## Curriculum activity risk assessment

# **Biological Activities**

#### clever • skilled • creative

## Activity scope

This document relates to student participation in Biological Activities as a curriculum activity.

This risk management module relates to every aspect of the handling of biological material for learning purposes. Care must be taken in not only the operational (learning) mode but also in the maintenance (storing) mode, transportation mode and disposal mode. This will include consideration of the appropriate transport of animals, biological material, wastes and used instruments to and from an educational institution and/or within an educational institution.



- ordering
- storage
- preparation
- labelling
- disposal.

Operational processes covered by this schedule include:

- handling
- distribution
- first aid
- · disposal and cleaning.

Some biological activities occur in laboratories and require the use of chemicals and laboratory equipment. Others occur on field trips and some involve the use of animals. Teachers should refer to the relevant risk assessments.

Teachers/leaders:					
Activity description:					
Start date:	Finish date:	No of students (approx.):			
Class groups:		Supervision ratio (approx.):			



### Risk level

The actual risk level will vary according to the specific circumstances of the activity and these **must** be considered when assessing the inherent risk level and planning the activity. As a starting point, ask the following questions:

- Which students will be involved?
- Where will the students be?
- What will the students be doing?
- Who will be leading the activity?
- What will the students be using?

Inherent risk level			Action required / approval			
	Low	Biological activities in which controls are in place to prevent students being exposed to any of the hazards included in this module or otherwise identified; Specifically excludes any activity involving dissecting or handling or animals	<b>V</b>	Manage through regular planning processes.		
	Medium	Biological activities in which students are exposed to any of the hazards included in this module or otherwise identified (e.g. relating to hazardous substances, handling and dissecting animals procured as laboratory specimens or growing cultures under controlled circumstances according to allowed protocols)	\overline{\text{V}}	Record controls in your planning documents and/or complete this <i>Curriculum Activity Risk Assessment</i> . Consider obtaining parental permission.		
	High	Activities in which biological hazards may be unknown (e.g. growing cultures in uncontrolled environments or the handling and/or dissection of any animal not procured by the school as a laboratory specimen)		A Curriculum Activity Risk Assessment must be completed.  Principal or delegated Deputy Principal or Head of Program (i.e. HOD, HOSES, HOC) to review and approve risk assessment.  Obtaining parental permission is recommended.  Once approved, activity details are to be entered into the School Curriculum Activity Register.		

Listed below are the minimum recommendations for this type of activity. For any items ticked 'No', provide further information regarding the additional or alternate controls to be implemented for the safe conduct of the activity.

Minimum supervision					
Adequate adult supervision is to be provided. In determining what is adequate, consider the number of students, their individual needs, and the nature of the activity. If an adult other than a registered teacher is engaged for instruction, a teacher should be present to take overall responsibility. Blue Card requirements <b>must</b> be adhered to.					
Registered teacher with minimum qualifications as outlined below					
OR					
An adult with minimum qualifications as outlined below, in the presence of a registered teacher.					
Further information:					

Minimum qualifications The qualifications listed in this section are minimums for each type of situation. Leaders are encouraged to seek
training to raise their qualification level above the minimum listed.
Current first aid qualifications including Cardio Pulmonary Resuscitation (CPR) or ready access to first aid facilities, including qualified personnel.
Blue Card requirements met
<b>Low</b> - Biological activities in which controls are in place to prevent students being exposed to any of the hazards included in this module or otherwise identified; Specifically excludes any activity involving dissecting or handling or animals
For a registered teacher or a leader other than a registered teacher:
knowledge of the activity and its potential hazards
<b>Medium -</b> Biological activities in which students are exposed to any of the hazards included in this module or otherwise identified (e.g. relating to hazardous substances, handling and dissecting animals procured as laboratory specimens or growing cultures under controlled circumstances according to allowed protocols)
Refer to SCM-PR-011: Animal Ethics and Welfare in Schools
For a registered together as a leader other than a registered together.
For a registered teacher or a leader other than a registered teacher:  competence in the teaching of the activity
A teacher could demonstrate their competency through their:
knowledge of the activity and the associated hazards and risks
experience (i.e. previous involvement) in undertaking the activity
demonstrated ability and/or expertise to undertake the activity
possession of qualifications related to the activity.
<b>High -</b> Activities in which biological hazards may be unknown (e.g. growing cultures in uncontrolled environments
or the handling and/or dissection of any animal not procured by the school as a laboratory specimen)
For a science registered teacher:
competence (demonstrated ability) in the activity
A teacher could demonstrate their competency through their:
knowledge of the activity and the associated hazards and risks
experience (i.e. previous involvement) in undertaking the activity
demonstrated ability and/or expertise to undertake the activity
possession of qualifications related to the activity.
For a leader other than a registered teacher:
appropriate qualifications related to the activity.
Further information:

