



Where does the rain go?

Weather

time

45 minutes
(day 1) &
5 minutes
(days 2 to 4) &
20 minutes
(day 5)

learning outcomes

To:

- know different forms of precipitation: rain, hail, and snow
- observe changes in the daily weather
- measure the amount of rainfall
- know the water cycle

end product

- a rain gauge

materials needed

- 12 straight-sided jars or transparent plastic containers
- 12 containers
- 12 strips of paper measuring 10 x 2 centimetres
- a ruler
- A4 paper
- colouring pencils
- today's weather forecast
- glue
- scissors
- waterproof marker

Preparation

For the activity **Precipitation** print a copy of today's weather forecast for each child, and the forecast for the coming days. You can find these on the website of the meteorological office. Make sure the forecasts contain text as well as pictures. For the activity **Make a rain gauge** you will need 12 strips of paper measuring 10 x 2 centimetres. Mark the strips with centimetres and millimetres.



Where does the water go? 5 min.

Organise the children into pairs. Give each pair a container and a waterproof marker. The children fill their container with water. They use the pen to mark a line on the container showing the level of the water. Then they place the containers on the radiator or in the sun. These containers will be used in the activity

Where does the water go? (2)

Precipitation 15 min.

Explain that rain is a form of precipitation. Give each child a sheet of A4 paper and some colouring pencils. Ask the question: 'What other forms of precipitation are there?' Encourage the children to draw as many sorts of precipitation as possible on their sheet of paper. After five minutes discuss what they have drawn. Reach the conclusion together that the following forms of precipitation exist: rain, snow, and hail.

Then give each child a copy of today's weather forecast and the forecast for the coming days. Look at the forecasts together.

Is it going to rain today? Does the forecast match the weather outside? Look at the forecast for the coming days.



The children make a rain gauge.

Make a rain gauge 25 min.

Ask if anyone knows what the function of a rain gauge is. Explain that you can use a rain gauge to catch rainwater. This enables you to measure how much rain has fallen.

Set out the materials for the rain gauges (12 straight-sided jars or transparent plastic containers and the strips of paper you prepared earlier) at the front of the class.

Show them to the children. Organise the children into pairs.



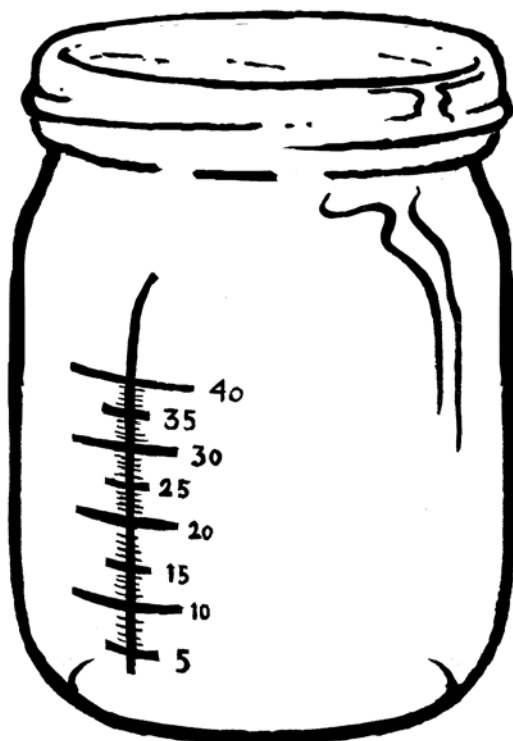
Look at [Task 1](#) of the worksheet with the children. Think together about what conditions a rain gauge needs to meet. Encourage the children to draw the rain gauge.

Hand out the materials needed and make sure the children paste the strips vertically on the jars. You can see an example of a rain gauge in the drawing.

On this straight-sided jar the centimetres and millimetres have been drawn with a waterproof felt-tip pen.



Look at the children's ideas and decide if this is a good way to make their rain gauge. Once their idea has been approved, give the children the materials needed.





When all the rain gauges are finished, read the checklist on the worksheet together. Make any changes if necessary.

Make sure the children's names are on the rain gauges. The children put their rain gauges outside in various locations. In this way they can see whether the volume of rain collected is affected by the position of the rain gauge. Leave the rain gauges in the same place for a week. Each day, the children use it to record how much precipitation has fallen.

They compare their measurements with the forecast for this week.

Measure the rain 5 min. (daily on days 2-4)

On the coming days look at the weather forecast with the children. Encourage the children to check the amount of rain in their rain gauge every day. How much rain has fallen? Ask them to record this in Task 2 on the worksheet. After each measurement the rain gauge must be emptied. Are the children able to clearly read how much rain has fallen? Does this match the weather forecast? Discuss with the children whether they can use their rain gauge to catch other forms of precipitation. The rain gauge can also catch hail and snow.



Where does the water go? (2) 20 min.

At the end of a week, the children check the containers left on the radiators or in the sun. How much water is left in the containers? Ask the children why there is less water now.

The children have learnt that you can catch rain in a container. Ask why the rain doesn't stay on the ground where it falls. Where does the rain go? Explain that the water soaks into the ground (give the example of when you water a plant). In addition, when water gets warm it evaporates. The warm vapour rises. When the vapour rises, it cools to form droplets of water. These droplets form clouds. Encourage the children to breathe against the windows. The warm damp air from their mouths cools off when it hits the cold glass. Tiny water droplets are formed on the glass. A cloud is made up of water droplets just like these. The water vapour in the cloud becomes rain when the cloud moves into an even colder layer of air and cools off even more. This can happen, for example, when a cloud meets a mountain and is pushed higher into the air. Then it starts to rain. This means the water returns to the ground, and it then flows back to the sea via the rivers. Explain that this process is called the water cycle. The children complete Task 3 on the worksheet.

At the end of the week discuss what the children have discovered.

How much rain has fallen altogether? Can anyone use the information about the rainwater they caught to explain the water cycle?

Encourage the children to look at Task 3 from the worksheet to help explain it.



Where does the rain go?

1 *Make a rain gauge*



You are going to make a rain gauge.

You can use a rain gauge to measure how much rain falls.



a Draw what your rain gauge will look like.



1 Take the container.

2 Paste the strip made by your teacher straight up the side.

Your rain gauge is ready!

b

Test your rain gauge. Answer the following questions:

Does the rain gauge leak? **Yes / No**Can you measure how much rain has fallen? **Yes / No**Can the rain fall into the rain gauge? **Yes / No**Is the rain gauge transparent? **Yes / No**

2

Measure the rain

How much rain has fallen? Write your answer here.

day 1

forecast _____ mm

rain _____ mm

day 2

forecast _____ mm

rain _____ mm

day 3

forecast _____ mm

rain _____ mm

day 4

forecast _____ mm

rain _____ mm

day 5

forecast _____ mm

rain _____ mm

3

Where does the water go?



Your rain gauge is full of water. But the pavement isn't wet

a

Where did the water go?

 write
your
answer
HERE



b Here you can see a drawing of the water cycle.

Cut out the drawings below and paste them in the right place in the water cycle.

