



## Take a look!

### Looking at the universe

#### time

65 minutes.

#### learning outcomes

To:

- know that you can use a magnifying glass to see an object in more detail
- learn to use a magnifying glass to look at a leaf and a minibeast
- draw and describe observations
- know that a drop of water and a circular glass of water have a magnifying effect
- know that a telescope makes things look much bigger so you can see the stars more clearly

#### materials needed

- photographs of a flower (Appendix)
- 24 plastic containers and 24 small paintbrushes
- 24 plastic magnifying sheets/ magnifying glasses
- 24 sheets of paper with small text
- 24 elastic bands
- minibeasts
- leaves from trees
- cling film
- circular glass filled with water

## Preparation

For the activity **Large and small** you will need the photographs of the flower from the Appendix.

Make sure that you have the materials needed for Zooming in on nature ready to take with you. For the activity **Water as magnifying glass** prepare 24 sheets of paper with small text.



### Large and small 5 min.

Sit in a circle with the children. Show them the close-up photograph of the flower. Encourage them to describe what they can see on the photo. What do they think it is? Then show them the photograph of the whole flower. Do the photographs look the same? Explain that the first photograph is a magnified detail of the first photograph. Can the children point to the part of the second photograph that shows the detail they can see in the first one? What can they see on the first photograph that they can't see on the second one?

Ask the children what you can use to magnify something. Explain that you can use a magnifying glass. Glasses are also a sort of magnifying glass. Ask the children why it is handy to have a magnifying glass or glasses. Explain that you can take something very small and make it look big, so you can see it better.



The children examine leaves and minibeasts, with and without a magnifying glass.



Ask a few children whether they think they will be able to see more or different things when they look at the leaves and minibeasts through a magnifying glass. What kind of things?



## **Zooming in on nature** 50 min.

Take the children outdoors, providing each with a plastic container. Explain that half the children are to collect leaves and the other half minibeasts; they are to place them gently inside their containers. Help the children to catch the minibeasts using the small paintbrush to transfer them to the container. Emphasise that they must be gentle with the minibeasts. Seal the containers with cling film, making sure there is enough fresh air for the minibeasts. Fasten the cling film with an elastic band. When all the children have a leaf or a minibeast in their container, return to the classroom.



Encourage the children to draw on the worksheet what they see with and without using a magnifying glass. Ask them to swap jars so that everyone has the chance to draw a minibeast as well as a leaf on their worksheet.

At the end of the lesson take the children outside to set the minibeast free.



Ask the children what they have drawn. Did the leaves and the minibeasts look different through a magnifying glass? What was different? Was this what they expected?

Ask why a magnifying glass can be useful. Explain that a magnifying glass helps you to see things better. A magnifying glass that helps you to see things a long way away is called a telescope. A telescope is very good for looking at the stars, which are also a long way away. You can find stars all over the universe. The universe is the big space all around the Earth. A telescope lets you see things in the universe that you can't see just using your eyes.