Minimum equipment/f	Yes	No		
First aid kit suitable for activity				
Communication system: Other:	☐ phone-line at location ☐ walkie talkies/UHF radio	☐ mobile phone ☐ student/adult mes	ssenger	
Sun safety equipment (hat, sui	 nscreen. shirt etc)		П	П
	d not share drinking containers)			
Protective equipment appropri	ate for the particular activity, such as safe buld be worn by all persons involved in the			
Further information:				

## Hazards and suggested control measures

All persons engaging in this activity should:

- identify the hazards, including any additional hazards not mentioned here
- assess their significance
- manage the potential risks.

Listed below are indicative hazards/risks and suggested control measures. They are by no means exhaustive lists. After checking these, add details of any other identified hazards/risks and additional controls you intend to implement.

Hazards/risks	Control measures	Yes	No	Implementation plan / Additional controls
Animal bites/diseases  Bites Stings Poisoning Infection	Most animals can inflict bites and scratches or defend themselves if provoked, and should be handled with care. Ensure that processes are in place to minimise these risks and to enable an effective response in case of accidents.			
	<ul> <li>Animals can carry parasites which may have adverse effects on humans. All animals should be screened for parasites (e.g. ticks and fleas) and students informed of the potential hazards, symptoms and course of remedial action.</li> </ul>			
Biological material  Body fluids (e.g. blood, saliva, sweat) Raw food Cultures and Micro- organisms Plants	Comply with Infection Control Guideline. Students with open cuts and abrasions are to be removed from the activity and treated immediately. If bleeding cannot be controlled completely, the participant should not be allowed to return to the activity. All clothing, equipment and surfaces contaminated by blood should be regarded as potentially infectious.			
	Blood samples <b>must</b> not be taken from staff or students.			
	<ul> <li>Have sufficient and suitable containment material (bandages etc.) readily available.</li> </ul>			
	<ul> <li>Ensure that students do not share personal equipment such as drink bottles.</li> </ul>			

Hazards/risks	Control measures	Yes	No	Implementation plan / Additional controls
	Ensure that 'Aspects of Science Management: A     Reference Manual' is followed, including with regard to storage, preparation, labelling, disposal and cleaning.			
	Ensure that all biological materials are treated as if contaminated and potentially hazardous. Appropriate handling and protective measures should be implemented and hygiene guidelines established and followed when handling plant and animal material.			
	Ensure that any spillage of material of biological origin (e.g. blood, tissue material) is treated according to instructions in 'Aspects of Science Management: A Reference Manual'.			
	Ensure that all cultures are used under the assumption that they can develop dangerous growths and should always be treated as if they contain pathogens.			
	Ensure that processes are in place to minimise the risk from plants that may exude substances or may have been sprayed with substances which can have an effect on humans if contact or ingestion occurs.			
	<ul> <li>Ensure that relevant equipment is sterile, particularly dissection instruments.</li> </ul>			
	<ul> <li>Ensure that sterilising techniques are to the appropriate standard.</li> </ul>			
<ul><li>Breakages</li><li>Glass</li><li>Crockery</li></ul>	Ensure that processes are in place to prevent breakages (e.g. inspect equipment before use for cracks, do not heat or cool materials quickly, handle equipment carefully).			
	Ensure that appropriate clean- up equipment (broom, dustpan and brush) is available.			
	Ensure that all spillages and breakages are treated			

