

Artificial Climbing and Abseiling Walls

Artificial walls are used to support the activity of ascending objects secured to a human-made wall or other structure. Equally, artificial walls can be used for abseiling, that is, descending with ropes and associated equipment.

This activity guideline covers activities conducted on artificial walls or structures that are either indoors or out, fixed or mobile. Artificial walls can also be used for bouldering, which is traversing along the lower level of a climbing wall or structure at a height not greater than two metres.

Environment

Artificial walls can be used in an indoor facility or outdoors on a fixed or a mobile structure. This range of environments requires users to consider carefully how the environment will affect the planned activity.

When preparing to use artificial climbing and abseiling walls, consider ways to minimise the environmental impact of the activity. Further information is available elsewhere on this site.

Location

Due to the unique nature of each location, a specific assessment of suitability must be made by the teacher responsible for the activity prior to the trip.

Your choice of location should be based upon the recent and first hand knowledge of at least one member of the planning and supervising staff. Where this is impractical, planning and supervising staff should be thoroughly familiar with the general characteristics and conditions found in similar locations, and have consulted with people who can supply recent and first-hand knowledge of the locations being considered.

When assessing the suitability of a location, consider:

- The potential to support your educational objectives.
- The level of access to the resources, services and facilities that you need or would like to use. These might include campsites, water, walking trails, toilets, shelter from extreme weather, or interpretive information.
- The level of access to communications and external assistance, in the event of an emergency, or extreme weather conditions. The more effectively remote your location is, then the more self-contained and self-reliant your group must be and this must be taken into account in the planning of the activity.
- The potential exposure to environmental hazards and difficulties.
- The activity ability and fitness of students.

Contact with relevant authorities should be made, in order to access up-to-date management information, and to determine *any* access and permit requirements.

These authorities may include:

- Emergency services
- Parks Victoria (or other land managers)
- Department of Sustainability and Environment
- Marine Safety Victoria

Groups need to be aware that extreme weather conditions may develop prior to or during the proposed trip. Staff should be prepared to cancel, modify or relocate the activity *at any time*.

Communication

Your communication strategy should enable you to receive weather forecasts and warnings, communicate with the school, and engage support in the case of an incident or emergency.

- Choose communication equipment based on current communication technology.
- Develop a communication strategy for the group during the program and to enable communication with outside parties including the school and emergency services.
- Be aware of the limitations of your communication strategy.

Weather

Check the weather forecast for the location in the days leading up to the program and on the day the program commences. If the program extends overnight, monitor and assess the weather throughout and based on that information, access daily weather forecasts and warnings.

Weather conditions can change rapidly. Monitor and assess the weather throughout the activity and be prepared to cancel, modify or relocate at anytime.

Weather warning telephone services:

- Coastal, Land Weather and Flood Warnings: 1300 659 217
- Full State Telephone Weather Service: 1900 955 363 (call charge applies)
- Coastal Waters Telephone Service: 1900 969 930 (call charge applies)
- Victorian Bushfire Information Line: 1800 240 667

These telephone numbers may be useful to have available on your program.

Web links:

- [Bureau of Meteorology](#)

- [Current weather warnings for Victoria](#)
- [Current fires](#)
- [Coastal waters forecasts for Victoria](#)
- [Telephone weather services directory: Victoria](#)

Transportation

The transportation of groups to and from activity locations must be carefully considered and planned.

- Vehicles used to transport students must comply with [VicRoads](#) registration requirements.
- Drivers must comply with all licensing requirements.
- Equipment carried inside vehicles must be securely stowed and not create a risk of injury or damage.
- Students must be supervised by a minimum of one adult, in addition to the driver, during travel.

Drivers of vehicles with more than 13 seats (including the driver) require an appropriately endorsed license, and a current Driver's Certificate.

For trips that take the bus beyond a 100km radius from its designated base, drivers must carry and complete a logbook, and comply with [National Driving Hours Regulations](#) and complete and record the [Daily Vehicle Check](#) (pdf file) before the first use each day.

In circumstances where a teacher or staff member is to drive a vehicle transporting students, the program should allow for them to have adequate rest prior to driving consistent with the National Driving Hours regulations. That is especially the case where the climbing/abseiling activity includes an overnight component.

