

# School-based bushfire education

Advancing teaching and learning for risk reduction and resilience



Image: *If you care. Stay aware: A message from Gem Gem* (Strathewen Fire Education Partnership, 2016)

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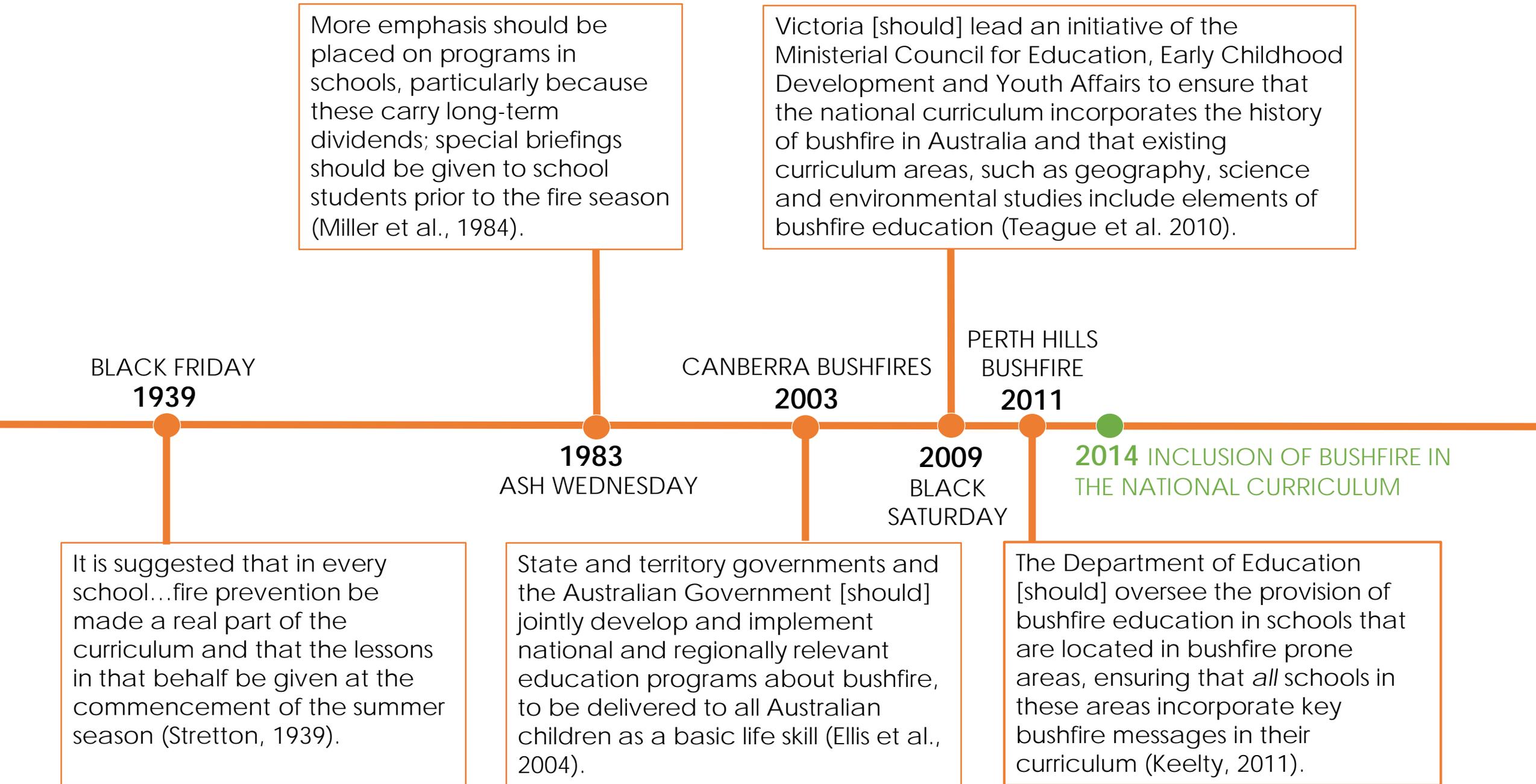
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# The Australian Curriculum