Hazards/risks	Control measures	Yes	No	Implementation plan / Additional controls
	according to instructions in 'Aspects of Science  Management: A Reference  Manual'.			
Dust, gas or fumes  Smoke Inhalation	Ensure that appropriate personal protective equipment (such as facemasks and breathing apparatus) is worn.			
- midiation	Ensure there is adequate ventilation.			
	Ensure that extraction bags are fitted to equipment.			
	Use a fume cupboard.			
<ul><li>Electricity</li><li>Electric shock</li><li>Burns</li></ul>	Ensure that guidelines in     'Aspects of Science     Management: A Reference     Manual' are adhered to.			
Environmental conditions  Temperature Weather Surfaces Surrounds	Ensure that the location and weather are suitable for the activity, and for the storage, transportation and disposal of the biological material and chemicals used.			
Hazardous substances  Corrosive chemicals  Flammable chemicals  Carcinogenic chemicals  Volatile chemicals  Heavy metals	Ensure that guidelines in     'Aspects of Science     Management: A Reference     Manual' and risk assessment module: Management and     Storage of Hazardous Science     Substances are adhered to, including with regard to ordering, storage, preparation, labelling, disposal and cleaning.			
Heat sources  • Hot plates	Follow 'Aspects of Science     Management: A Reference     Manual'.			
<ul><li>Flames</li><li>Friction heat</li><li>Conduction</li></ul>	Ensure that only competent personnel operate and maintain radiation and ionising sources and equipment (e.g. UV lamps).			
Sharp implements or objects  Knives  Needles	Ensure that there is correct management and disposal of waste dissection materials and 'sharps' (i.e. needles, scalpels etc.)			
Students • Special needs	Obtain parental permission, including relevant medical information.			

Hazards/risks	Control measures	Yes	No	Implementation plan / Additional controls
<ul> <li>Medical conditions</li> <li>Student numbers</li> <li>High risk behaviours</li> </ul>	When students with medical conditions are involved, ensure that relevant medical/emergency plans and medications are readily available (insulin, Ventolin, Epipen, etc.)			
	<ul> <li>Refer to Individual education plan/Educational adjustment plan/Behaviour management plan and other student documents.</li> </ul>			
	Where necessary, obtain advice from relevant advisory visiting teachers or specialist teachers.			
	Ensure there is adequate adult supervision.			
Tools, plant or equipment	Ensure that all persons involved in the activity wear appropriate protective clothing. This includes enclosed footwear, hats or hard hats, gloves, long-sleeved shirts etc.			
	Ensure that suitable safety equipment is available.			
	Ensure that planning and preparation takes into account guidelines in 'Aspects of Science Management: A Reference Manual'.			
Additional cont These would relate to		and con	ditions	in which you are conducting your activity.
Hazards/risks	(	Contro	l meas	ures

Submit	ted by:		Date:					
List the names of those who were involved in the preparation of this risk assessment.								
Appro	oval							
	Approved as submitted.							
	Approved with the following condition(s):							
	Not approved for the following reason(s):							
Ву:		Designation:						
Signed:		Date:						
	pproved, activity details should be entered into the Register by administrative staff.	School Curriculum	Reference no	D.				
	or and review To be completed during and/o	or after the activity and/o	r at the	Yes	No			
Are the	control measures still effective?							
	ere been any changes?							
-	her actions required?							
Details:								