Hazardous areas

Buses with a capacity greater than 12 seats entering prescribed hazardous areas during the declared snow season must have an annual hazardous areas inspection and a current certificate. The driver must also hold a current [Hazardous Areas Authority](#). The driver must also carry the required equipment for hazardous areas. Information about Victorian Hazardous Areas requirements can be obtained from [VicRoads](#), including information specific to bus travel in snow fields.

Activity

Student skills

It is critical to the safety of climbing that students implement correct belay technique. Therefore correct belaying technique must be demonstrated, taught and practised. The responsibility of belaying must be emphasised. Staff must be vigilant

in observing students whilst belaying and ensure the belayer is maintaining a safe tension in rope.

When a climber or abseiler connects to a safety rope, they must use a recognised attachment knot, such as a *figure of eight* with a finishing knot. It is also necessary to have a back up attachment using a locking karabiner. When connecting to a harness the correct attachment point, defined by the manufacturer, must be used. All attachments must be checked by a staff member prior to ascending or descending.

Where bouldering is being practised in the absence of rated padding, **insert new Australian Standard when available** students must be trained in spotting techniques. These must be implemented by staff.

Equipment and clothing

Equipment must be in a safe condition and suitable for the activity.

Equipment, whether hired, borrowed or owned by the school or students, must be in a safe condition and suitable for the activity.

A log describing the use of all climbing equipment must be maintained by the owner and shown to the group leader on request

Belay Devices

Use only belaying devices that are in good working order and meet Union Internationale des Associations d'Alpinisme (UIAA) standards or Comite Europeen de Normalisation (CEN) or the Australian equivalent.

Anchor points on the structure must satisfy engineering design regulations and be used in the manner for which they were designed.

It is recommended that belay devices be anchored to the ground with an engineered anchor point.

Harnesses

Harnesses used for climbing and abseiling on artificial structures must be used in accordance with manufacturer recommendations. Harnesses that meet EN 12277 or the equivalent UIAA or Australian standards and are in good working order must be correctly fitted and secured. Students and staff must be vigilant in ensuring that harnesses are correctly refitted between sessions or after removal.

Harnesses must be checked carefully and regularly and replaced if necessary. Replaced harnesses must be destroyed In addition, replaced at scheduled intervals after a maximum of five years from first use.

Where it is judged that a climber or abseiler body type is likely to lead to an inversion, the instructor must correctly fit a chest harness.

Helmets

Helmets, where worn, must meet UIAA standards or equivalent CEN or the Australian Standards. Local practice will dictate whether helmets are used or not. Caps must not be worn under helmets.

Ropes

Ropes used for climbing and abseiling on artificial structures must be rated for the intended load and style of use. **Insert new Australian standard if available.** These ropes must be stored in a cool dry place free from ultra violet light, chemical or physical hazards. The ropes should be logged and used in accordance with manufacturer recommendations and meet design standard **EN 892 Dynamic mountaineering ropes or similar.**

All climbing ropes in lead climbing systems should be certified by the manufacturer as suitable for such use.

Dynamic climbing ropes or other rope rated for use on artificial structures are indicated for use on artificial walls and the diameter used will be dependent on local conditions and policy.

During an abseil session, systems which enable arrest of an uncontrolled abseiler descent will be incorporated. For beginners, this will include a belayed safety rope. For more experienced abseilers, a bottom belay is acceptable.

First aid kits

[First aid](#) kits appropriate to the location and level of training must be carried.

Clothing

Clothing is the individual's primary protection against severe and variable weather conditions.

Glasses should be secured and long hair tied back so as not to be caught in belay device or other equipment. Loose jewellery should not be worn and rings should be taped if not removed.

Clothing lists need to be appropriate for the activity, the environment and the season.

Shoes

Special climbing shoes or slippers are best for climbing on artificial walls; however, for lower grade climbing runners or boots are adequate. Shoes must be securely fitted to avoid them falling during a climb.

Climbing shoes or securely fitting shoes with good grip are appropriate for abseiling.

To protect against [sunburn](#) use broad-spectrum, water-resistant SPF 30+ sunscreen on all exposed parts of the body, applied according to the manufacturer's recommendations. Students who own sunglasses should be encouraged to bring them and wear them.

