

Natural disaster education

weather



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By Liz Addison

Extreme weather events result in severe storms, tropical cyclones, floods and bushfires. Children are one of the most vulnerable groups in disasters. Living as we do in Australia, it seems evident that we need to be preparing children for natural disasters from a young age.

Many children already have a concept of natural disasters from their exposure to stories in the media (television and film) and perhaps through personal experience. School-aged children are likely to list natural disasters or emergencies in their top ten lists of fears. This fear stems from students' limited understanding of natural hazards.

Interactive education programs which increase children's knowledge and preparedness can greatly reduce their anxiety. Current research in this area has shown that children as young as five or six can be, and should be, involved with natural disaster planning and preparations, and that they have the capacity to make a valid contribution.

The Department of Fire and Emergency Services (DFES) in Western Australia is committed to expanding and realigning children's perception of natural disaster risk and helping children and their families to better prepare themselves for natural disasters. DFES's school-aged natural disaster education is focused on building children's capacity to intelligently and calmly assess risk from an early age. By scaffolding student learning and providing a continuum of learning from pre-primary through to Year 11, DFES education programs work to develop children's abilities to make decisions that prevent them from getting hurt, help them cope with negative experiences and assist them to recover more quickly after an incident has occurred.

DFES's Fire and Emergency Services Education and Heritage Centre provides a free excursion in Perth for pre-primary to Year 2 students. *Emergency Helpers in the Community and Me!* is a one and a half hour excursion where children learn about natural hazards such as fire, flood and storm; the emergency helpers within the community who can help them; and, more importantly, the actions they can do or avoid to keep themselves safe. Children learn simple steps to prepare themselves for natural hazards within a non-threatening environment, providing age-appropriate language and learning concepts.

As children progress into Year 2 and beyond, DFES downloadable lesson plans provide interactive problem-solving activities for the classroom as well as take-home activities which require students to work with their families to better prepare

Natural disaster education

themselves and their homes for natural hazards and provide cognitively appropriate steps for developing family survival plans.

In upper primary school, DFES provides an excursion as well as downloadable lesson plans for teachers on extreme weather conditions, their causes and effects, disaster management, and how scientific understanding is used to predict and plan for natural disasters.

An excursion to the Centre for Year 11 Geography 2A (Western Australian Curriculum Framework course) helps students understand how natural disaster emergencies are managed in the state of Western Australia at the local, regional and state level.



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Working together

DFES School Aged Education is collaborating at a national level through its participation in the Disaster Resilience Australia School Aged Education Network (DRASEN) and Australasian Fire and Emergency Services (AFAC) Council's Guiding Teaching Principles. DRASEN includes education departments (including geography and science teachers associations), community engagement and school program officers from state and territory fire and emergency services agencies, academics and members of nongovernment agencies with a vested interest in natural disaster resilience education for schoolchildren in Australia. The DRASEN network is hosted by the Australian Emergency Management Institute, part of the Australian Government Attorney-General's Department. DRASEN evolved from the National Strategy for Disaster Resilience and key enquiries into bushfires such as The Victorian Royal Commission 2010 and Keely Report WA 2011, all acknowledging the critical role of school-aged education and curriculum to equip future generations throughout Australia with the skills and knowledge base to be better prepared for and resilient to disaster. DFES is committed to developing children's resilience to disasters, providing Australian Curriculum resources (and updating those existing resources to match the new curriculum),

advocating for all hazards and disaster resilience education in schools, and building partnerships within such networks as DRASEN.

DFES Programs

The Department of Fire and Emergency Services (DFES) provides natural disaster education programs for all Western Australian students by providing Australian Curriculum-linked downloadable lesson plans for bushfires, cyclones and floods; online interactive activities; excursions to the Fire and Emergency Services Education and Heritage Centre in Perth; and Year 3 incursions led by firefighters in schools. DFES programs are developed by qualified and experienced teachers using the latest research and practices around causes of disasters and emergency response and are all free. Information is presented using age-appropriate language and concepts in a problem-solving context, providing a non-threatening, comprehensive learning journey from pre-primary through to Year 11

Our upper primary activities incorporate take-home activities that require children to involve their families in natural disaster preparation activities.

Online teacher resources

| Name of resource | Year level | Curriculum learning areas | Resources available |
|---------------------------|-------------------|--|--|
| Bushfire patrol | Years 2, 3–4, 5–6 | Geography, English, science, mathematics | Online downloadable lesson plans; online interactive tools/games |
| Natural hazards – cyclone | Years 4–7 | Geography, English, science, mathematics | Online downloadable lesson plans; links to audiovisual materials |
| Natural hazards – flood | Years 4–7 | Geography, English, science, mathematics | Online downloadable lesson plans; links to audiovisual materials |

In 2014, DFES is planning to develop resources for teacher professional development to continue to build teacher capacity, further promote DFES school-aged education programs and build teacher confidence in teaching disaster resilience.

Excursions to the Fire and Emergency Services Education and Heritage Centre

| Name of program | Year level | Curriculum learning areas |
|--|---|---|
| Emergency Helpers in the Community and Me! | Pre-primary to Year 2 | Health and physical education (WA Curriculum Framework) in the context of safety and resilience |
| Home fire safety | Years 2–4; Education support and English as a 2nd language students | Science, English, geography, mathematics |
| The Wild West | Years 4–7 | Science, English, geography, mathematics |
| Natural hazards | Supports Year 11 Geography 2A course (WA) | Geography |

(Highlighted resources/programs are those suitable for pre-primary to Year 3 students.)