## GRADE 5 GEOGRAPHY

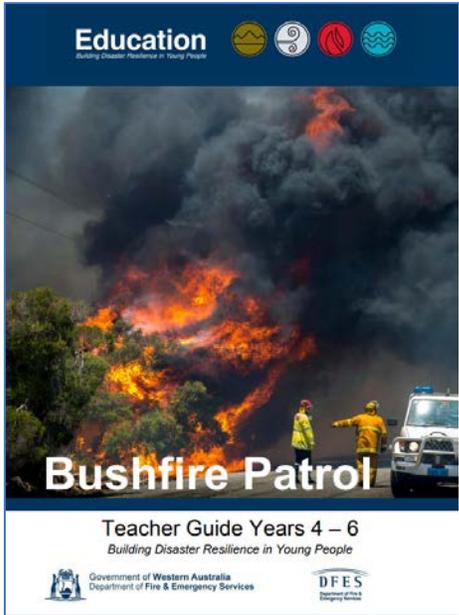
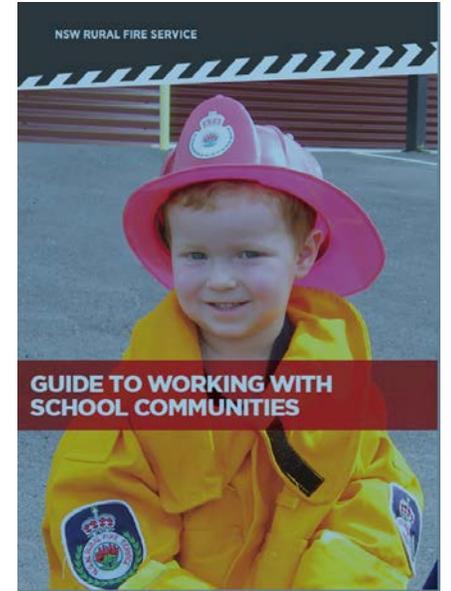
The impact of bushfires or floods on environments and communities, and how people can respond.

- Mapping and explaining the location, frequency, and severity of bushfires and flooding in Australia.
- Explaining the impacts of fire on Australian vegetation and the significance of fire damage on communities.
- Researching how the application of principals of prevention, mitigation and preparedness, minimises the harmful effects of bushfire or flooding.

## Year 7 GEOGRAPHY

Causes impacts and responses to a geomorphological hazard (e.g. volcanic eruption, earthquake, tsunami, landslide avalanche).

- Researching how the application of principles of prevention, mitigation and preparedness minimises the harmful effects of geomorphological hazards and bushfires.



# Programs, resources and initiatives

# Our research

## CHILDREN'S KNOWLEDGE OF VULNERBILITY AND RESILIENCE TO BUSHFIRE (Towers 2012)

- In-depth qualitative research in high risk communities in Victoria and Tasmania.
- Focus groups with students aged 6-12 years (n=131).
- Semi-structured interviews with parents (n=37).

## EVALUATION OF BUSHFIRE PATROL (Towers and Ronan 2018)

- Mixed-methods process and outcomes evaluation on the Perth RUI.
- Pre-test post-test interviews Grade 5 students (n=48).
- Semi-structured interviews with teachers (n=2) and parents (10).

## THE DISASTER RESILIENCE PROJECT: A FEASIBILITY AND ACCEPTABILITY STUDY (Towers et al., 2018)

- Qualitative assessment of program design/implementation strategy in 2 Victorian secondary schools.
- Post-program focus group interviews with Year 7/8 students (n=120).
- Post-program semi-structured interviews with teachers (n=4).

## EVALUATION OF SURVIVE AND THRIVE (Towers et al. 2017).

- Summative evaluation of program outcomes in Anglesea and Strathewen
- Focus groups and workshops with Grade 5/6 students (n=16) and ex-students (n=7)
- Semi-structured interviews with CFA staff (n=2), CFA volunteers (n=5), other community partners (n=5).

