**MAKE A CHOICE CHAMBER FOR BUGS AND SEE WHAT CONDITIONS THEY PREFER**

**WHAT YOU WILL NEED**
- Two empty fruit juice cartons
- Marker pen
- Scissors
- Stapler and staples
- Strong tape
- Piece of thin cardboard to make the lid
- Paper towels
- Cottonwool balls
- Water
- Woodlice and a spider

**Decisions, decisions**
If you make a choice chamber, you can see what conditions attract bugs and what they avoid. The chamber has two rooms connected by a narrow slit. You can adjust the conditions in each room (for example, by making one darker than the other) and leave the bugs to decide which they prefer. Woodlice are good animals for this test. Their brains are small, but they know what suits them best. You can also try repeating the activity using a spider.

**BRAINY BUGS**
Some bugs can behave in surprisingly clever ways. Digger wasps, for example, are very good at finding their burrows. They do it by remembering every detail of the ground nearby. These wasps have another, even more impressive trick. When they make a burrow, they often pack down the entrance with a tiny stone. Apart from mammals and birds, very few animals use tools of any kind. For a tiny insect, it is a remarkable skill.

**Homing in ▲**
Digger wasps nest on the ground in open, sandy soil. They need an exceptional memory to find their way back to their nest.

**Cut a piece** of cardboard to make a lid for one side. Attach it to the base with tape. Place a piece of paper towel in both sides and put some damp cottonwool balls in the side with the lid.

**Cut an opening** between the two cartons, reaching down to the base. The opening should be no more than 1 cm (½ in) wide. Seal the gap with a strip of tape.

**Draw a line** around each carton, 5 cm (2 in) from the base. Cut along the lines and staple the bottoms of the cartons together.

**Put the same** number of woodlice in each side of your choice chamber, then close the lid. Leave them for ten minutes. When you look again, see how many are on each side.

**Be very careful with any bugs you collect for this activity! Be sure to return them to your garden once your experiment is complete!**

**Suitable for 7–9 years**

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