

Lesson 3 – Practical application of climate change adaptation knowledge

Learning intentions	<p>Students will know:</p> <ul style="list-style-type: none"> - More about Australia’s biomes - How to classify a region’s biome - How to use CliMate to analyse weather data - How to think about adaptations in relation to biome classification
Materials	<ul style="list-style-type: none"> - Computer with projector - Students will need access to computers and the internet - Printed worksheets (one per student)
Resources	<ul style="list-style-type: none"> - Lesson 3 PowerPoint - Lesson 3 teacher notes - Lesson 3 worksheet

Lesson preparation:

- Print worksheets for students
- It may be useful to look at the Australian CliMate App <https://climateapp.net.au> before the lesson so you are prepared for introducing it to students
- Send links on slide 20 to students before lesson
- The below notes and glossary of terms are designed to help teachers use the terminology associated with this lesson

Lesson plan:

- 1) Present PowerPoint to the class
 - Slides 2 – 4: consolidate the difference between ‘mitigation’ and ‘adaption’, as well as the definition of a ‘biome’
 - Slide 4: remind students that not all scientists agree on names or types of biomes so we are choosing a set to work with here but they will probably read about others.
 - Slides 8: ask students to highlight important features of each biome as you work through them
 - 9 – 14: work through each biome with students, ask them to highlight important facts about each biome on their worksheet.
 - Slide 19: once students have used the CliMate App to determine the rainfall and temperature ranges in the three locations and allocated a biome for each, have a few students share their choice and why it fits into that biome.
 - Slide 20: students need to choose ONE of the articles to read. The below notes are designed to help you guide the students to finding an adaptation to investigate. The notes are not exhaustive, there are lots of other adaptation students might find and be able to pitch.

- Slide 27: time students to make them keep their pitches to one minute. This should encourage them to keep the information short, sharp and interesting. Consider showing students examples of good pitches on YouTube if you think they need some inspiration. There is some guidelines and the link to an explainer video on slide 22.

Activity notes:

School article:

- The climate change issue is drought
- Drought causes a range of issues including no water for irrigation and stock, poor soil quality, reduced food security
- Adaptations could include desalination, drip-line irrigation of crops, selection of crops and livestock that require less water

Brewarrina article:

- The climate change issue is bushfires
- Bushfires can cause extensive damage to infrastructure like sheds, fences, machinery as well as ruining crops and killing livestock
- Adaptations to lessen the impact of bushfires could include upgrading infrastructure to be fireproof, digging more dams and bores in improve water availability during fire season, doing more hazard reduction burning

Tully article:

- The climate change issue is flooding
- Floods wipe out crops, wash away livestock and infrastructure. They also ruin soil fertility
- Producers could move their operations to higher ground, build levies and dams to divert water, purchase flood insurance

Glossary of terms

Climate change: Climate change is any change in the climate, lasting for several decades or longer, including changes in temperature, rainfall or wind patterns.

Biome: an area of the planet that can be classified according to the plants and animals that live in it.

Adaptation: To change to become adjusted to new conditions.

Mitigation: To make (something bad) less severe, serious, or difficult.

Pitch: a short presentation aimed to convince the audience of a point-of-view