



Department of
Education

APPENDIX H: CAVING

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CAVING

This document contains specific requirements related to caving activities and must be read in conjunction with *Appendix A: General Requirements in the Recreation and Outdoor Education Activities for Public Schools Procedures*.

1. BACKGROUND

Caving involves the exploration of underground passages and caverns, known as caves, that have been created by natural processes over time. Caves vary in size, depth, complexity and fragility and can be found in diverse environments including metropolitan suburbs, coastal and remote regions.

Challenges common to all caves include the absence of natural light and communication difficulties with the surface. Other features can include water hazards, rock stability, air quality, vertical climbs, wildlife and tight passages.

Typically, caving is described as: horizontal caving or vertical caving.

Separate mandated requirements in the relevant activity specific documents should be consulted if the following activities are proposed within the caving program:

- *Appendix E: Abseiling and Climbing*
- *Appendix N: Ropes Courses and Bouldering*
- *Appendix S: Swimming and Water Based Activities* (where water is involved - noting cave diving is prohibited).

DEFINITIONS

ARTIFICIAL CAVE

A construction that is designed to mimic the environmental conditions of natural caves. Often used for introductory caving activities.

ASSISTANT SUPERVISOR

Assists the Qualified Supervisor and/or Department Teacher-in-charge. Must have recent and relevant experience in the activity, at the level being offered to the students.

DEPARTMENT TEACHER-IN-CHARGE

The member of the teaching staff employed by the Department of Education (or an Approved Provider) and managing the school activity (for information relating to Approved Providers refer to *Appendix A: General Requirements*).

FOUL AIR/BAD AIR

A cave's atmosphere which has a noticeable, abnormal, physiological effect on humans. In limestone caves, 'foul air' can be described as containing greater than 0.5% carbon dioxide and/or lower than 18% oxygen by volume.

HORIZONTAL CAVING

Involves crawling through openings, scrambling up and down rock faces with or without fixed ladders.

NATURAL CAVE

Naturally formed cave, with established tracks and minimal risk of foul air and water hazards.

TOURIST CAVE

A managed cave that has been made safely accessible to the general public for guided or self-guided visits, after a fee is paid. Usually has suitable infrastructure (such as lighting, constructed stairs and handrails) so that it requires little to no caving experience to enter.

VERTICAL CAVING

Involves using ropes, caving ladders and other descending/ascending equipment to enter, explore and/or exit caves.

WILD CAVING

Caves that are not used commercially, have few or no provisions and tracks are unmarked. Often situated on private property or remote/isolated areas and permits for use of these caves are usually required.

2. ENVIRONMENT

The Department Teacher-in-charge must determine the suitability of the venue after considering each student's capacity, skills and experience, the planned activity and the supervision required.

Specific attention is given to the physical characteristics of the site (for example, exposure, access and level of difficulty, loose rock, texture) and to potential risk points where Single Ropes Techniques (SRT) will take place as part of the caving activity.

The relevant Department of Biodiversity, Conservation and Attractions regional office, management agency; or private land owner; and/or caving club must be contacted to establish conditions that apply for entry to, and usage of a cave.

The supervisory team must meet all requirements specified by land managers/owners.

Any speleological assessment of the cave environment must be performed under the guidance of recognised management and the Western Australian Speleological Group.

Students must not be involved in caving activities in areas that have a history of consistent rock fall.

A cave with a history of foul air must not be included in any program.

A further risk management assessment must take place before conducting caving activities if rainfall has occurred in the local area in the previous 48 hours or is predicted within twelve (12) hours of entry into the cave system.

The weather forecast must be checked before and also regularly throughout the activity, as it may be necessary to cancel, or modify the activity at any time.

If in an isolated area or in the event of a program change, details of the caving activity are left with a relevant authority such as the police, a Department of Biodiversity, Conservation and Attractions ranger, land manager or responsible community member. Details should include the:

- name of the party and Department Teacher-in-charge and method of contact
- number of participants
- vehicle registration number(s)
- date
- cave entry time, and the estimated time of return.

It is advisable that the above information also be left on a relevant vehicle dashboard.

All supervisors should be familiar with the ASF Minimal Impact Caving Code (see Western Australian Speleological Group or the Australian Speleological Federation).

Many sites have access restrictions. Written permission must be gained from the relevant authority (Department of Biodiversity, Conservation and Attractions regional office, local land management body, lease holders or private property owner). These organisations/owners can also be consulted for information about:

- route planning (including evacuation)
- alternative routes in the event of restricted access
- shelter, toilets, drinking water etc. availability at the location/venue
- procedures to follow when there is a risk of bad weather, storms, bushfires and/or other changes to the environment.

