

Numinbah Valley Environmental Education Centre

Curriculum Activity Risk Assessment

Activity Details

CARA Creation Date: 01-Apr-2021			
Activity:	Biological activities		
Activity Scope:	<p>This guideline relates student participation in any curriculum activity involving biological material [1] (e.g. animal tissues, microorganisms, plant material) as a curriculum activity.</p> <p>The taking of human blood samples or the use of human blood products is not permitted.</p> <p>Sampling human saliva, urine, cheek cell and/or DNA is permitted provided students only collect/handle their own samples. Standard precautions found in the Infection control guideline are to be implemented to prevent infection and contamination.</p> <p>Biological activities may involve other activities that have various risk levels. Refer to the relevant activity guideline (e.g. Animal observation and handling, Food experimentation and/or Science experiments, investigations and activities) for mandatory requirements associated with these activities.</p> <p>[1] Examples of activities involving biological material include, but are not limited to, Science activities (e.g. studying animal tissues, live specimens, invertebrate organisms, microorganisms, plant material, fungi) and Design and Technologies activities (e.g. tasting food samples grown in the school garden.)</p>		
Guidelines:	https://education.qld.gov.au/curriculum/school-curriculum/CARA/activity-guidelines		
Activity Description:	Biodiversity - students collect invertebrates and examine them using magnifying glass and/or microscopes.		
Inherent Risk Level:	Low		
Inherent Risk Level Description:	Participating in activities which use non-hazardous biological material (e.g. pre-prepared microscope slides, pond water, silkworms, foodstuffs).		
Start Date:	Friday, 09 April, 2021	End Date:	Wednesday, 09 April, 2025
On School Grounds:	Yes	Is parental permission required for this activity?	No

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Mandatory/Special Requirements	
<i>Mandatory requirements must be met for the activity to be conducted.</i>	
Refer to the School Excursions and International School Study Tours procedure for off-site activities.	<input type="checkbox"/>
Obtain parent/carer consent and a medical questionnaire/declaration for high risk activities. (Note: Students with a medical condition (e.g. anaphylaxis/allergy) that may impact on their safety during participation in this activity must be cleared by a medical practitioner prior to participation in the activity).	<input type="checkbox"/>
Identify hazards associated with biological materials and animals and establish appropriate management processes that comply with the Infection control guideline and/or relevant Australian Standards (e.g. AS 2243.3 — Safety in laboratories: Microbiological safety and containment).	<input type="checkbox"/>
Use the Chemical Hazards in the Curriculum template and Chemical Hazards Guidance notes when required.	<input type="checkbox"/>
Establish and implement procedures appropriate to the activity, location and conditions. This must include, but is not limited to: safety (e.g. identification of ingestion hazards, defined procedures in a published experiment); emergencies (e.g. spill control, injury, first aid); communication (e.g. assistance); and supervision.	<input type="checkbox"/>
Induct students on procedures for safety (e.g. protective clothing when dissecting) and correct technique. Treat all biological material as though it is contaminated and potentially hazardous.	<input checked="" type="checkbox"/>
Incubation of body fluids or other tissues in broths, plates or cultures is not permitted.	<input type="checkbox"/>
Incubation of microbial cultures at temperatures higher than 30°C is not permitted.	<input type="checkbox"/>
Physical containment levels (i.e. facilities used when working with microorganisms) must be at least the appropriate level for the risk group of the microorganism as per AS2243.3.	<input type="checkbox"/>
Trial any activity sourced online to ensure all hazards are identified, controls are planned, procedures are appropriate and educational outcomes exceed the risk of conducting the activity.	<input type="checkbox"/>

Risk Management Details

Supervision Requirements	
Provide sufficient adult supervision to manage the activity safely (including emergency situations). Consider age, size, ability and maturity of students in this decision. Principals make decisions about the supervision requirements.	<input checked="" type="checkbox"/>
Supervision requirements determined as part of booking process. Visiting school to identify and provide additional supervision for identified students as required.	