### Important links

- HLS-PR-003: First Aid http://education.gld.gov.au/strategic/eppr/health/hlspr003/
- HLS-PR-004: Infection Control and Management of Prescribed Contagious Conditions http://education.qld.gov.au/strategic/eppr/health/hlspr004/
- Infection Control Guideline: <a href="http://education.qld.gov.au/health/pdfs/healthsafety/infection\_control\_guideline.pdf">http://education.qld.gov.au/health/pdfs/healthsafety/infection\_control\_guideline.pdf</a>
- HLS-PR-005: Health and Safety Incident Recording and Notification http://education.gld.gov.au/strategic/eppr/health/hlspr005/
- HLS-PR-006: Managing Occupational Risks with Chemicals http://education.qld.gov.au/strategic/eppr/health/hlspr006/hs16.pdf
- HRM-PR-010: Working with Children Check Blue Cards <a href="http://education.qld.gov.au/strategic/eppr/hr/hrmpr010/">http://education.qld.gov.au/strategic/eppr/hr/hrmpr010/</a>
- SCM-PR-002: School Excursions <a href="http://education.qld.gov.au/strategic/eppr/schools/scmpr002/">http://education.qld.gov.au/strategic/eppr/schools/scmpr002/</a>
- SCM-PR-011: Animal Ethics and Welfare in Schools http://education.gld.gov.au/strategic/eppr/schools/scmpr011/
- Safe Operation of Laboratory Equipment <a href="http://education.qld.gov.au/strategic/eppr/health/hlspr012/resources/safelabequip.pdf">http://education.qld.gov.au/strategic/eppr/health/hlspr012/resources/safelabequip.pdf</a>
- Handling Live Animals in a School Setting http://education.gld.gov.au/strategic/eppr/health/hlspr012/resources/liveanimals.pdf
- Chemical Hazards
   http://education.gld.gov.au/strategic/eppr/health/hlspr012/resources/chemhazards.pdf
- Management and Storage of Hazardous Science Substances <a href="http://education.qld.gov.au/strategic/eppr/health/hlspr012/resources/hazsciencematerials.pdf">http://education.qld.gov.au/strategic/eppr/health/hlspr012/resources/hazsciencematerials.pdf</a>
- Maintenance and Operation of a Safe Laboratory <a href="http://education.qld.gov.au/strategic/eppr/health/hlspr012/resources/safelab.pdf">http://education.qld.gov.au/strategic/eppr/health/hlspr012/resources/safelab.pdf</a>
- Maintenance and Operation of a Safe Work Area Outside the Laboratory <a href="http://education.qld.gov.au/strategic/eppr/health/hlspr012/resources/safework.pdf">http://education.qld.gov.au/strategic/eppr/health/hlspr012/resources/safework.pdf</a>
- Safe Work Practices Conducting Science Experiment Activities http://education.qld.gov.au/strategic/eppr/health/hlspr012/resources/scienceexperiment.pdf
- Aspects of Science Management: A Reference Manual for Schools <a href="http://education.qld.gov.au/health/pdfs/healthsafety/aspects-science-mgmt.pdf">http://education.qld.gov.au/health/pdfs/healthsafety/aspects-science-mgmt.pdf</a>
- Creating Healthier Workplaces <a href="http://education.qld.gov.au/health/index.html">http://education.qld.gov.au/health/index.html</a>
- Office of the Gene Technology Regulator, Department of Health and Aging http://www.health.gov.au/internet/ogtr/publishing.nsf/Content/home-1
- Department of Agriculture, Fisheries and Forestry <a href="http://www.daff.gov.au/">http://www.daff.gov.au/</a>

#### **Further information**

For further information on incorporating risk management strategies into curriculum activity planning refer to <a href="https://example.com/HLS-PR-012">HLS-PR-012</a> Managing Risks in Curriculum Activities and the associated list of <a href="https://example.com/Curriculum Activity Risk">Curriculum Activity Risk</a> Assessment Guidelines. (See: <a href="https://education.gld.gov.au/strategic/eppr/health/hlspr012/index1.html">https://education.gld.gov.au/strategic/eppr/health/hlspr012/index1.html</a>)

For further support with risk management training and advice, contact trained staff in schools such as Workplace Health and Safety Officers (WHSOs) and Workplace Health and Safety Representatives (WHSRs), and regional staff such as Senior Health and Safety Consultants.