3. CAPACITY OF STUDENTS

Caving, other than a visit to a tourist cave or artificial cave, is not suitable for primary students.

Secondary students may participate in all caving activities, providing that each student has been assessed by the Department Teacher-in-charge and is deemed to have the physical capacity, caving skills and single rope techniques needed to participate safely in the activity, at that particular location.

Alternative, modified or adjusted activities should be provided for students who have limited capacity to participate.

Students with a disability or impairment may participate in desired activities provided adequate safety and control measures are implemented. Specific consideration is given to:

- the type and level of disability or impairment
- the location and access
- providing curriculum adjustments so the student can access the curriculum activity on the same basis as their peers.

Students who have a medically diagnosed condition that may impact on their safety must be cleared by a medical practitioner before they can participate.

Prior to the commencement of the activity, it is confirmed that no participants are known to have reactions to dark and/or confined spaces.

4. STUDENT HEALTH CARE

Refer to Appendix A: General Requirements for further requirements.

5. ACTIVITIES

Novices must only attempt the simplest of caves. Wild caving is not permitted for primary school students.

Activities in wild caves that have few or no provisions for the general public should only occur if the students are part of a program that has an established objective to progress to this level of caving. Students can only participate if the Department Teacher-in-charge deems that each student has developed the technical skills, knowledge, understandings, attitudes and values necessary to meet the high levels of responsibility and extensive preparation required to use these types of caves.

Abseiling, climbing and other activities often form part of a caving program. Refer to the relevant activity specific document to determine the qualifications and supervision requirements that apply. A pre-visit to the proposed cave would identify sensitive features and the best anchor points, reducing the need for unnecessary exploration.

Cave entrances and passages **must not** be excavated or enlarged to facilitate entry.

Water levels in sumps **must not** be modified, nor stream flows diverted without the prior consent of the Department of Biodiversity, Conservation and Attractions or the land manager/owner.

Established or marked routes are used where they exist. Tracks are followed and care is taken to avoid needless deposition of mud. Supervisors must confirm that participants do not go exploring or try to find their own exit from a cave.

Caves must not be disfigured by markings and mud throwing is prohibited.

Cave diving activities are prohibited.

Caving activities are conducted in ways that prevent damage to speleothems, sediments, biota and other natural phenomena. Sampling of flora, fauna, palaeontological or archaeological material, dead or alive, does not occur without special permit approval.

For all caving activities, a minimal approach should be adopted, (as per Leave No Trace principles) including:

- appropriate disposal of human waste
- travelling on durable surfaces
- leaving 'found artefacts' behind
- respecting all abiotic and biotic features
- being considerate of other visitors
- not exceeding the group size specified by land managers.

Eating of food in caves should be avoided. If food is eaten in a cave, care is taken that small food fragments are not dropped as this may impact on cave biota. Students carry a plastic bag to eat over and to catch food fragments. This can then be folded up, stowed and removed from the cave.

Participants **must not** light fires in caves.

6. EQUIPMENT

It is recommended that supervisors carry:

- at least two spare light sources
- a pencil and notebook
- a watch.

The Qualified Supervisor must check equipment to confirm that it is appropriate to the activity, safe and in working order. Safety checks are conducted before, and at critical times throughout, the activity.

Emergency equipment must be readily accessible. The equipment may be left in a vehicle (however, all supervisors should know the location of the key if the vehicle is locked) or at the cave entrance.

Appropriate first aid equipment must be readily accessible. The first aid kit must include items that are appropriate for the activity, size and needs of the group and duration of the activity.

Each participant must wear appropriate clothing and fully enclosed footwear. Participants should also wear a hard-shell climbing, caving or roping helmet with a secure chinstrap that meets the relevant Australian Standard.

All participants have access to a personal light source, preferably helmet-mounted.

If helmet-mounted lights are not available, a carry strap or attachment should be used on the main light source.

Guidance

For further information, refer to *Australian Adventure Activity Good Practice Guide: Caving*

Support equipment should include:

- comprehensive first aid equipment, to be left in a vehicle or at the cave entrance
- equipment to keep someone warm if required (space blanket or sleeping bag)
- food, fuel, a stove and water.

Drinking water should be available at all times (it is recommended that supervisors carry a supply of water).

Purpose designed equipment (including ropes) that meets appropriate Australian Standards must be used for all activities that involve abseiling, climbing and the use of ropes.

Manufacturer's equipment instructions must also be taken into consideration.

Ropes, tapes, cords, harnesses, helmets and other specialist equipment specific to the activity must be retired after five years, unless the manufacturer specifies a different service life. Equipment must not be used if there is any doubt about its integrity.