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Qualification Requirements	
A registered teacher with knowledge of the activity and its potential hazards.	<input checked="" type="checkbox"/>
OR	
An adult supervisor other than a registered teacher with knowledge of the activity and its potential hazards, working under established safety procedures and the direct supervision of a registered teacher.	<input checked="" type="checkbox"/>

Equipment/Facility Requirements	
Location must be suitable to the science activity being undertaken. That is in a specialised facility (e.g. laboratory, agricultural facility) or other location (e.g. incursion, field trip).	<input type="checkbox"/>
Adequate ventilation and sufficient workspace for the planned activity.	<input type="checkbox"/>
Suitable and accessible safety and first aid equipment (e.g. electrical isolation switch, emergency eye wash) as appropriate.	<input checked="" type="checkbox"/>
Source biological specimens (e.g. animals bred for scientific purposes) from commercial suppliers.	<input type="checkbox"/>
Tools must be well-maintained, sharpened, stored appropriately when not in use, transported safely (e.g. using a protective cover), cleaned following use to reduce the risk of contamination.	<input type="checkbox"/>
Personal protective equipment must include fully enclosed footwear and apron/coat. Other personal protective equipment will depend on the activity and may include: lab standard eye protection; gloves; and appropriate face protection (e.g. mask to protect against airborne organisms in potting mix).	<input type="checkbox"/>
Take appropriate precautions when maintaining, storing, transporting and disposing biological materials within an educational institution (e.g. use Clinical and related waste guideline). Such materials for disposal include but not limited to: live animals (e.g. silkworms, fish); biological material (e.g. specimens, manure, foodstuffs); wastes (e.g. paper towel, gloves); and used instruments (e.g. dissection boards, probes).	<input type="checkbox"/>
Use a double-bagging technique when disposing of hazardous biological materials.	<input type="checkbox"/>
Clean-up equipment (e.g. broom, dustpan and brush) including disinfectants for use with microorganisms.	<input type="checkbox"/>
Collection site to be inspected on the day, prior to commencement.	

Hazards and Control Measures	
<i>Before the activity</i>	
Considering environmental conditions	
Undertake a reconnaissance of new or infrequently used fieldwork areas to ensure suitability and safety	<input checked="" type="checkbox"/>

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When intending to conduct activities outside, assess weather (Bureau of Meteorology) and environmental conditions. Cease activities when conditions tend towards unfavourable (e.g. impending storm). Ensure the school's Sun safety strategy is followed.	<input checked="" type="checkbox"/>
Ensure the location is suitable for the activity and for the storage, transportation and disposal of the biological material and chemicals used.	<input type="checkbox"/>
Accessing facilities and using equipment	
Review experimental procedures. Identify, record and control foreseeable hazards associated with individual activities.	<input type="checkbox"/>
If hazardous chemicals or biological materials are required, use only the smallest quantity that will guarantee the viability of the experiment.	<input type="checkbox"/>
Refer to, and follow, supplier Safety Data Sheets (SDS), manufacturer instructions or product information sheets for equipment and biological material.	<input type="checkbox"/>
Equipment must be well-maintained, transported safely, stored appropriately when not in use and cleaned following use. Visually inspect equipment and remove damaged electrical equipment, glassware and/or apparatus from service.	<input type="checkbox"/>
Establish, induct and implement procedures for clean-up and storage of equipment. Sterilise any equipment used for microbiology or genetic material before the activity appropriate to Australian Standards .	<input type="checkbox"/>
Label all biological material so it and associated hazards can be clearly identified.	<input type="checkbox"/>
Use (or prepare) standard operating procedures (SOP) to address all safety aspects of the activity (e.g. use SOP: Performing an eye dissection or a Science-based risk assessment tool). These procedures should address all aspects for the activity (e.g. appropriate level of facilities for microbial risk groups, handling, disposal and sterilisation procedures). Attach these procedures to the CARA record.	<input type="checkbox"/>
Establish, induct and implement procedures for management and disposal of dissection, microbial and genetic wastes (e.g. disposed in a designated receptacle) and 'sharps' (e.g. scalpel blades disposed in an appropriate sharps containers). Refer to SDS or consult local authorities on the appropriate means of disposal.	<input type="checkbox"/>
Managing student considerations	
Ensure appropriate personal protective equipment (e.g. gloves) is worn/used during the activity.	<input type="checkbox"/>
Ensure loose clothing and long hair is appropriately secured.	<input type="checkbox"/>
Where individual experimental investigations are undertaken, ensure students have complete and appropriate procedures in place and have identified and managed any hazards associated with their activity.	<input type="checkbox"/>
Review activity instructions with students before commencing the activity. Ensure students have been inducted with regard to the correct setup and operation of all equipment and can use appropriate laboratory technique to complete the activity safely.	<input checked="" type="checkbox"/>
Monitor students for safe movement around the activity area.	<input checked="" type="checkbox"/>
<i>During the activity</i>	
Accessing facilities and using equipment	
Implement protection and handling processes to avoid contact with plant and animal material (e.g. saps, tissue matter). Comply with Animal Use in Queensland State Schools requirements when handling live animals.	<input type="checkbox"/>