Identification

Staff and students must be easily identifiable.

Staff must determine the most suitable system(s) of identification, based on the assessment of the environment, students' skills, the type of activities to be undertaken and the age and number of students.

Touring

All touring parties must carry with them appropriate safety and rescue equipment. Local conditions will determine nature of safety and rescue equipment required and will consider the need to assist a climber/abseiler requiring an elevated rescue.

People

Staff

Staff members are those adults who provide the supervisory, instructional and educational elements of the program. All staff members must be approved by the school council.

All staff members must comply with either current Department of Education Police Check requirements or [Working With Children Check](#) (after July 2007).

A teacher registered with the Victorian Institute of Teaching and either employed by the Department of Education or endorsed by the school council must be present and have overall responsibility for the activity.

Where not directly responsible for the instruction of the activity or assisting the instructor, the teacher present must understand the activity and the environment in which it will be conducted. This teacher must confer with the designated instructor about their supervisory role and establish areas of responsibility. If the teacher is not the designated instructor he/she is to act on the advice of the designated instructor on technical safety issues.

Any staff member with a known medical condition that might compromise the group's risk management plan should make accompanying staff aware of this condition. Be aware that issues of confidentiality will be involved in any such disclosure.

Experience and qualifications

Staff involved in the planning and conduct of the activity should have sufficient knowledge and experience of the activity and the activity environment to operate in all foreseeable conditions.

The designated climbing and abseiling instructor(s) must hold one of the following:

- a Single Pitch Guide award accredited with the Australian Climbing Instructors Association (<http://www.acia.com.au>)
- equivalent documented training and experience from another training provider or education institution
- equivalent documented experience in lieu of certification/accreditation.

[Pro Forma Staff Qualifications/Experience](#) must be used to document staff qualifications/experience in lieu of qualifications.

A guide to the skills and knowledge required by the designated instructor follows.

When instructing in climbing and abseiling on artificial structures, instructors will be able to demonstrate;

- competence in demonstration and use of harnesses, ropes and hardware
- effective skills in demonstrating and implementing safe belay techniques
- current experience in the planned activity
- the ability to implement emergency response procedures in the event of a fall, equipment jam or failure or other foreseeable event
- adequate knowledge of the students to manage behavioural, logistical, pastoral or medical issues.

The designated assistant to the instructor must:

- have experience in the activity at the level being offered to students
- be able to assume a supervisory role during the activity
- have the ability to participate competently in emergency response procedures
- have conferred with the instructor to establish the emergency response and supervision responsibilities.

[Pro Forma Staff Qualifications/Experience](#) can be used to document staff qualifications/experience in lieu of qualifications.

Supervision

Effective supervision is a critical factor in managing risk in the outdoors.

A minimum of two staff members must be present for each activity, one with responsibility for activity instruction and the other able to assist the instructor.

The following table shows the minimum staff to student ratio for climbing or abseiling on artificial climbing structures. It should be applied when establishing the instructional and supervision strategy for the activity. (Students not directly involved in climbing/abseiling, must be supervised separately with a minimum staff student ratio of 1 to 10.)

Activity	Staff required	Student numbers
Climbing	A	B
	C	D.....
Activity	Staff required	Student numbers

Abseiling

A

B

C

D.....

Minimum age for belaying is 11 years old.

Determination of staff numbers and expertise required should be based on:

- age, maturity and gender of students
- ability and experience of students
- individual needs
- group dynamics of the student group
- experience, qualifications and skills of staff
- location of the activity
- anticipated conditions at the location

The teacher in charge is responsible for the supervision strategy, which must be endorsed by the school council as part of the excursion approval process. Staff members will supervise students according to that strategy.

The above are the minimum requirements for staff-student ratios for this activity.

Overnight excursions

If the program has an overnight component, refer to [Overnight Camping](#) guidelines.

Informed consent

The school must receive informed consent from parents or guardians that their child may participate in adventure activities.

Informed consent should be based on an understanding of:

- the educational purpose of the activity
- the nature and details of the activity
- the supervision strategy
- other information deemed relevant by the school or by parents/guardians.

Informed consent must be given in writing and signed by parents or guardians.

