

5.20 Introducing water

Topic: Weather

Subtopic: Water

Activity type/skill: Orientation

Literacy focus: Vocabulary

Objective

- Provide orientation to the subtopic.
- Make links with and value previous knowledge.
- Link to the science curriculum.
- Present target vocabulary in context.
- Introduce technical vocabulary related to water.

What you need

- Student worksheet (see the third page)
- [Audio track 5.20a](#)
- [Audio track 5.20b](#)
- [Audio track 5.20c](#)

What to do

1. Look at the first page of the student worksheet and talk about water.
2. Write the questions on the board. Find out what students already know about water and make notes under each question.
3. Play track 5.20a (Track 5 for this topic) and have students look at the second and third pages of the student worksheet and listen to the text as they look at the pictures.
4. Talk about the text and pictures and draw out students' knowledge of examples of water in its different states, for example, frozen food contains solid water, steam is water vapour.
5. Remind students about the weather words they know to draw out statements such as 'Rain is water as a liquid, snow is water as a solid'.
6. Focus on pronunciation of the technical words – evaporation, condensation, water vapour. Talk about any work they have done in science where they may have used these technical words.
7. Look at the fourth page of the student worksheet and have students work in pairs or small groups to complete the activities. Encourage discussion and reference back to the text they have just read. Compare answers.
8. Look at the fifth page of the student worksheet and talk about the water cycle. Remind students how cycles work, for example, life cycles.
9. Play track 5.20b (Track 6 for this topic) and have students listen and look at the diagram.
10. Ask questions about parts of the diagram to draw out what they recall and encourage the use of technical words in complete sentences, for example:
 - What is happening in that big cloud?
 - How does water flow back to the sea?
 - Why is that arrow pointing upwards?
11. Look at the simplified diagram on the sixth page of the student worksheet and the sentences below it. Explain that they need to decide what is happening at each stage of the cycle and write the correct number in the circle beside each sentence. Help them to do the first one. They should do this individually, then compare their answers.

12. Encourage discussion to get agreement on the correct order. When they are satisfied that they have ordered the sentences correctly, have students describe the complete cycle. Encourage them to use their own words, not simply read the sentences. Each student should take a turn and monitor one another for correct pronunciation of technical words. If they do not understand, they should interrupt politely – ‘Excuse me, what did you say?’
13. Look at the seventh and eighth pages of the student worksheet and play track 5.20c (Track 7 for this topic) and have students listen and read.
14. Read the text again together. Draw attention to the different forms of known vocabulary – is cooled, condenses, becomes cooler, form bigger, heavier drops.
15. Look at the ninth page of the student worksheet and have students use the subheadings to label the photographs. Talk about the photographs, encouraging students to describe the process of the formation of the different types of precipitation.

Answers:

A. 1. T, 2. F, 3. T, 4. F, 5. F, 6. T, 7. F.

B. (two atoms of hydrogen + one atom of oxygen) = water ($H_2 + O$) = H_2O

C.

Change	Name of change	Cause of change
liquid to gas	evaporation	heating
liquid to solid	freezing	cooling
solid to liquid	melting	heating
gas to liquid	condensation	cooling

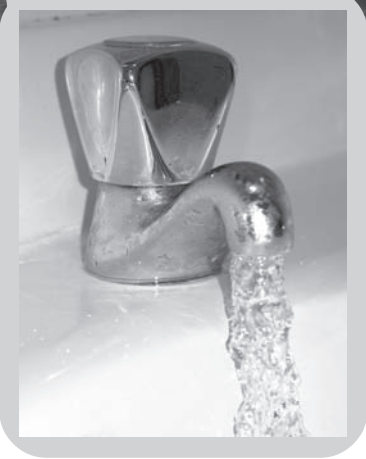
- 4 Water drops grow larger and heavier.
- 7 Water soaks into the soil.
- 5 Water falls back to the earth as rain.
- 3 Water vapour condenses.
- 2 Water vapour rises.
- 6 Water flows back towards the sea.
- 1 Water evaporates from the surface of the sea.