If using ropes, each participant must wear a correctly fitting harness and appropriate gloves of the correct size while handling moving rope. Gloves prevent overheating/injury of the hands and possible loss of rope control. Gloves are not required where friction devices such as Slow-Go pulleys and other controls are used in the belay system.

7. THE SUPERVISORY TEAM

Refer to *Appendix A: General Requirements* for further requirements.

8. EXTERNAL PROVIDERS

The Department Teacher-in-charge must ensure that external providers are made aware of the documentation they need to provide, or that must be sighted.

External providers must follow all mandated requirements in the Recreation and Outdoor Education Activities for Public Schools Procedures and will be asked to supply copies of certain documentation, and/or make them available for the Department Teacher-in-charge to sight. External providers should familiarise themselves with *Appendix A: General Requirements* and *Appendix D: External Provider Checklist*.

9. MINIMUM QUALIFICATIONS AND COMPETENCIES

The Department Teacher-in-charge must confirm that the supervisory team members possess skills in caving, navigation and have the appropriate experience, knowledge and skills to identify and manage potential risks at any stage during caving activities.

Refer to *Appendix A: General Requirements* for mandated first aid and CPR accreditation requirements and supervisory team competencies.

At least one member of the supervisory team must hold a current relevant first aid certificate including current cardio-pulmonary resuscitation (CPR) accreditation. Where the group is in an isolated or remote area, a member of the supervisory team must have the appropriate first aid qualifications for the location (for example, remote, isolated, wilderness first aid). Remote or isolated areas may include any location where medical emergency assistance might be more than one hour away, by road, air or water.

No formal caving qualifications are required for **artificial caving** or **tourist cave** activities.

The Qualified Supervisor must hold a current activity specific qualification for **natural** and **wild caving** AND maintain proof of experience (per annum).

Minimum qualifications that the Qualified Supervisor must have, for natural and wild caving activities, include, but are not limited to:	<u>AND</u> proof of experience:
<p>A current, activity-specific qualification or attainment of competencies gained through a recognised tertiary institution or Registered Training Organisation, including:</p> <ul style="list-style-type: none"> • relevant units in Caving completed as a part of a <i>Certificate III</i> (or higher) in <i>Outdoor Recreation or Leadership</i> • <i>Trip Leader</i> qualification awarded by a member club of the Australian Speleological Federation • <i>Department of Biodiversity, Conservation and Attractions Cave Leader S2</i> (Horizontal Access) • <i>Department of Biodiversity, Conservation and Attractions Cave Leader S3</i> qualification (Vertical Access, also required relevant roping qualifications - see Abseiling and Climbing specific activity documents) • an equivalent qualification as recognised by the Director General. 	<ul style="list-style-type: none"> • Maintain proof of logged experience per annum.

For Single Rope Technique activities conducted while vertical caving, at least one member of the supervisory team must have a qualification specified in Abseiling and Climbing, be familiar with the hazards of abseiling and climbing within a caving context and be able to affect a support and rescue.

At least one member of the supervisory team must also be competent in dealing with emergencies that are consistent with the type of activity and site being used.

Guidance

It is recommended that supervisors maintain evidence of their currency and experience through the use of a logbook, or similar.

10. MINIMUM LEVELS OF SUPERVISION

Group sizes and supervision levels are determined after considering the:

- age, capacity, experience and skills of each student
- qualifications, capacity and experience of the supervisor(s)
- types of activities to be undertaken
- students' medical conditions, disabilities or impairments
- nature of the environment.

Greater supervision may be required for less able students.

Minimum supervisory requirements and maximum group sizes specified by cave managers must be adhered to at all times.

The Department Teacher-in-charge must confirm that an appropriate duty of care, including the provision of adequate supervision, is provided to students who are not engaged in activities.

For all caving activities regardless of age of participants, the minimum level of supervision is:

- two supervisors at all times
- one of these supervisors must be a Qualified Supervisor with location specific experience.

For larger groups, consideration should be given to splitting the groups.

ARTIFICIAL CAVE

Kindergarten - Year 12

Must have two supervisors at all times.

- One supervisor for every 10 students or part thereof.

TOURIST CAVE

Kindergarten - Year 3

Must have a minimum of three supervisors at all times.

- One supervisor for every 10 students or part thereof.

Year 4 - 12

Must have two supervisors at all times:

- One supervisor for every 10 students or part thereof.

NATURAL CAVE

Kindergarten - Year 3

This activity is not permitted for students in Kindergarten - Year 3.

