

Flood

FLOOD QUIZ

Preparation

Read about floods at the following pages:

- ▶ About floods @ <https://www.schools.aidr.org.au/media/5593/aidr-flood-lesson-plan.pdf>
- ▶ Planning for disasters @ <https://www.cairns.qld.gov.au/community-environment/natural-disasters/flooding>

Ask questions to either work in pairs or individually to answer the questions below. Suggested time: 15 minutes

Conduct a class discussion to share student responses to questions

Quiz questions and answers

Q1: How do floods occur?

A: Floods occur when water covers land which is normally dry. They are not always caused by heavy rainfall.

Q2: Are there different types of floods? If so how many, and what is the difference between them?

A: Slow-onset floods

Inland rivers in the vast flat areas of Western Australia, central/western New South Wales and Queensland can often flood. These floods may take days to build-up. They can last for one or more weeks and can even last for months on some occasions.

The damage caused by floods in these areas can lead to major losses of livestock, cutting off rural towns and damaging crops, major roads and railways.

Rapid-onset floods

Rapid-onset flooding occurs more quickly than slow-onset floods. These floods can potentially be much more damaging and can pose a greater risk to loss of life and property. This is because there is generally much less time to take preventative action from a faster, more dangerous flow of water. This type of flooding can affect most of our major towns and cities.

Flash floods

Flash flooding results from relatively short, intense bursts of rainfall, often during thunderstorms. It can occur in almost all parts of Australia and poses the greatest threat to life. People are often swept away after entering floodwaters on foot or in vehicles.

These floods can also result in significant property damage and major social disruption. They are a serious problem in urban areas where drainage systems are often unable to cope. These are the sorts of floods which occur in the Cairns region.

Q3: What type of floods do we experience in Cairns?

A3: Rapid on-set floods and flash flooding

Q4: Is there a difference in how much warning time we have for each of the flood types?

A: yes, slow onset floods have several days

Q5: Apart from rainfall, what are the other types of disasters that can cause floods to occur?

A: Flooding can be caused by a range of situations that include:

- ▶ seawater flooding – coastal areas may be flooded when a cyclone or severe storm causes a surge of sea water,
- ▶ tidal flooding – floods that are caused by high tides that coincide with higher than normal river levels,
- ▶ run-off from rivers and dams – flooding can be caused when river systems need to carry more water than usual following a snow-melt or when dams start to overflow,
- ▶ urban drainage – flash flooding is a serious problem in some cities when the drainage systems fail. People can be caught in stormwater drains, trapped in their cars or even swept off the roads by water.

Q6: Find a list of notable floods in Australia from 1970 to 2007. Mark each major flood event on a map of Australia.

Q7: Are there any patterns? If so, what would cause an area to flood more often than others?

A: Poor drainage, areas of high rainfall, areas subject to high seasonal rainfall events.

Q8: What would be some effective flood prevention strategies for these areas?

A: Building flood levies, building above historic flood levels, early warning systems for dam and river flood indicators.

Q9: What kinds of thing should you do to be prepared for a flood in Cairns?

A: Keep a well-stocked household emergency kit, create a household emergency response plan.

About floods

Floods occur when water covers land which is normally dry. They are not always caused by heavy rainfall.

Floods may be caused by prolonged or very heavy rainfall, severe storms or tropical cyclones, and the monsoonal (wet season) rains in the tropics.

Flooding can also be caused by other events, such as snow-melt and dam failure.

In the coastal regions of Australia, floods can also be caused by the sea. Seawater flooding can happen during storm surges, king tides and tsunamis.

People who live close to rivers, creeks, major stormwater drains and low-lying areas are usually most at risk from flooding. Heavy rains and storms in one area can cause flooding in another town. When the water levels of local rivers and streams overflow, they can sometimes spill out over thousands of kilometres of the surrounding region.

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- ▶ Run-off from rivers and dams – flooding can be caused when river systems need to carry more water than usual following a snow-melt or when dams start to overflow,
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Is it always bad news?

Floods can have both positive and negative impacts. Sometimes floods can bring welcome relief for people, livestock and areas experiencing drought conditions.

Flooding can also be a natural way for wetland areas, swamps and native waterways to survive. Underground aquifers and soils with high salt levels also benefit from floods.