Extending the activity

- Search for websites about the water cycle.
- Read the article ‘Shapes of Water’ (*School Journal* Part 1, Number 4, Learning Media, 1995) and identify the forms of water in the photographs.



Water



What is it?

Where is it?

?
? ? ?

What forms does it have?

Water facts



Track 5

Water (H_2O) is made of water particles. Each water particle is made of two atoms of hydrogen (H_2) and one atom of oxygen (O). There are billions of H_2O particles in one drop of water.



liquid



gas (mist)



solid (ice)

Water has three forms: liquid, solid and gas.

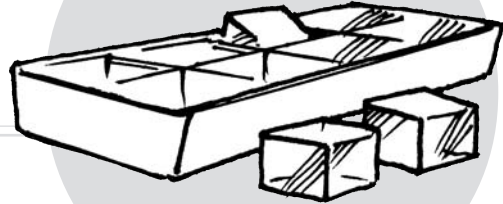
Water can change from one form to another.

Water changes to water vapour if it is heated enough. This is called **evaporation**.



Water vapour changes to water if it is cooled enough. This is called **condensation**.

Water changes to ice if it is cooled enough.
This is called **freezing**.



Ice changes to water if it is heated enough.
This is called **melting**.

- Water begins to freeze at 0 °C.
- About 70% of the earth is covered with water. Less than 3% of this water is fresh. Most of the water covering the earth is salt water in the sea.
- Most of the fresh water on earth is frozen solid as ice and snow on mountains or in polar regions.

Glossary

atom: the smallest part of a thing. Everything is made of atoms.

particle: a very small piece

Activity twenty

A

True

False

- | | | |
|--|------|-------|
| 1. Water is made of particles. | True | False |
| 2. There are two oxygen atoms in each drop of water. | True | False |
| 3. Ice is solid. | True | False |
| 4. When water changes to water vapour it condenses. | True | False |
| 5. Ice changes to water when you cool it. | True | False |
| 6. Most of the water on earth is in the oceans. | True | False |
| 7. Water freezes at 100 °C. | True | False |

