

THE WATER CYCLE: THE EPIC JOURNEY OF A WATERDROP

Linguistic level: B1

INTRODUCTION

Homer's epic poem *The Odyssey* is used as the starting point to help students visualise and interact with the process of the water cycle. Students use the conditional forms to review the chemical changes of H₂O in the water cycle. Then, they are asked to make digital stories based on the variables of the process.

Students are shown a shortened version of *The Odyssey* with illustrations, in rhyme and in a digital story format called 'Narrable'. The format of this story and its presentation is to serve as model for the digital story presentations that the students must prepare. In groups, using specific criteria, they write a story about a theoretical journey of a drop of water, and then illustrate the story using slides. Once these slides have been uploaded into a Narrable document, the students tape the narration of the story onto the digital platform. They then present their digital stories to the class.

LEARNING OUTCOMES

Objectives specific to the content area

- Learn about the distribution of water on Earth.
- Learn about the properties of water and link them to their functions.
- Recognise the phases of the water cycle and appreciate their importance.
- Understand the contribution of the chemical make-up of water and water vapour to the water cycle process.

Key competences

- Describe and explain processes scientifically and predict changes. Use explanatory models.
- Apply scientific knowledge to everyday situations.
- Take responsibility for oneself, resources and the environment. Be familiar with healthy lifestyle habits based on advances in scientific knowledge: in the context of one's personal life, that of the community and the environment. Understand the importance of mankind taking precautions and identify human's impact on the environment today.

Collaborative work

- Demonstrate critical thinking in the observation of reality, including in the analysis of advertising messages, and develop responsible consumer habits.
- Be aware of different points of view and think critically about real situations, using dialogue as a means of improving understanding and resolving conflicts. Be able to express one's own ideas and listen to the ideas of others; be able to empathise with others.

LANGUAGE CONTENT AND COMMUNICATIVE OUTCOMES

Vocabulary

- **The water cycle:** *freeze, flow, surface run-off, inexhaustible, landscape, reserve, stream, riverbed, aquifer, livestock, store, reservoir, well, desalinate, sludge*
- **Pollution:** *faecal, lead, overexploitation, source, oil slick, dump*

Structures

- **Third Conditional:** 'If I had come from a plant, I would have risen through the pores of the leaves of the plant into the hydrosphere.' 'If I had lived in a river in the city, I would have had to put up with a lot of pollution.'

Cultural and contextual elements

- Use strategies to look for different types of scientific information. Understand and select appropriate information from a variety of sources.

Communication activities

- Use the correct scientific terminology in texts and argumentation involving scientific content.
- Develop a critical attitude. Confront problems and take part in developing possible solutions.
- Use the correct scientific terminology in texts and argumentation involving scientific content.

Cognitive and thinking processes

- Assimilate knowledge of science and scientific procedures in order to understand information obtained both from students' own experience and written and audiovisual media.
- Develop a critical attitude. Confront problems and take part in developing possible solutions.

ASSESSMENT CRITERIA

- Describes the hydrosphere and explains where it comes from.
- Links the properties of water to its role and functions in nature.
- Describes the processes of the water cycle and explains their importance.
- Understands the different ways in which water appears on the continents.
- Understands how to save water.
- Explains the chemical make-up of water and how this contributes to the water cycle process.

ACTIVITY DEVELOPMENT

Materials you will need

- Computer access
- Paper for illustrations
- Markers/coloured pencils
- Worksheets 1 and 2
- Weblinks under 'Useful links'
- Contents of Unit 6 of Oxford CLIL Natural Science ESO 1

Timing

3 sessions (3 hours)

Instructions

Hand out Worksheets 1 and 2 to your students. Worksheet 1 shows the epic poems about Homer, and an example of the beginning of an 'Epic Water Drop Journey'. Worksheet 2 presents a checklist for the story and the Narrable presentation.

Session 1 (60 minutes):

- Put students into groups of 3-4 and distribute Worksheet 1.
- Play the Narrable rhyming version of *The Odyssey*.

<https://narrable.com/e/presenter/7261?order=8>

(NOTE: While watching the video, you may wish to ask the students to identify the words that rhyme, and what music is being played. The transcript for the rhyming story of *The Odyssey* on Narrable can be found on Worksheet page 3).

- In groups, the students read the example in Worksheet 1 for a possible 'Epic Water Drop Journey' story. Then, the class as a whole can help one another clarify any questions. Respond yourself only when no one else is able to answer with sufficient clarity.