First aid

At least one member of staff responsible for each group of students must hold, as a minimum, a Level Two First Aid qualification, and have a first aid kit applicable to the level of training.

Staff members must carefully consider the nature and location of the excursion as well as the medical history of the students to determine the level of [first aid training](#) required by staff.

Definitions

Belay – The technique of controlling the safety rope from the ground as a climber ascends or descends or as an abseiler descends

Bouldering – A climbing technique where the climber traverses rather than ascends, a wall or structure.

Climbing Gymnasium – A purpose built facility that offers a variety of climbing structures with a variety of grades to support different abilities. Typically, climbing gymnasiums offer equipment and instruction to users.

Lead Climbing – An experienced climber ascends a wall or structure and connects a safety rope to anchor points as they progress.

Single-pitch ground belay – A system that involves the climber starting next to the belayer with the safety rope going from bottom attachment point belayer up through an anchored point and down to the attached climber. The climber will climb the wall or structure; as they do so, the belayer will take the rope in to secure them. Once the climber reaches the anchor point they are lowered back down to the ground.

Spotting – A technique used for climbers close the ground to protect a climber's head/neck in the event of a fall.

Common risks in Climbing and Abseiling on Artificial Walls or Structures

This list identifies risks inherent in any climbing or abseiling activity on artificial walls or structures. A program-specific risk management plan must be completed which takes account of the specific conditions and unique participants of the excursion/program.

Risk	Minimum Controls
A failure of climb/abseil hardware or structural hardware occurs and causes injury or death to students or staff.	<p>During pre-activity planning staff ensure that the facility meets design standards for the structure and climbing hardware. Visit the facility and review its risk management policies. Climbing ropes must meet Australian Design Standards if provided in new standard</p> <p>Walls and structures will have appropriate engineering certification. EN 12572 or new Australian standard?</p> <p>Equipment is safely stored and used in accordance with manufacturer specifications and destroyed when damaged or when it has reached a defined time or usage threshold. This threshold is defined by local</p>

	policy and accepted common practice.
A student or staff member brings own harness or other safety equipment which fails, causing injury or death.	Where students or staff provide their own specialist climb/abseil equipment it must be checked for damage and suitability by the designated instructor. Where uncertainty regarding condition or suitability exists, alternate equipment will be used.
Whilst bouldering, a student or staff member falls off the structure and hits the ground, sustaining soft tissue or skeletal injury or death.	<p>On artificial bouldering walls, staff will ensure there is appropriately placed padding, free from obstacles, tripping hazards and gaps. Refer to the Australian Standard.</p> <p>Where padding can't be provided, staff will demonstrate and implement spotting techniques.</p> <p>Australian standard or AS NZS 4422:1966</p> <p>Staff will continually monitor student harnesses, knots and the use of karabiners to ensure they are being used according to instruction and manufacturer specifications. In particular, staff must check harnesses and attachments prior to a student starting a climb or abseil.</p> <p>After a student has removed a harness, it must be rechecked prior to re-engagement in climb or abseil activities.</p>
During climbing or abseil session a student or staff member falls and sustains a soft tissue or skeletal injury.	<p>During pre activity planning, staff will develop an emergency response strategy. This strategy will consider possible responses should a group member require outside or medical assistance.</p> <p>During the pre activity planning, staff will consider student skills and experience and ensure session is suitable. Strategies should be developed to support students with known weaknesses to reduce risk of injury.</p> <p>Student and staff footwear will match the climb or abseil session goals.</p> <p>Pre-activity briefing will include training in safe knot tying/attachment, belaying and effective communication. Staff will ensure this training is being enacted.</p> <p>Effective padding Aust Standard? should be provided at the bottom of climbs to provide some protection in the event of a fall.</p>
During climbing or abseil session a belayer fails to maintain appropriate tension on the safety	At the start of the activity, staff will provide a thorough training session in correct belay technique, emphasizing its importance.