Types of floods

There are three common types of floods that affect Australia:

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Curriculum links

F	Science	CSSU004: Science understanding; Earth and space sciences	Daily and seasonal changes in our environment affect everyday lives
F	English	ACELT1783: Literature; Examining literature	Recognise some different types of literary texts and identify some characteristic features of literary texts, for example beginnings and endings of traditional texts and rhyme in poetry
F	English	ACELT1578: Literature; Examining literature	Identify some features from text including events and characters and retell events from a text
F	Health & Physical Education	ACPPS006: Personal, Social and Community Health; Contributing to healthy and active communities	Identify actions that promote health, safety and wellbeing
1	Science	ACSSU019: Science understanding; and Earth and space sciences	Observable changes occur in the sky landscape
1	Science	ACSHE021: Science as a human endeavour; Nature and development of science	Science involves observing, asking questions about, and describing changes of science in, objects and events
1	Science	AC SIS025: Science enquiry skill: Planning and conducting	Participate in guided investigations to explore and answer questions
1	English	ACELT1584: Literature; Examining literature	Discuss features of plot, character and setting in different types of literature and explore some features of characters in different texts
2	Science	ACSHE034: Science as a human endeavour; nature and development of science	Science involves observing, asking questions about, and describing changes in, objects and events
2	English	ACELT1591: Literature; Examining literature	Discuss the characters and settings of different texts and explore how language is used to present these features in different ways
2	History	ACHASS044: Knowledge and Understanding; History	The history of a significant person, building, site and/or part of the natural environment in the local community and what it reveals about the past
2	History	ACHASS046: Knowledge and Understanding; History	How changing technology affected people's lives (at home and in the ways they worked, travelled, communicated and played in the past)
3	Science	ACSHE050: Science as a human endeavour; Nature and development of science	Science involves making predictions and describing patterns and relationships
3	Science	ACSHE051: Science as a Human Endeavour; Use and influence of science	Science knowledge helps people to understand the effect of their actions
3	English	ACELT1594: Literature; Literature and context	Discuss texts in which characters, events and settings are portrayed in different ways, and speculate on the authors' reasons
3	English	ACELT1596: Literature; Responding to literature	Draw connections between personal experiences and the worlds of texts, and share responses with others
3	History	ACHASSK063: Knowledge and Understanding	How the community has changed and remained the same over time and the role that people of diverse backgrounds have played in the development and character of the local community

Classroom activity

Classroom resources provided by Cairns Regional Council



3	Geography	ACHASSK069: Knowledge and Understanding	The similarities and differences between places in terms of their type of settlement, demographic characteristics and the lives of the people who live there, and people's perceptions of these places
3-4	Health & Physical Education	ACPPS035: Personal, Social and Community Health; Being healthy, safe and active	Describe and apply strategies that can be used in situations that make them feel uncomfortable or unsafe
3-4	Health & Physical Education	ACPPS039: Personal, Social and Community Health; Communicating and interacting for health and wellbeing	Discuss and interpret health information and messages in the media and internet
4	Science	ACSHE061: Science as a human endeavour; nature and development of science	Science involves making predictions and describing patterns and relationships
4	Science	ACSHE062: Science as a human endeavour; Use and influence of science	Science knowledge helps people to understand the effect of their actions
4	Science	ACSSU075: Science Understanding; Earth and Space science	Earth's surface changes over time as a result of natural processes and human activity
5	Geography	ACHASSK113: Knowledge and Understanding	The environmental and human influences on the location and characteristics of a place and the management of spaces within them
5	Geography	ACHASK114: Knowledge and understanding	The impact of bushfires or floods on environments and communities, and how people can respond
5	English	ACELT1610: Literature; Examining literature	Recognise that ideas in literary texts can be conveyed from different viewpoints, which can lead to different kinds of interpretations and responses
5	Science	ACSHE083: Science as a Human Endeavour; Use and influence of science	Scientific knowledge is used to solve problems and inform personal and community decisions
5-6	Health & Physical Education	ACPPS057: Personal, Social and Community Health; Communicating and interacting with health and wellbeing	Recognise how media and important people in the community influence personal attitudes, beliefs, decisions and behaviours
6	Science	ACSSU096: Science understanding; Earth and space sciences	Sudden geological changes and extreme weather events can affect Earth's surface.
6	Science	ACSHE098: Science as a human endeavour; Use and influence of science	Science involves testing predictions by gathering evidence and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions

Flood quiz

- ▶ Read the articles provided
- ▶ Make notes on key points of the articles/information
- ▶ Read the questions below and provide answers in the space provided following completion of the article
- ▶ Participate in the class discussion by sharing and comparing your answers to the questions with your classmates.

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Q5: Apart from rainfall, what are the other types of disasters that can cause floods to occur?

Q6: Find a list of notable floods in Australia from 1970 to 2007. Mark each major flood event on your blank outline map of Australia, an on-line map or an atlas.

Q7: Are there any patterns? If so, what would cause an area to flood more often than others?

Q8: What would be some effective flood prevention strategies for these areas?

Q9. What kinds of things should you do to be prepared for a flood in Cairns?