B

(_____ + one atom of oxygen) = water

(**H₂** + _____) =

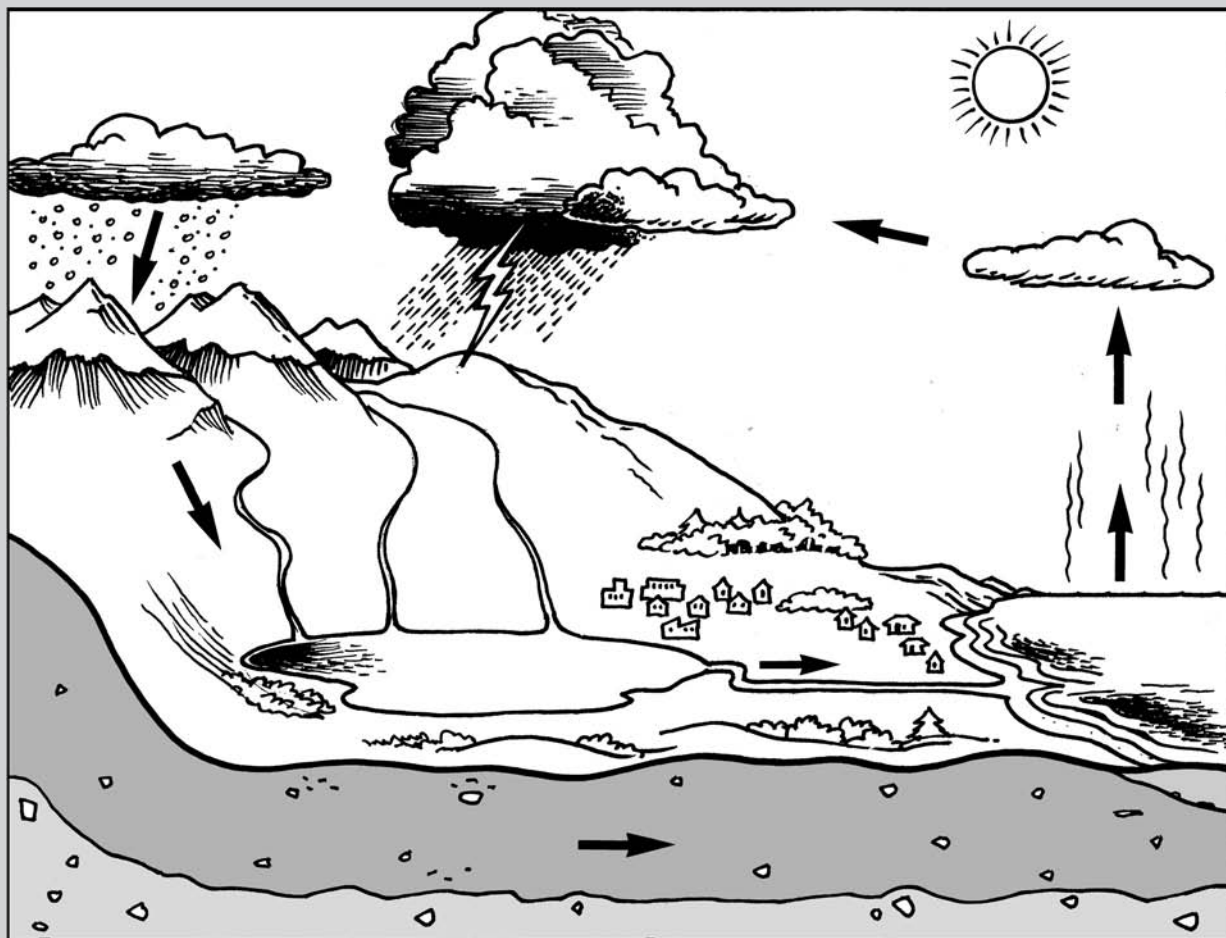
C

change	name of change	cause of change
liquid to gas		
	freezing	
		heating
gas to liquid		