<p>rope, endangering the climber/abseiler.</p>	<p>Hardware systems will be used that reduce the chance of a dangerous fall. Such systems include hardware to increase friction at the top anchor and main belay system.</p> <p>During the session, staff will observe all belay actions and ensure they meet the training standard. Where safety concerns about technique persist, staff must implement strategies to reduce risk. Strategies could include retraining, limiting involvement, temporary exclusion from activity or cancellation of the session.</p>
<p>Student or staff member experiences dangerous fatigue or exhaustion which leads to unsafe climb, abseil or belay technique.</p>	<p>During activity planning phase, staff will consider student skills and experience and ensure session is suitable.</p> <p>During the session, staff will observe every student and consider strategies to support the group and individuals.</p>
<p>During a climb/abseil, a student slips and catches a ring or necklace on a hold or obstacle, causing injury.</p>	<p>Students will remove all jewellery to avoid injury. Where it is not possible to remove, the student must cover with tape, clothing or use some other control.</p>
<p>Whilst belaying or during an abseil a student or staff member catches their hair in a belay device.</p>	<p>Long hair and clothing should be secured in a way which reduces the risk of it catching in hardware.</p> <p>Emergency systems must be in place to affect a suitable response in the event of a hair or clothing jam.</p>
<p>Student or staff member experiences hypothermia or hyperthermia</p>	<p>During activity planning phase, staff will consider student skills and experience and ensure session length is suitable.</p> <p>Staff will monitor weather and adjust session to compensate for the prevailing weather.</p> <p>Communication strategy to include means which allows group to be notified of approaching severe weather.</p> <p>Group management strategy should include options for action in response to severe weather which may include altering session, finding shelter, discontinuing session, postponement or cancellation.</p> <p>All group members to have appropriate clothing and equipment and the knowledge to respond to adverse conditions. Students who are unwell may be more susceptible to cold injury.</p>
<p>Student or staff member becomes ill during the session.</p>	<p>Prior to activity, staff will collect current and confidential medical information for each student and this will be used to determine whether the activity matches each student's health status. These will be</p>

	<p>available to staff during the entire excursion.</p> <p>During pre activity planning, staff will develop an emergency response strategy. This strategy will consider actions should a group member require outside or medical assistance.</p> <p>At start of session, staff will ensure there is no illness or condition that may affect the ability of a student to participate.</p> <p>Staff will be aware of any allergies amongst the group, and of the likely severity of allergic reaction. Appropriate first aid devices should be available, and staff must know how to use them.</p>
<p>An extreme weather event, such as lightning, wind, flood, rain or heatwave, threatens or occurs, thus endangering safety of the group.</p>	<p>Pre activity planning will consider strategies for responding to extreme weather events. These will include options ranging from adjustment of activity to cancellation and evacuation from the area.</p> <p>Staff should examine resources describing recommended responses to extreme weather. Refer also to the Education Outdoors website which contains information regarding extreme weather events.</p> <p>If relevant communications strategy will include a mechanism for the group to be informed of severe weather warnings.</p>

Downloads and Web Links

[Approval Pro Forma for Adventure Activities and/or Overnight Excursions](#)

[Overnight Camping Guidelines](#)

[The Crux of Risk Management in Outdoor Programs](#)

[Pro Forma Staff Qualifications/Experience](#)

External weblinks

Australian Climbing Instructors Association <http://www.acia.com.au>

Bureau of Meteorology <http://www.bom.gov.au/weather/vic>

Bus equipment and travel in hazardous areas <http://www.vicroads.vic.gov.au>

Department of Sustainability and Environment <http://www.dse.vic.gov.au>

Emergency Services <http://www.vic.gov.au/> (Follow the 'Emergencies & Safety' link)

First aid information <http://www.eduweb.vic.gov.au/referenceguide/pdf/4-5.pdf>

Marine Safety Victoria <http://www.marinesafety.vic.gov.au/>

National Driving Hours Regulations <http://www.vicroads.vic.gov.au>

Parks Victoria <http://www.parkweb.vic.gov.au>

Student care and supervision
<http://www.eduweb.vic.gov.au/referenceguide/pdf/4-6.pdf>

Student safety and risk management
<http://www.eduweb.vic.gov.au/referenceguide/pdf/4-4.pdf>

SunSmart <http://www.sunsmart.org.au>

VicRoads <http://www.vicroads.vic.gov.au>

Victorian Government Schools Reference Guide
<http://www.eduweb.vic.gov.au/referenceguide>

Working with Children Check
<http://www.justice.vic.gov.au/workingwithchildren>

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