# Five characteristics of effective teaching and learning

1. Holistic
2. Place-based
3. Action-oriented
4. Participatory
5. Collaborative





# 1. Holistic

BUSHFIRE RISK DERIVES FROM THE INTERACTION OF A NATURAL PROCESS AND A SOCIAL SYSTEM

- Bushfire as an **natural process**: biomass (fuel); availability of fuel (fuel dryness); spread (weather, topography); ignition (natural, human).
- Bushfire as a **natural hazard**: potential to cause loss of life injury or other health impacts, property damage, social and economic disruption or environmental degradation.
- Bushfire as a **disaster risk**:  $\frac{\text{Hazard} \times \text{Exposure} \times \text{Vulnerability}}{\text{Capacity}}$

# 2. Place-based

## SITUATING TEACHING AND LEARNING IN THE LOCAL SOCIO-ECOLOGICAL CONTEXT

- Exploring the local fire ecology.
- Investigating the local fire history.
- Mapping local hazards and risks.
- Observing and calculating local fire danger conditions.
- Engaging with fire behaviour simulations and scenarios.
- Drawing on Indigenous knowledge and perspectives.
- Researching local bushfire management strategies and emergency plans.
- Identifying local problems and local solutions.



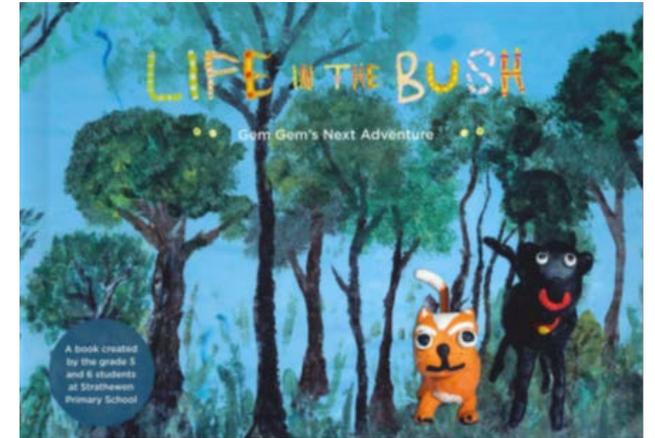
# 3. Action-oriented

EDUCATION FOR BUSHFIRE RISK REDUCTION AND RESILIENCE.

- Authentic projects to address genuine problems of concern.
- Positioning students as active citizens.
- Action can be indirect (influencing others to take action) or direct (taking action oneself).
- Learning through praxis - a recurring cycle of action and reflection.

*It's quite a broad thing that goes on and on, so you've got plenty of time to fail and try again and have a crack at things and go a little bit sideways if they didn't work out. You don't have to rush. You've got time to jot it down, scribble it out, rip it up, try it again - you know, give it some thought process.*

