

Overview

Victoria State Emergency Service (SES) has developed an educational investigative game (www.vicses.com.au/floodsafe-game) which encourages the identification and learning about hazardous objects which can be found in floodwater and cause harm.

The following lesson plan can be conducted before or after the game has been played and assists in consolidating students' learning and understanding.

It is suggested that any observations, student work or comments recorded during this lesson be displayed in your classroom, under the heading '*Hidden dangers in floodwater*', for others to see and learn from.

Outline	Materials	Time	Conclusion
To introduce the dangers of swimming, walking and playing in floodwater.	<ul style="list-style-type: none"> Pencils/textas Support material #1: Flood examples Support material #2: Types of floods Support material #3: Flood guessing game and clue cut out each image/clue Worksheet #1: Hazardous objects recording sheet Support material #4: FloodSafe awareness poster Support material #5: Being prepared for floods Worksheet #2: Paddy's awareness message 	Approx 45–60 minutes	Students will participate in discussions about safety in floodwater and create a classroom display to consolidate their understanding.

Introduction:

10 minutes

- Using images from **Support material #1**, ask students if they know what has happened in each of the pictures (if necessary explain that flooding has occurred).
- Discuss flooding with the students. How does flooding happen? Where do you think it happens? Does it happen all the time? What can happen to things, animals and people during a flood? How do you think people feel when they are caught in floods (e.g. sad, unhappy, scared, frightened, worried)?
- Conduct a short discussion about the different types of flooding (see **Support material #2** for more information). Ask students to think about what type of flooding could occur near them.
- Ask students if they think it would be good to swim, walk or play in floodwater. Why? Stress how dangerous it is because there can be many hidden things in the water and the water is moving very fast.

Activity

30–40 minutes

- 5** Introduce students to the **Guessing game** explaining that students are going to guess ten mystery hazardous objects that can be found in floodwater.
- 6** Using **Support material #3** read out a clue (or select a student to do it) and together guess what the object is. When guessed correctly, turn the picture around and display. As a group decide how it could harm someone and write the object and responses on **Worksheet #1**.
- 7** Choose another student and repeat until all the pictures have been discussed. Students may wish to add other objects to the list (these could be written on paper and displayed).
- 8** Have a discussion about how each object might get into floodwater. Where would it come from? (E.g. peoples yards, rubbish bins, parks, drains, gardens, etc.)
- 9** Distribute copies of **Worksheet #2**, discuss the message Paddy the Platypus is holding and what might it mean. Ask students to complete the worksheet by drawing and labelling pictures of all the hidden dangers they just discussed. *As an extension: students may wish to add other hazardous objects.*

Conclusion

10–15 minutes

- 10** Once completed, ask students to sit in a circle and share their completed worksheet and as a group read Paddy's important message together.
- 11** Display **Support material #4** ask why the boy/girl is looking sad. Read the message at the bottom of the poster: '**Never swim, walk or play in floodwater. You don't know what you are getting into.**' Discuss the meaning of the second sentence with the students. Ask what they think they should do if a flood happens. Incorporate ideas from the **Support material #5**, stressing the need for them to listen to any adult they are with.
- 12** In conclusion, ask everyone to share one thing they have learnt about floodwater and why they should not swim, walk or play in it.



Flood examples



Source: <http://www.abc.net.au/news/stories/2011/01/16/3113796.htm?site=westernvic>



Source: <http://www.abc.net.au/news/2011-01-16/historic-floodwaters-swamp-victorian-towns/1907276>

Riverine flooding

Flood examples



Source: <http://www.barraba.com.au/manilla-river-rises-in-barraba-73.cfm>



Source: http://commons.wikimedia.org/wiki/File:Werribee_River_in_flood_over_cottrell_street_in_Werribee.jpg

Riverine flooding

Flood examples



Source: http://www.3aw.com.au/listener_images_of_victorian_floods?selectedImage=35



Source: http://www.3aw.com.au/listener_images_of_victorian_floods?selectedImage=35

Flash flooding

Flood examples



Source: http://commons.wikimedia.org/wiki/File:Driving_through_flash_flood.jpg



Source: <http://www.abc.net.au/news/image/1907294-3x2-340x227.jpg>

Flash flooding

Flood examples



Source: http://web.mst.edu/~rogersda/teton_dam/

Dam failure



Source: <http://www.acus.org/content/hurricane-sandy-storm-surge>

Storm surge

Types of floods



Source: <http://www.barraba.com.au/manilla-river-rises-in-barraba-73.cfm>

Riverine flooding

In riverine flooding, relatively high water levels overtop the natural or artificial banks of a stream or river. The nature of riverine flooding can vary significantly in terms of cause, timing and depth between different locations. Coastal rivers with short, steep headwaters often have floods that rise and recede quickly. Inland floods with low gradients have floods that move slowly down the river, sometimes lasting for several months.

