## Activity overview

# The journey of water through our communities

#### In-class Activity – Years 2, 4 & 7

In this activity, students will explore the key stages of the natural and urban water cycles, and connect the stages in sequence.

## Curriculum links

**Year 2 – Science**

* Earth’s resources are used in a variety of ways (ACSSU032)

### Year 4 – HASS

* The use and management of natural resources and waste, and the different views on how to do this sustainably (ACHASSK090)

### Year 7 – Science

* Some of Earth’s resources are renewable, including water that cycles through the environment, but others are non-renewable (ACSSU116)

### Year 7 – Geography

* Classification of environmental resources and the forms that water takes as a resource (ACHGK037)
* The way that flows of water connects places as it moves through the environment and the way these affect places (ACHGK038).

## Time required

45 minutes.

## Things you will need

* The urban water cycle activity cards - Print the cards onto cardboard, to create card sets for group work. Alternatively, if using this as a whole class activity print one larger set of cards. (*Activity sheet included below.*)
* The natural water cycle activity cards - Print the cards onto cardboard, to create card sets for group work. Alternatively if using this as a whole class activity print one larger set of cards. (*Activity sheet included below.*)
* Unitywater Urban Water Cycle video: <https://www.youtube.com/watch?v=8isr9nSDCK4>
* Unitywater’s Urban Water Cycle interactive website

 [www.education.unitywater.com](http://www.education.unitywater.com)

* Unitywater’s water and sewage infrastructure maps

[www.education.unitywater.com](http://www.education.unitywater.com)

* Scissor
* Glue
* Coloured pencils / pens.

## Activity outline

**Year 2**

* Watch the Unitywater video: <https://www.youtube.com/watch?v=8isr9nSDCK4>
* Use the labelled stages from the printed activity sheet as cards.
* Read the labels on the natural water cycle cards (randomly or in order) and review what students recall about each stage of the cycle.
* One at a time hand out the cards to students. Ask the rest of the class to direct the students with cards where to stand if they are recreating the stages of the natural water cycle in order. For variation props could also be introduced to further demonstrate each stage of the cycle.
* Discuss with students how people, their needs, and the communities they live in, affect the natural water cycle.
* Introduce cards relating to the urban water cycle. Read through the labels from the ‘urban water cycle’ card sets (randomly or in order) and review what students recall about these stages of the cycle.
* One at a time hand out the urban water cycle cards to individual students. Through discussion and questioning ask the rest of the class to help direct, sequence and organise these students amongst the natural water cycle students to show the order of the new urban water cycle.
* Discuss the order of the stages as the activity progresses. Ask students why certain cards need to go in the order chosen. Review how the urban water cycle links with the natural water cycle.
* Refer to the placement of students around the room to summarise the urban water cycle.
* Play the Unitywater Urban Water Cycle interactive story, as a class or individually, to review and reinforce learning from the above activity.

**Years 4 & 7:**

* Watch the Unitywater video: <https://www.youtube.com/watch?v=8isr9nSDCK4>
* This activity can be delivered for students working in groups or individually.

**Group work:**

* Organise students into groups provide each with a set of natural water cycle and urban water cycle cards. Instruct the groups to match the stages of the natural and urban water cycles with their respective description. Review the meaning of each stage with the class.
* Ask the students to work together to sequence and organise the natural water cycle cards to represent the natural water cycle.
* Discuss the ways that people, their needs, and the communities they live in, affect the natural water cycle.
* Instruct students to include in their natural water cycle the cards from the urban water cycle. Ask them to sequence and organise the cards in order, with the natural water cycle cards, to represent and demonstrate the urban water cycle.
* Discuss the order of the stages. Review how the urban water cycle links with the natural water cycle and question students on the processes occurring at each stage.
* Play the Unitywater Urban Water Cycle interactive story, as a class or individually, to review and reinforce learning from the above activity.

**Individual work:**

* Provide each student with a copy of the Year 4 and 7 natural water cycle and urban water cycle activity cards. Instruct students to cut out the stage cards and descriptions and match them.
* Instruct students to arrange the stages in order to represent the natural water cycle, and further incorporate the remaining cards to represent the urban water cycle.
* Students can then glue stage cards and descriptions into workbooks, or draw and label their own diagrammatic representation.
* Play the Unitywater Urban Water Cycle interactive story, as a class or individually, to review and reinforce learning from the above activity.

**Variation / extension:**

1. Print out the natural water cycle and urban water cycle activity sheets with blank descriptions for students develop and write their own. Alternatively, provide descriptions and students can draw an image to reflect the stage of the cycle.
2. Instruct students to use different coloured pencils to indicate the flow of fresh water, clean treated water, sewage and treated effluent through the cycle. Students can also find and reference the location of key facilities in their community, such as reservoirs and sewage treatment plants, on their diagrams, using Unitywater’s resources or Google maps.



## Activity sheet

**Natural and Urban Water Cycle Activity Cards (Year 2)**

*Note: The key stages of the urban water cycle are suggestions and should be modified to match the online urban water cycle resource. The graphics for each stage should be the same as those used in the online urban water cycle resource. The stage cards below can be made larger and spread across a couple of pages if necessary. It is suggested that the natural water cycle and urban water cycle cards are coloured differently to help separate themes.*

**The Natural Water Cycle Activity Cards**

|  |  |
| --- | --- |
| Evaporation*Graphic* | Transpiration*Graphic* |
| Condensation*Graphic*  | Precipitation*Graphic* |

**The Urban Water Cycle Activity Cards**

|  |  |
| --- | --- |
| Houses and businesses*Graphic of houses and businesses* | Sewage Treatment Plant*Graphic of sewage treatment plant* |
| Pump station*Graphic of pump station* | Reservoir*Graphic of reservoir* |
| Water Treatment Plant*Graphic of water treatment plant* | Waterway*Graphic of waterway* |

## Activity sheet

**Natural and Urban Water Cycle Stage Cards with descriptions (Year 4 and 7)**

*Note: The key stages of the urban water cycle are suggestions and should be modified to match the online urban water cycle resource. The graphics for each stage should be the same as those used in the online urban water cycle resource. The stage cards below can be made larger and spread across a couple of pages if necessary.*

**The Natural Water Cycle Activity Cards**

|  |  |
| --- | --- |
| Evaporation*Graphic* | The process of turning liquid into gas so it can return to the air. |
| Transpiration*Graphic* | The process of water evaporating from plants so it can return to the air. |
| Condensation*Graphic* | The process of turning water in the air back to liquid. As water in the air condenses, it turns into droplets and forms clouds. |
| Precipitation*Graphic* | The process of water falling from clouds back to the earth. |

**The Urban Water Cycle Activity Cards**

|  |  |
| --- | --- |
| Houses and businesses*Graphic of houses and businesses* | Through our everyday activities, we use clean water in both our homes and businesses. When we use the water, we produce sewage, the used water that goes down our sinks, drains and toilets. |
| Reservoir*Graphic of reservoir* | A large dam or storage facility that stores water. |
| Pump station*Graphic of pump station* | A facility that pumps water from one place to another. This is used to move the clean water to your house, and the dirty water to the treatment plant. |
| Sewage Treatment Plant*Graphic of sewage treatment plant* | A facility that cleans sewage so that it is safe to return to the environment. |
| Water Treatment Plant*Graphic of water treatment plant* | A facility that takes fresh water from the environment and cleans it so it is safe for humans to drink. |
| Waterway*Graphic of waterway* | A river, stream or inlet of the sea through which water flows. It can be fresh water or tidal.  |