Year 4 - 6

Must have a minimum of three supervisors at all times:

- One Qualified Supervisor for every 20 students or part thereof; and
- One supervisor for every six students or part thereof (including the Qualified Supervisor).

Year 7 - 12

Must have two supervisors at all times:

- One Qualified Supervisor for every 20 students or part thereof; and
- One supervisor for every 10 students or part thereof (including the Qualified Supervisor).

WILD CAVE

Kindergarten - Year 6

This activity is not permitted for students in Kindergarten - Year 6.

Year 7 - 12

Must have two supervisors at all times:

- One Qualified Supervisor for every 12 students or part thereof; and
- One supervisor for every six students or part thereof (including the Qualified Supervisor).

The following table illustrates minimum supervision requirements for common group sizes. Groups may be larger than those indicated here but must remain within the prescribed supervision ratios and any limits set out earlier in this document.

Year level	Environment	Number of students	Qualified Supervisor	Assistant Supervisor	Total supervisory team
K - 12	Artificial caving	1 - 20	0	2	2
K - 3	Tourist caving	1-30	0	3	3
	Natural caving and wild caving	Not permitted			
4 - 6	Natural caving	1 - 18	1	2	3
		19 - 20	1	3	4
		21 - 24	3	1	4
		25 - 30	3	2	5
	Wild caving	Not permitted			
4 - 12	Tourist caving	1-20	0	2	2
7 - 12	Natural caving	1 - 20	1	1	2
		21 - 30	2	1	3
		30 - 40	2	2	4
	Wild caving Please contact landowners or DCBA for maximum participant numbers, any restrictions and for permits to enter all wild caves.	1 - 12	1	1	2
		13 - 18	2	1	3
		19 - 24	2	2	4
		25 - 30	3	2	5

Refer to [*Appendix E: Abseiling and Climbing*](#) for qualifications and supervisory requirements that apply where SRT are used whilst caving.

11. SUPERVISION STRATEGIES

Supervision strategies must be confirmed by the Department Teacher-in-charge to ensure the safety and wellbeing of students is maintained at all times.

Supervision strategies must also address circumstances where students are not in clear view of the supervisors.

Supervisors remain aware of each participant's position and their condition and maintain direct communication at all times. A *whip and tail* configuration will help the group remain connected.

Inexperienced students should remain close to a supervisor and/or experienced caver who can assist when required.

The group caves at the pace of the slowest caver.

Team members help each other through the cave. Participants should not split up unless doing so reduces their impact on the cave. If the bigger group splits up, minimum supervision requirements still apply; as do appropriate safety, first aid, and communication equipment requirements. One supervisor remains behind the last student or participant at all times.

Students who do not display an appropriately responsible attitude are to be removed from the activity.

12. IDENTIFICATION OF PARTICIPANTS

Refer to *Appendix A: General Requirements* for further requirements.

13. COMMUNICATION STRATEGY

Refer to *Appendix A: General Requirements* for further requirements.

14. RISK MANAGEMENT PLAN

Refer to *Appendix A: General Requirements* and *Appendix B: Risk Management Plan* for further requirements.

15. EMERGENCY RESPONSE PLAN

Refer to *Appendix A: General Requirements* and *Appendix C: Emergency Management Plan* for further requirements.

16. BRIEFING STUDENTS AND SUPERVISORS

The Department Teacher-in-charge must confirm that all participants are briefed about:

- the educational purpose (learning intentions) and the cooperative nature of the activity
- components of the activity (including skills required)
- standards of behaviour, including roles and responsibilities
- hazard identification and safety requirements
- buddy practices and procedures that will be followed if members of the party become lost or separated from the group
- physical boundaries marked for the activity
- communication signals to gain attention and request assistance
- emergency and evacuation procedures
- minimal impact principles for that location (*Leave No Trace* principles).

In addition to the above, the Department Teacher-in-charge must confirm that the supervisory team have been briefed about the following:

- the role and location of supervisors
- maintaining supervision ratios (including of those students not involved in the activity)
- modified/adjusted activity requirements for students with a disability or impairment
- the system for identifying students and supervisors
- student-specific medical requirements
- conditions associated with hypothermia and dehydration
- communication strategies that will be used throughout the activity, including designated signals to gain the attention of the whole group, and to identify when emergency assistance is required
- location of first aid kit and emergency/rescue equipment
- appropriate clothing for the activity and weather conditions
- aspects of the environment and expected weather conditions
- the route to be followed.

Special information sessions must be arranged for students or staff who were absent from preparatory briefings.

17. INFORMED CONSENT

Refer to *Appendix A: General Requirements* for further requirements.