Types of floods



Source: http://commons.wikimedia.org/wiki/File:Driving_through_flash_flood.jpg

Flash flooding

Flash flooding occurs when soil absorption, runoff or drainage cannot adequately disperse intense rainfall, and is usually caused by slow moving thunderstorms. Flash floods are generally defined as developing in six hours or less from rainfall to the onset of flooding.

Types of floods



Source: http://web.mst.edu/~rogersda/teton_dam/

Dam failure

Although dam failures are rare, their effects can be significant. In Victoria dam safety is monitored, and warning arrangements are in place to warn downstream residents of potential dam failure threats. Should dam failure occur, significant downstream flooding can involve potentially swift flowing water and high amounts of debris.

Types of floods



Source: <http://www.acus.org/content/hurricane-sandy-storm-surge>

Storm surge

Storm surge occurs when sea levels are elevated above the usual tidal limit due to the action of intense low pressure systems over the open ocean. The low pressure causes sea level to rise as there is less air pressing down on the sea. Combined with gale force onshore winds, this can lead to flooding of low-lying coastal land.

FloodSafe guessing game



Something that goes into a toilet.

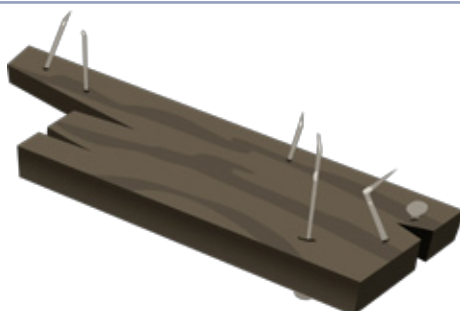
**An animal that has been dead
for some time.**

**These are worn by babies because they
are too young to use the toilet.**

**We can buy many different foods in these
containers, after we throw them away
they often turn rusty (a brown colour).**

We use these to build fences and gates.

FloodSafe guessing game



FloodSafe guessing game



**When we drop a bottle or jar
what happens.**

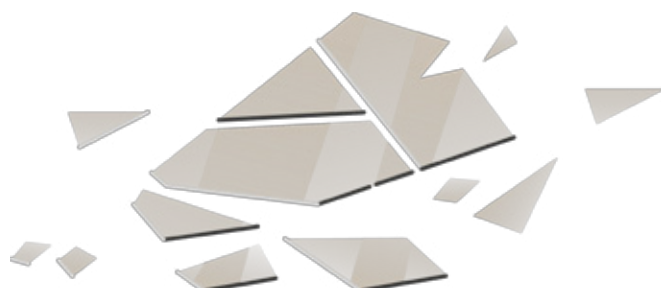
**Usually these grow, or are found,
in the garden or park.**

**Poisonous liquid which we often
use on the garden to keep away
pests/bugs.**

**Strong wire with sharply pointed
spikes at close intervals.**

**A medical instrument, used to
inject fluids into the body or
draw them out.**

FloodSafe guessing game





Hazardous objects

[illegible]



Hazardous objects

[illegible]

FloodSafe awareness poster



Playing in floodwater exposes your kids to more than just the risk of drowning.

Playing in floodwater may look like fun but under the surface it contains contaminants, toxins and harbours infectious diseases.



What's in floodwater

- Toxic chemicals
- Animal faeces
- Decaying animals
- Garbage and waste
- Fallen powerlines
- Broken glass
- Twisted metal
- Tree branches

Floodwater health risks

- E.coli infection
- Rotavirus (diarrhea)
- Typhoid
- Leptospirosis
- Hepatitis A
- Infected wounds
- Dermatitis



Never swim, play or walk in floodwater.
You don't know what you're getting into.



FloodSafe awareness poster



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Being prepared for floods



Types of flood warnings

Minor flood warning: Roads submerged/closed, water level reaches the top of a riverbank. Minor floods may cause little or no damage.

Moderate flood warning: In addition to the above water starts to approach houses and buildings, water running over the top of a riverbank. Evacuation plans may be enacted. Moderate flooding has the potential to cause damage to property.

Major flood warning: In addition to the above, water is now entering farmland, housing and buildings, properties and towns become isolated, evacuations plans enacted. Major flooding can cause extensive damage to property and life.

Prepare

If you live in a flood prone area, you should have a pre-prepared flood plan outlining what to do during the above flood scenarios (minor, moderate and major). You should also have packed and ready an emergency toolkit. The kits should contain items such as a radio with spare batteries, personal items such as photos, documents (insurance certificate) and ID, some food and water, pets and pet food, gloves and torch, and glasses and medical items.

Stay informed

- Turn on the radio/TV
- Tell your neighbours
- Phone your relatives

Act quickly

- Move valuables to higher ground
- Check your emergency kit has everything required for evacuation
- Turn off gas/electricity
- Block toilets
- Lock doors

Evacuate

- Take pre-packed emergency kit containing food, clothes, pets, pet food and medications
- Do not drive through floodwater
- Let others know if you are going and where
- Take a mobile phone and charger

Paddy's awareness message