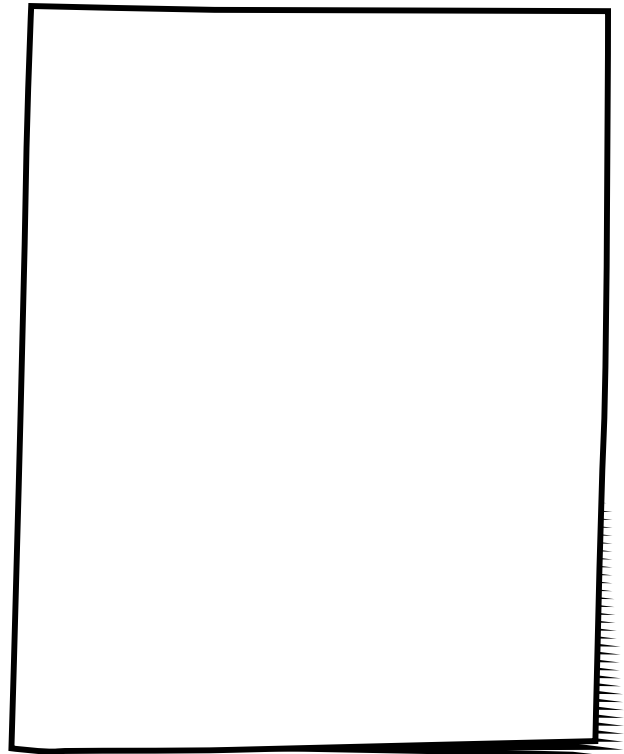
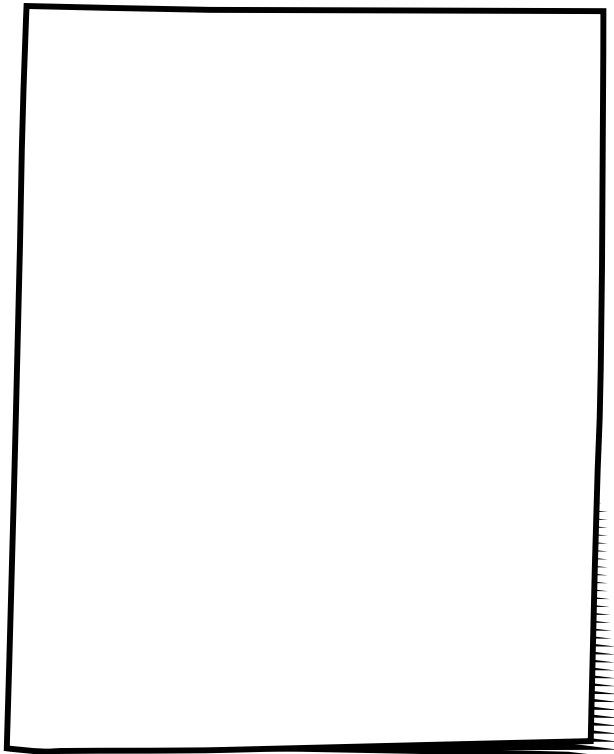
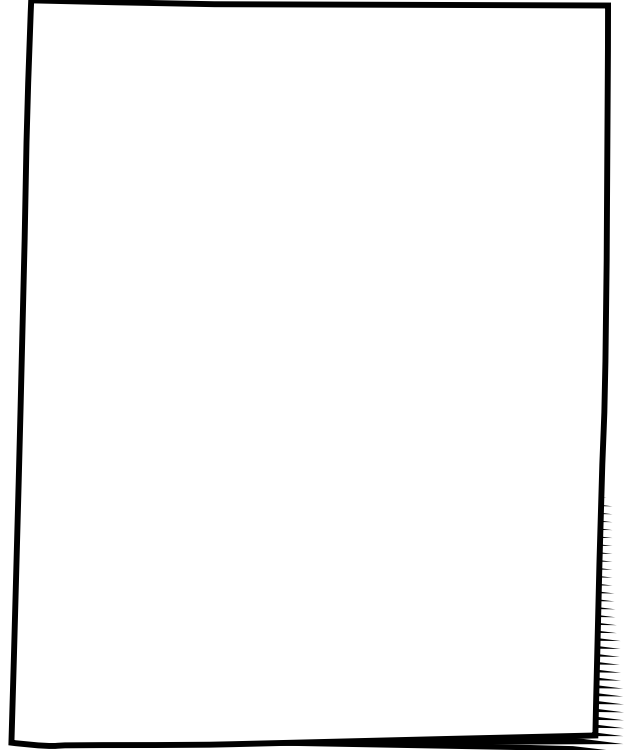
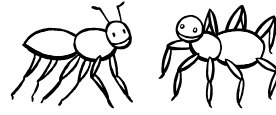
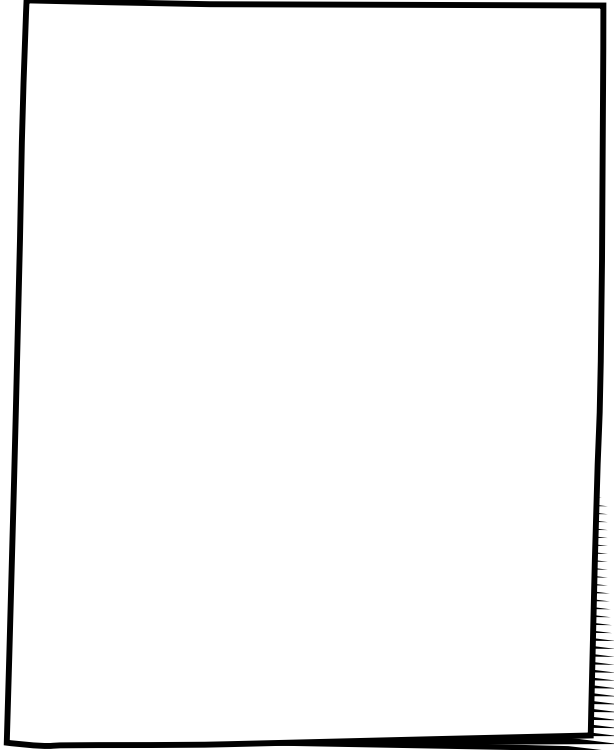


## **Water as a magnifying glass** 10 min.

Give each of the children a sheet of paper with small text and place a drop of water over a letter. Can they see the letter better now? Hold the paper with small text behind a glass of water. What can the children see? Is the text easier to see? Come to the conclusion that a drop of water and a glass of water both act as a magnifying glass.



# 15 worksheet





**Flower** [close-up and view from above] • LESSON 15