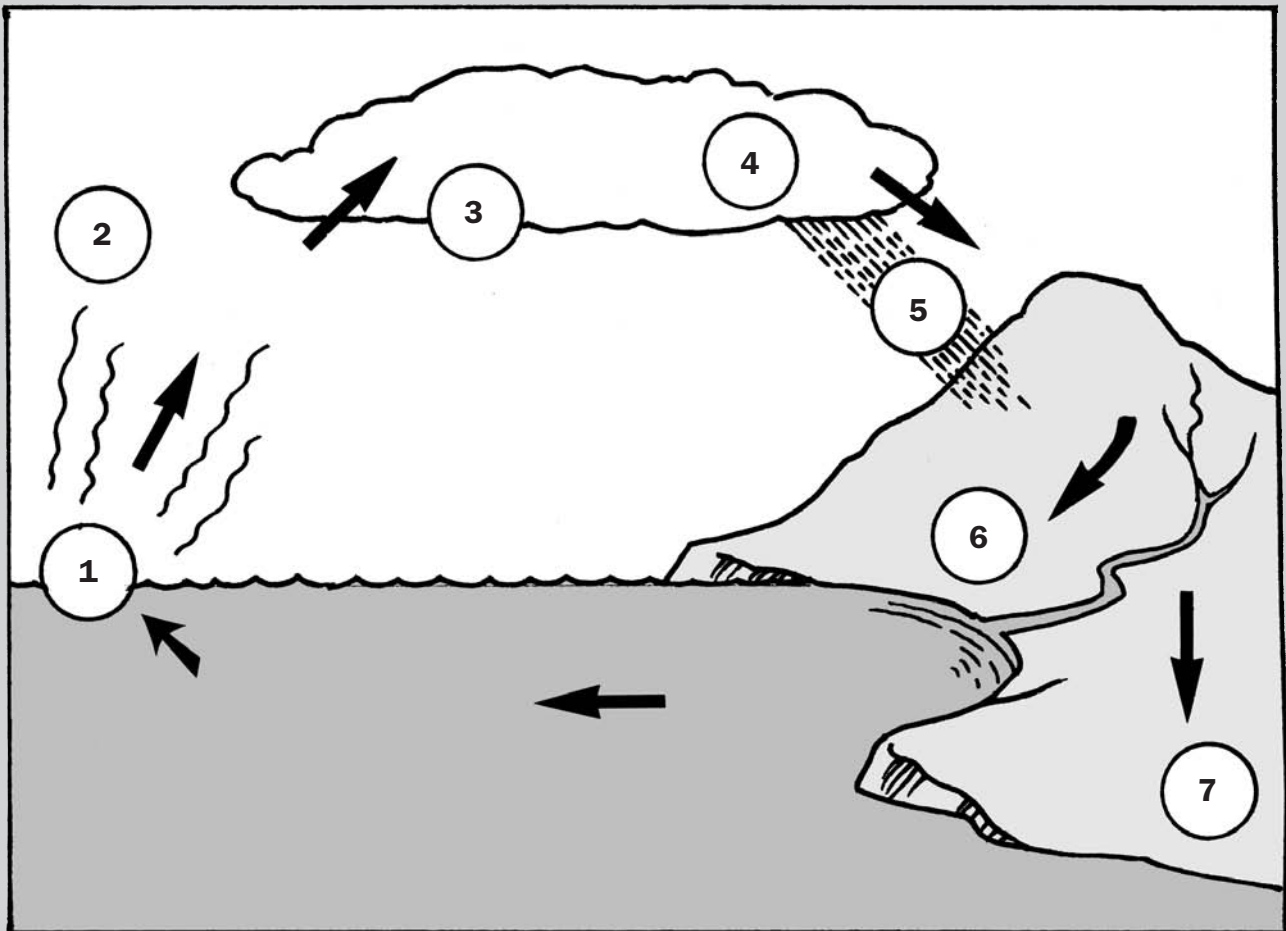
The water cycle



Track 6



The water cycle



- Water drops grow larger and heavier.
- Water soaks into the soil.
- Water falls back to the earth as rain.
- Water vapour condenses.
- Water vapour rises.
- Water flows back towards the sea.
- Water evaporates from the surface of the sea.



Clouds

Clouds are formed when warm air rises and then cools down. The water vapour in the air is cooled and condenses into liquid drops of water. The drops are so small they can float in the air. These drops make the clouds.



Rain

When the air becomes cooler, more water vapour turns into liquid drops. The drops join together and form bigger, heavier drops. Finally the drops get so heavy they fall as rain.

Snow

Sometimes the drops of water in a cloud freeze. They turn into tiny pieces of ice. The pieces of ice join together and form snowflakes. Snowflakes are different shapes, but they usually have six sides.

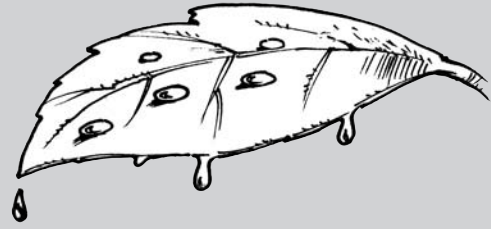


Hail

Sometimes rain freezes as it falls. Hail is frozen rain. Frozen raindrops are called hailstones.

Dew

During the night, small drops of water form on the ground and other surfaces. This moisture is called dew.



Frost

Sometimes moisture on the ground and other surfaces freezes during the night. Tiny pieces of ice form and the landscape becomes white. This is frost.

Thunder and Lightning

A flash of lightning is an enormous amount of electricity that flows between high clouds. Sometimes it flows between clouds and the ground. Lightning heats the air so quickly that it explodes. The noise of the explosion is thunder.



Activity twenty