Teacher, Anglesea Primary School



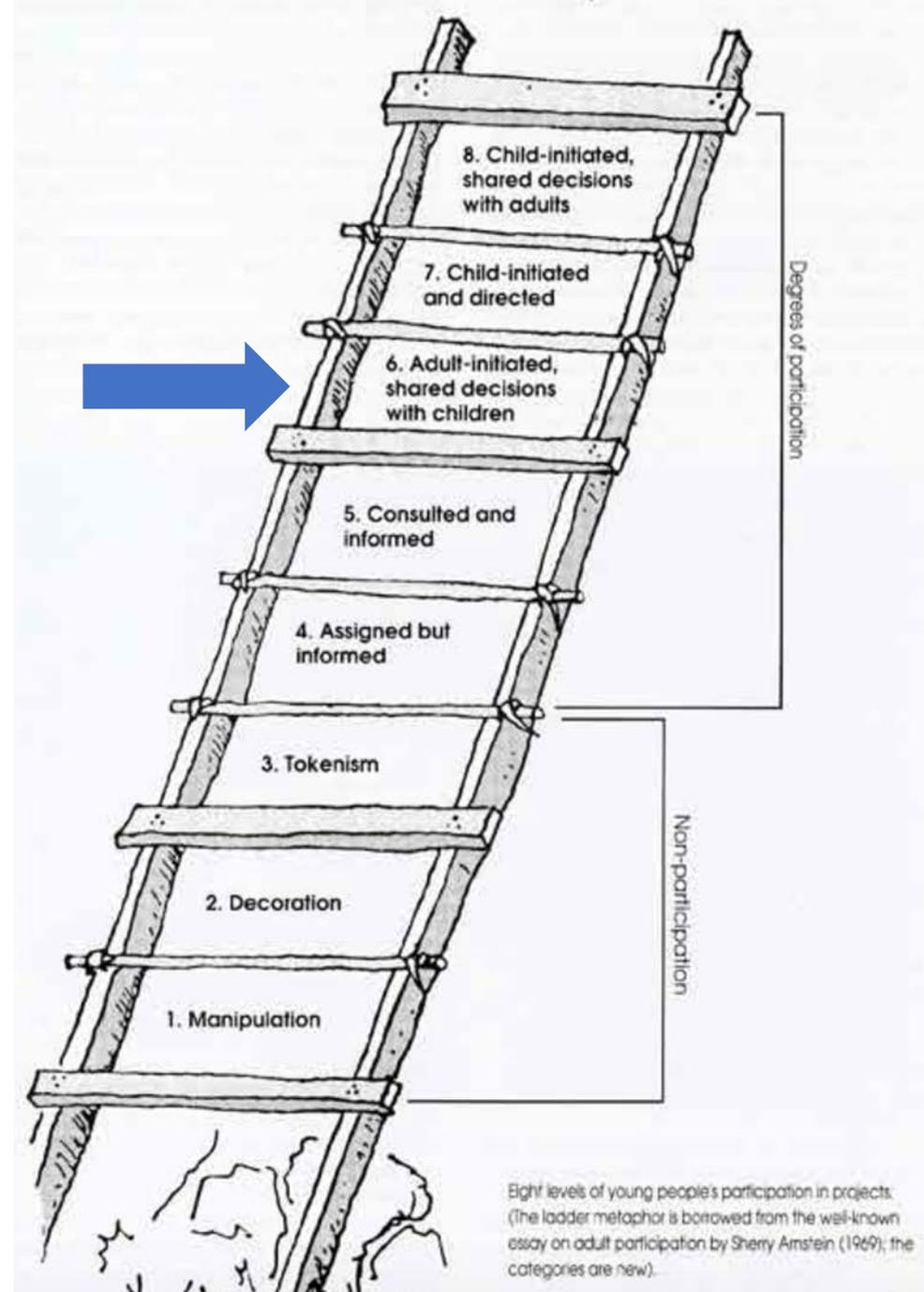
# 4. Participatory

## STUDENTS AS STAKEHOLDERS IN DECISION-MAKING

- Aligns with contemporary learning frameworks and the Sendai Framework for DRR.
- Harnesses children's knowledge, skills, interests, and creativity.
- Accommodates children's socio-cultural contexts.
- Provides affordances for ownership, agency and empowerment.

*We got to use our initiative and have our ideas valued. I had a voice, it wasn't just the adults. It was run by us and they valued our opinions.*

Anglesea student, 14yrs old



# 5. Collaborative

## TEACHING AND LEARNING AS A SOCIAL PROCESS

- Teachers and students as co-learners.
- Students working together.
- Engaging brigade members as subject matter experts, mentors and 'authentic clients'.
- Involving community members and parents to facilitate intergenerational learning.
- Establishing community-based partnerships that meet the unique priorities of brigades and schools.



It is time government and agencies stopped pretending that awareness raising campaigns and information dissemination will ever be sufficient or effective. ■ Alan Rhodes, Victorian Country Fire Authority, 2003

