch the bees' reaction, keep an eye on other insects, too. Do butterflies and ants respond the same way? Did one kind of insect seem to have an easier time re-locating the sugar water? Try the experiment using different-colored circles, instead of different shapes. Did any of the results change? Do insects seem to recognize colors as well as shapes?