- Once students have signed up into Narrable, distribute Worksheet 2 for the students to begin the project in their groups with a view to writing the story of their water drop in 10-15 stanzas. They 'adopt' a water drop, give it a name, and use it as the narrator to tell the story of the journey a water drop makes in the water cycle. They can use link a) under 'Useful links' to help them. In these stories, their water drops speaks in first person narration and explains:
 - the hydrosphere.
 - the percentage of salt water to freshwater to drinking water and where it is all found on the planet.
 - the four processes of the water cycle: evaporation, transpiration, condensation, precipitation.
 - the relationship between the atmosphere, the hydrosphere and the Sun.
 - the relationship between the water cycle and landscape.
 - the consequences of imbalance in precipitation.
 - the uses of water on the planet.
 - the consequences of lack of fresh water.
 - ways to save water.
 - causes of water pollution.

Extra credit will be given for those groups who write their stories in rhyme.

Session 2 (60 minutes):

- The students make illustrations of the 10-15 stanzas they have written. Their water drop is always part of the illustration because it is telling the story.
- At home, or outside of class time, the students tape their voices into the Narrable platform.

(NOTE: Narrable is not like a Google document in which all of the students can manipulate the story simultaneously. However, they can take turns taping their voices simply by sharing the link. There is also no function to download music in Narrable. They can do this by handholding the music device next to the microphone as they are talking).

Session 3 (60 minutes):

- All the groups present their Narrable stories to the rest of the class.

Answer key

(Students' own answers)

Extension activity

Ask students to write their own narration script for the video. Give the different groups specific sections of the video to write subtitles for. The students play the video with the sound off and narrate the images for their portion of the video.

Useful links

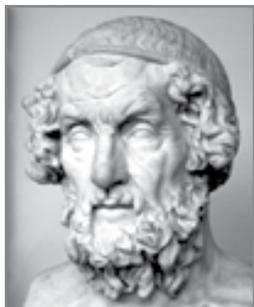
- a) **A dynamic water cycle diagram:**
<http://water.usgs.gov/edu/watercycle-kids-adv.html>
- b) **Interactive water cycle:**
http://www.physics-chemistry-interactive-flash-animation.com/matter_change_state_measurement_mass_volume/water_cycle.htm
- c) **Different images and perspectives of the water cycle:**
<http://www.dreamstime.com/illustration/water-cycle.html>
- d) **Video of an animated water drop in the water cycle:**
<https://www.youtube.com/watch?v=StPobH5ODTw>
- e) **Video of an explanation of the water cycle by an animated narrator** (The narration is very fast, but the 'Transcript' icon can be clicked to watch the video with the transcript playing):
<https://www.youtube.com/watch?v=ZzY5-NZSzVw>
- f) **A site for rhyming words:**
<http://www.rhymer.com/RhymingDictionary/welcome.html>

Guidelines for mixed abilities and special needs

The lesson is designed so that students work collaboratively. The teacher should take care in grouping students of different ability levels so that they can help each other. If any special needs students are not able to present orally, the teacher should make appropriate allowances.

Worksheet 1

EPIC POEM



A long, narrative poem telling about a hero's deeds. Epic poems were usually accompanied with music and told in rhyme.

Homer was a blind poet who lived in Ancient Greece around the eighth century BC, almost three thousand years ago. He is famous for two epic poems: *The Iliad* and *The Odyssey*. The hero of both mythological poems was Odysseus, the king of Ithaca. In *The Iliad*, Odysseus is at war for 10 years.

The Odyssey is about his epic journey home, which took another 10 years. He had a lot of adventures on this trip. He encountered many monsters, gods and sorcerers. By the end of the journey, all of the men who were sailing with him had been killed. He returns home alone, and lives with his wife and son until he is a very old man.



Example of a rhyming 'Epic Water Drop Journey'

- Slide 1:** [an illustration of a water drop] *My name is Epopeya. I am a drop of water. Nice to meet you!*
- Slide 2:** [an illustration of an iceberg in Baffin Bay, Greenland with Epopeya sliding down the iceberg] *I am part of an iceberg in Greenland's **Baffin** Bay. Today it's very warm and my friends and I have slid off the iceberg as if we were on a **sleigh**. The water in the Bay is very salty and humans would not want to drink **us**. So we are free to swim around in the sea, **aimlessly**.*
- Slide 3:** [an illustration of the sun over the iceberg and the drops of water rising from the bay into the atmosphere] *The Sun is very strong today and something strange is happening to **me**. I'm becoming very light and floating above the water up into the sky. Can you see? My friends tell me that I am now **vapour**. Will I ever be a water drop again? My friends say '**Sure**. You've done it many times before. You just don't **remember**. So, it must have been just a **blur**.'*
- Slide 4:** [an illustration of Epopeya and a chemical compound of water next to her] *I ask my friends as we're floating above the sea, 'How can I **float**?' 'You are a drop of water', they tell me. 'You're made up of two hydrogen atoms and one oxygen atom. The hydrogen atoms are so light they lift you up like a balloon, you **dope**.'*
- Slide 10:** [an illustration of a water vapour drop coming out of a volcano] *If I had been living on a rock inside of a volcano, I would have turned into **steam**. Then I would have come out of the volcano really fast. That would have been fun, and I'd watch everyone **scream**! One day I'll try to fall into a volcano from a cloud so I can experience that!*

