

Stage 4 Geography program outline

We offer three excursions that focus on the different types of water in our urban water cycle: drinking water, wastewater and water recycling.

Excursion options

| Excursion options | Sites | Excursion times | Duration | Student numbers |
|--|--|--|--|-----------------|
| Drinking water See how we manage water supply and protect public health. | Orchard Hills Water Filtration Plant | 9.30 am – 11.30 am 12.30 pm – 2.30 pm | 2 hours | 10* – 120 |
| Wastewater See how we manage wastewater and protect the environment. | Penrith Water Recycling Plant | 9.30 am – 11.30 am 12.30 pm – 2.30 pm | 2 hours | 10* – 120 |
| Urban water cycle See how we protect public health, protect the environment and manage water for a sustainable future. | Dual site 1. Orchard Hills Water Filtration Plant 2. Penrith Water Recycling Plant | 9.00 am – 2.00 pm 9.30 am – 2.30 pm | 5 hours including break and travel time. | 10* – 120 |

* Groups with less than 20 students will be combined with other schools doing the same program.

Who will provide worksheets?

We'll provide printed, syllabus linked worksheets for students and a teacher answer sheet. Students will need to bring a pen to complete the worksheet.

Where can we have a meal break?

You can request lunch venue options, including local parks, from the bookings coordinator. No food can be consumed on site.

Time for your own off-site lunch break is included in the program (half an hour) for dual site programs when you travel between the two sites.

What can school students and teachers wear?

Everyone, including teachers and group leaders, **must** wear sturdy, fully enclosed, flat soled shoes such as joggers, closed school shoes or boots. There should be no skin showing on feet. No open shoes such as sandals, thongs or ballet flats.

School students are permitted to wear school or sports day uniforms.

What happens if it's raining or too hot?

If it's very hot, raining or has been raining for a long period of time before your tour, it may not be safe to go outside or complete the whole tour. Your Education Officer will negotiate alterations to the program to make sure you still get the most out of your visit.

Content covered

Water in the World

- investigate how the operation of the **water cycle** connects people and places
- assessment of strategies used to overcome water scarcity and the **role of governments**, non-government organisations, individuals and communities in **sustainable water management** and **enhancing liveability**
- proposal of **individual** actions contributing to **water management**
- discussion of variations in people's perceptions about the **value of water**

Excursion itineraries

Drinking water excursion at Orchard Hills Water Filtration Plant

| Time | Activity | Content |
|----------|-----------------|---|
| 9.00 am | Arrival | <ul style="list-style-type: none"> • Arrive at Orchard Hills, orientation and safety. |
| 9.10 am | Values of water | <ul style="list-style-type: none"> • Outline the roles and responsibilities of Sydney Water • Role of governments, non-government organisations, individuals and communities in sustainable water management. |
| 9.20 am | Tour | <ul style="list-style-type: none"> • Walking tour of an operational site. |
| 10.05 am | Water lab | <ul style="list-style-type: none"> • Your drinking water is high quality and safe. Students will test this with lab experiments and technology used by Sydney Water everyday. |
| 10.50 am | Conclusion | <ul style="list-style-type: none"> • Students discuss their role in managing drinking water. |
| 11.00 am | Departure | <ul style="list-style-type: none"> • Safely depart site. |

Wastewater Excursion at Penrith Water Recycling Plant

| Time | Activity | Content |
|----------|---------------------|---|
| 9.00 am | Arrival | <ul style="list-style-type: none"> • Arrive at site, orientation and safety. |
| 9.10 am | Managing water | <ul style="list-style-type: none"> • Outline the roles and responsibilities of Sydney Water. • Use an Augmented reality sandbox to investigate the natural water cycle. • Use an interactive catchment model to explore Sydney's urban environment, the urban water cycle and managing impacts on the environment. |
| 9.40 am | Wipes out of pipes | <ul style="list-style-type: none"> • Discuss what can and can't go down the drain and the impacts of our actions. • Use scientific mixers to investigate how readily 'flushable' wipes, tissues, toilet paper and facial wipes break down. |
| 9.55 am | Tour | <ul style="list-style-type: none"> • Walking tour of an operational site. |
| 10.35 am | Flow chart activity | <ul style="list-style-type: none"> • Students use pictures to create a flow chart of the treatment process that notes: <ul style="list-style-type: none"> ○ treatment processes ○ substances being removed at each stage of the process. |
| 10.50 am | Conclusion | <ul style="list-style-type: none"> • Students discuss their role in the urban water cycle. |
| 11.00 am | Departure | <ul style="list-style-type: none"> • Safely depart site. |

Urban water cycle- Dual site Orchard Hills and Penrith.

This excursion can also be run in reverse.

| Time | Activity | Content |
|----------|---------------------|--|
| 9.00 am | Arrival | <ul style="list-style-type: none"> • Arrive at Orchard Hills, orientation and safety. |
| 9.15 am | Introduction | <ul style="list-style-type: none"> • Outline the roles and responsibilities of Sydney Water. |
| 9.30 am | Tour | <ul style="list-style-type: none"> • Walking tour of an operational site. |
| 10.15 am | Water lab | <ul style="list-style-type: none"> • Your drinking water is high quality and safe. Students will test this with lab experiments and technology used by Sydney Water everyday |
| 11.15 am | Travel and break | <ul style="list-style-type: none"> • Travel from one site to the next (approximately 30 minutes). Students must bring their own lunch. |
| 12.15 pm | Tour | <ul style="list-style-type: none"> • Walking tour of an operational site. |
| 1.00 pm | Flow chart activity | <ul style="list-style-type: none"> • Students use pictures to create a flow chart of the treatment process identifying substances being removed at each stage of the process. |
| 1.15 pm | Managing water | <ul style="list-style-type: none"> • Use an augmented reality sandbox and an interactive catchment model to explore Sydney's urban environment, the urban water cycle and managing impacts on the environment. |
| 1.35 pm | Wipes out of pipes | <ul style="list-style-type: none"> • Discuss what can and can't go down the drain and the impacts of our actions. • Use scientific mixers to investigate how readily 'flushable' wipes, tissues, toilet paper and facial wipes break down. |
| 1.50 pm | Conclusion | <ul style="list-style-type: none"> • Students discuss their role in the urban water cycle. |
| 2.00 pm | Departure | <ul style="list-style-type: none"> • Safely depart site. |