Bert Hölldobler has investigated ants in many countries.

Bert Hölldobler, *Biologist*

What would have happened if Bert Hölldobler's parents had forbidden their son to keep ants as pets?

Bert Hölldobler is a world-famous ant researcher. He has found out how ants communicate by means of scents. "Communicate" is similar to "speak". People speak to each other in order to share information. Ants produce scents in order to tell each other important things. For example, a person might shout, "Watch out! Danger!" – but an ant releases a scent from a gland in its abdomen in order to warn other ants of a danger. The ants smell these scents with their antennae. Ants can also use scents to recognize one another and lay scent trails.

Together with other researchers, Bert Hölldobler discovered that all of the ants in an ant colony are related to one another. In other words, all of them are descended from a single ant ancestor. When we say "ant colony", we mean all the ants that live together in an anthill. All of the animals that live in the colony stick together and even sacrifice their lives for one another if they have to. Bert Hölldobler calls an ant colony a "superorganism". The idea behind this word is that the many thousands of animals in an ant colony live together so well and so smoothly that to an outsider it looks as though the entire anthill is a single creature.

Bert was an ant researcher even as a little boy

Bert Hölldobler was born in Erling-Andechs in Bavaria (Germany) on 25 June 1936. He was already an ant expert as a little boy. He spent lots of time watching ants in the forest, and he even kept ants as pets in an ant terrarium – which is also called a formicarium. Formica is the Latin word for ant.

As an adult researcher, Professor Bert Hölldobler has observed ants in their natural habitat in many different places all over the world – for example, in the deserts and forests of North and South America, and in Africa, Australia and Asia. He was always on the lookout for more knowledge about ants. He discussed his observations with other ant researchers, because researchers often gain new ideas and explanations through talks with their colleagues. For example, Bert Hölldobler worked out his idea of the ant "superorganism" together with other researchers. In the laboratory, Bert Hölldobler has also examined individual ants under the microscope and studied their body structure.

Since 2004, Bert Hölldobler has been doing his research at Arizona State University in Tempe, Arizona, in the USA.

Now it's your turn!

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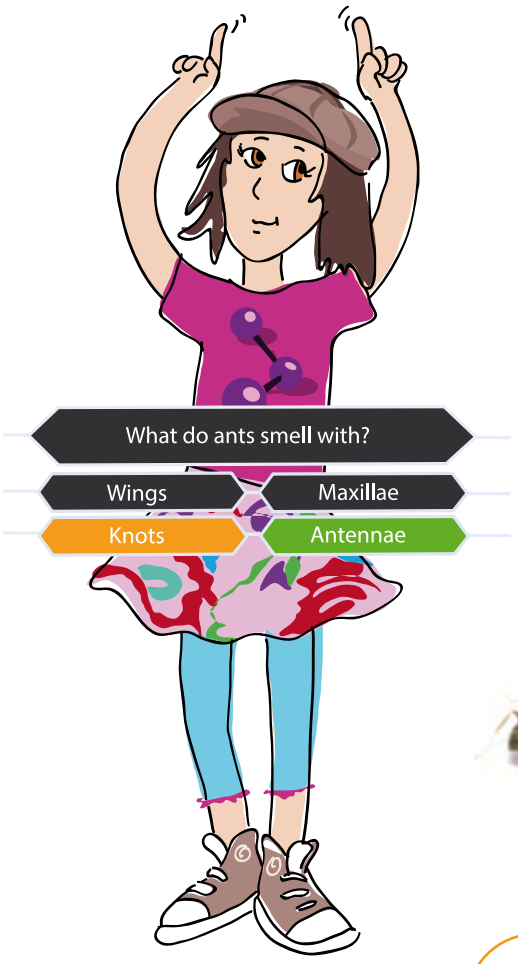

1 Drawing

Take a close look at a picture of an ant. Take a big piece of paper in landscape format and draw an ant in pencil.

2 Drawing

- Label your drawing. Mark the ant's body parts: head, antennae, compound eyes, adhesive pads, mandibles, maxillae, thorax, abdomen, legs.
- Look for information about ants in order to label your drawings correctly.
- Note the specific tasks of the different body parts.

3 Ant quiz

After you have labelled your drawings, you can find out more information about ants in books and on the Internet. Get together and think up five questions about ants and the right answers to them. Put together an ant quiz with other children from your class.

4 Mind game

Imagine this situation: An ambitious scientist has developed Amkil, an insecticide that kills ants. Now there's no hope left for the ants – with Amkil, even the last ant colony can be found and destroyed. For the first time, it's possible to remove every last ant from the planet Earth.

Should the scientist be allowed to sell Amkil?

- Find out if ants are useful or harmful in the natural world.
- Consider what it would be like for you yourselves if the world were free of ants.
- Then list the arguments for (pro) and against (contra) Amkil.

Organize a hearing in which the representatives of the pro and contra arguments present their ideas. There are three speakers on each side. You must prepare yourselves well so that you can convince all of the children in your class. That's because there will be a vote after the hearing to find out everyone's opinion: Who wants Amkil to be used and who is against it?

5 Research questions

Would you like to be an ant researcher too? There may be a meadow or a forest where ants live near your school. Here you could observe ants up close. Before you do this, think up some research questions you would like to be able to answer, and think up a strategy you can use to find the answers.

Here are some examples of research questions:

- Can ants hear?
- Do ants shy away from certain colours?
- Do ants run away when they smell perfume?
- What do various ant nests look like?
- What do ants eat?

You will certainly be able to think of other research questions.

As you do your research, make sure you don't hurt any animals or destroy the anthill!

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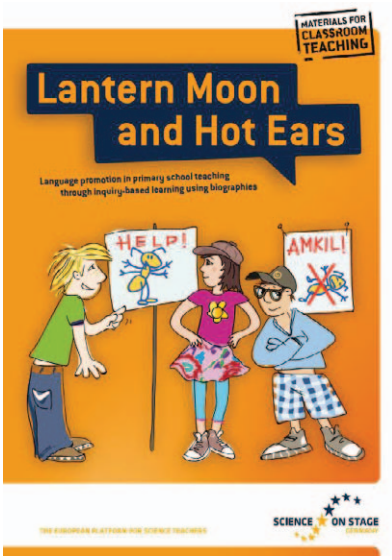

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