Worksheet 2

CHECKLIST FOR YOUR 'EPIC WATER DROP JOURNEY' STORY	
(RHYMING) 'EPIC WATER DROP JOURNEY' STORY	
Name of your water drop	
Geographic starting point of story	
Geographic end point of story	
Geological starting point (cloud, snow, iceberg, glacier, volcano, plant)	
10-15 STANZAS OF THE STORY INCLUDING:	
• Explanation of the hydrosphere	
• The percentage of salt water to freshwater to drinking water and where it is all found on the planet	
• The four processes of the water cycle: evaporation, transpiration, condensation, precipitation	
• The relationship between the atmosphere, the hydrosphere and the Sun	
• The relationship between the water cycle and landscape	
• The consequences of imbalance in precipitation	
• The uses of water on the planet	
• Ways to save water	
• Causes of water pollution	
Conditional form in at least 4 stanzas	
Extra credit will be given for those groups who write their stories in rhyme.	
NARRABLE	
Create a Narrable account	
Choose background music 1	
Choose background music 2	
Choose background music 3	
10-15 illustrations of the 'Epic Water Drop Journey' uploaded on Narrable	
Names of the narrator typed into each slide of Narrable	
Link of Narrable saved	

AUDIOSCRIPT: THE ODYSSEY – IN RHYME

(Music 1: Soundtrack *Voyager* Television Series)

1. Once upon a time there was a mighty warrior and king named **Odysseus**.
2. Ten years ago he said goodbye to his wife, Penelope and his infant son, **Telemachus**...
3. He went to a war in **Troy**...
4. He won the war, but now he has to sail back to his wife and **boy**. The journey is dangerous and Odysseus will **be**, 10 more years, sailing on the **sea**.
5. The first stop is Circone and the natives there **kill** many of Odysseus' men who went to war for the **thrill**.

(Music 2: Soundtrack *Xena* Television Series)

6. The next stop is an island which grows a special **fruit**. For the people who eat it their unwillingness to leave the island is **absolute**. Odysseus has to force his **men** to get back on the ship on the count of **ten**.
7. Next, Odysseus and his men arrive at an island inhabited by giant, one-eyed beasts called **Cyclopes**. While searching the island, they come across a cave full of sheep and food, but also **Polyphemus**. He's the son of the god Poseidon, the king of the **sea**. They get trapped in the Cyclop's cave and can't get **free**.

(Music 3: Soundtrack *Hercules* Television Series)

8. Odysseus gets Polyphemus drunk and then puts a stake in his one **eye**. He and his men escape, but he stupidly tells Polyphemus his name instead of just '**goodbye**'. The blind Cyclops tells his father what Odysseus has **done** and now Poseidon hates Odysseus, which is not going to be **fun**.
9. Poseidon is the king of the **sea**... and Odysseus lives on the other side of it. He has nowhere to **flee**!
10. Odysseus and his men land on another **island**, the land of the Laestrygonians, and the men on the 12 ships who sail with him are **stunned** to see giant cannibals who plan to eat them all. **Odysseus** and his men **escape** and again get out of the **scrape**.

(Music 4: Soundtrack *Fellowship of the Ring* Movie)

11. Then Odysseus lands on the island of **Circe**, a witch who turns his men into pigs and tells Odysseus that **firstly** he'll have to stay for a year, but finally lets him go.
12. The next adventure is that the sailors must **pass**, the island of the Sirens, creatures that enchant men by singing to them if they don't go by **fast**. Odysseus wants to hear them, so he puts wax in his men's **ears** and has them tie him to the mast of the ship until the danger **clears**.
13. Then the ship has to go through a pass that is guarded on one side by a six-headed monster named **Scylla**, and Charybdis, a whirlpool and a sailor-**killer**.
14. They survive these dangers, but later they **bow** to the sun god Helios when they kill all his **cows**. Helios kills them all except for **Odysseus** because he warned them not to kill the cattle or there'll be a **fuss**.
15. Odysseus sails off but his ship sinks at **sea**, near the island of Calypso who keeps him thinking only of 'me, me **me**'. Calypso is very **content** because she likes Odysseus' **scent**, but he wants to go **home** because Penelope is still like a **poem**... to him. Finally, the other Gods force Calypso to let him go free.
16. He's almost home, but Poseidon – remember Poseidon? – Odysseus blinded his son, the one-eyed Cyclops? – Poseidon destroys his **raft**, and Odysseus washes up on the island of Scheria where the princess there helps him **fast**. She takes him to the palace where he is **welcome**...
17. ... and after telling his story to King Alcinous he leaves Scheria finally able to tell his family whence he has **come**.