For more information, please visit our website at <www.dfes.wa.gov.au> and follow the links through Education and Heritage.

Natural disaster education



2. *Bushfires attack!*: Students to explore bushfire behaviour and dangers with wind, embers and radiant heat.
3. *Bushfire skills*: Students to clarify what can happen and be done if a bushfire is nearby.
4. *Hazard hunt*: Students to clarify what they can do with their family to help protect their home from a bushfire.
5. *Watch and act*: Students to understand the importance of making a family bushfire survival plan and an emergency kit prior to the threat of a bushfire.

Bushfire patrol activity

This activity comes from Lesson 1 of *Bushfire patrol: What bushfires like* and is suitable for Year 2 students.

After introducing the key concepts of bushfire weather, bushfire danger and unsafe fire times, discuss what months are hottest in the year and why these months are dangerous times for bushfires. Ask questions such as: *What is a bushfire? What can you smell and hear in a bushfire? What does the sky look like? What will happen if it starts raining?*

1. Choose students to be a hot sun, strong wind, dry leaves, bark, bushfire flames and smoke. Together, make up a play acting out how a bushfire starts and gets bigger on a hot, dry and windy day.
2. Brainstorm low, medium and high bushfire danger days. Complete *Take Five 1.2.1* (page 30) by having the students gather in green, orange or red answer groups for each of the days. Assess common and different student responses, what the weather is like in each picture and unsafe bushfire times. Table the results and record key bushfire weather words.
6. Reinforce bushfire danger weather in answering together *Spot Bushfire Danger Days 1.4.1* (page 31).

Please note: This is a modified version of Lesson 1. The full lesson plan with teacher's notes can be found at <www.dfes.wa.gov.au>

To find out more, contact DFES School Aged Education on (08) 9395 9864 or email <educationandheritage@dfes.wa.gov.au>

Fire and Emergency services in other States

Australian Capital Territory

Website: <<http://esa.act.gov.au/>>

Email: <esahaveyoursay@act.gov.au>

Phone: 13 22 81

New South Wales

Website: <<http://www.fire.nsw.gov.au/page.php?id=71>>

Email: <info@fire.nsw.gov.au>

Phone: 02 9265 2999

Northern Territory

Website: <<http://www.pfes.nt.gov.au/Fire-and-Rescue.aspx>>

Phone: 8 995 5400

Queensland

Website: <<https://www.qfes.qld.gov.au/community-safety/schools/Pages/default.aspx>>

Email: <QFRS.CommunityEd@dcs.qld.gov.au>

Phone: 13 74 68

South Australia

Website: <<http://www.mfs.sa.gov.au/site/home.jsp>>

Email: <enquiry@samfs.sa.gov.au>

Phone: 8 204 3600

Tasmania

Website: <<http://www.tfseducation.com.au/>>

Email: <communityed@fire.tas.gov.au>

Phone: 6 230 8685

Victoria (Metropolitan)

Website: <<http://www.mfb.vic.gov.au/Community-Safety/School.html>>

Email: <commres@mfb.vic.gov.au>

Phone: (03) 9665 4464

Victoria (Rural)

Website: <<http://www.cfa.vic.gov.au/kids-schools/>>

Phone: 1800 799 203

Five key safety messages from the Emergency Helpers in the Community and Me! program

1. *Emergency helpers HELP US in an EMERGENCY but safety starts with ME!* We can introduce students to the roles of emergency helpers such as the WA Fire and Rescue Service, Bush Fire Service, State Emergency Service (SES) and Volunteer Marine Rescue Service, but safety starts with children themselves. If children see, hear or smell anything unusual, they need to tell an adult.
2. *In a flood, it is safest to stay OUT of the water.* A flood occurs when water is where it should not be. Floodwater can contain rubbish, broken glass, sticks, branches, sewage, snakes and spiders. Floodwater can hurt you, make you sick and can knock you over. In a flood, it is safest to stay out of the water.
3. *In a storm, it is safest to be INSIDE, AWAY from the windows.* Wind can blow trees over; hailstones can be as large as golf balls and if Mum or Dad doesn't tie down the trampoline it can fly up into the air. Children can help tidy up the yard by putting their bikes and toys away and when there is a storm, stay inside and away from the windows.
4. *Matches should be kept UP HIGH out of reach.* Fires can occur inside and outside. If children find matches, they need to give them to an adult who can put them up high in a cupboard away from young children.
5. *Ring 000 in an emergency.* Pre-primary students can remind parents to call 000. They understand that 000 is only to be used in an emergency. Year 1 students should know their address and nearest cross street and can role-play making an emergency call.

Bushfire patrol activity

The Bushfire Patrol web resource was jointly funded by the Department of Fire and Emergency Services (DFES) and the Attorney General's Department, Natural Disaster Resilience Program (NDRP). The program serves as a bushfire education resource for primary schools and fits within the Australian National Curriculum across a wide subject framework. The program is directed at teachers and primary school children and provides bushfire education consisting of five lessons for each of the primary school age groups: early childhood, middle primary and upper primary. The program is based in online interactive games. The intended outcome of *Bushfire patrol* is to raise students' and their family's awareness of, risk perception of and shared responsibility for bushfires in the community. The key messages for early childhood students include:

1. *What bushfires like:* To introduce students to bushfire weather and unsafe bushfire times.