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Manage spills immediately.	<input type="checkbox"/>
Ensure only appropriately-qualified adult supervisors handle radiation sources and equipment (e.g. UV lamps), if used. Establish and implement an exclusion zone away from equipment that may produce radiation.	<input type="checkbox"/>
Managing student considerations	
Establish and implement exclusion zones to maintain a safe activity area during teacher demonstrations.	<input type="checkbox"/>
Handle all cultures with the assumption that they are potentially hazardous.	<input type="checkbox"/>
Monitor and control student movement when environmental hazards exist (e.g. classroom furniture, traffic, outdoors).	<input type="checkbox"/>
<i>After the activity</i>	
Accessing facilities and using equipment	
Ensure biological material (e.g. microbial, genetic, enzymatic) and tools are sterilised appropriately before disposal. Note: If unsure, seek advice from an institution proficient in disposal techniques such as a university .	<input type="checkbox"/>
Label and date all specimens and samples for storage. Refrigerate as necessary. Dispose of within appropriate timeframes.	<input type="checkbox"/>
Sterilise equipment in contact with microbial and genetically modified organisms.	<input type="checkbox"/>
Managing student considerations	
Follow hand hygiene practices established in the Infection Control Guideline .	<input type="checkbox"/>
Collection site inspected on the day, prior to commencement. Students instructed to wear hats. Students instructed to wash hands upon activity completion. First aid equipment and trained staff to be easily accessible.	

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Planning Considerations

Which students will be involved?

- Consider the number of students, size of student groups and students' capabilities e.g. age, experience, competence, fitness, maturity.
- Consider any individual student needs e.g. personalised learning, support provisions (including behaviour support plans), health management (including health plans and prescribed medication requirements).

Where will the students be?

- Consider the location of the activity e.g. remote/easily accessible, public /private, school/classroom/workshop/other.
- Is the number of students appropriate for the available space?
- If outdoors – sunsafe strategies are implemented; weather and environmental conditions are assessed before and during activity (e.g. temperature, storms, water currents, tides); and strategies to reduce the likelihood of viruses, allergies and skin infections caused by insects (e.g. ticks, mosquitoes, spiders) and other animals are applied.
- The site is checked for hazards (e.g. poisonous plants, dangerous animals, uneven terrain, barbed wire,) and necessary controls implemented.
- Activities are appropriately situated in relation to buildings, pedestrians, members of the public, vehicles and other activities e.g. designated areas for activity, spectators and vehicles are established.

What will the students be doing?

- Consider the nature and duration of the activity i.e. need for drinking water, food, rest, appropriate clothing, warm-up and warm-down.
- Instruction in rules and pre-requisite skills is provided.
- Student skills are developed in a progressive and sequential manner.
- First aid and emergency medical treatment provisions are appropriate for the type of activity and location e.g. first aid kit, first aid trained personnel, Ventolin®, Epipen®, and students' personal prescribed medications as required in health plans are available.
- Emergency response strategies are in place e.g. communication plans (e.g. mobile phone, walkie talkie), safety induction, evacuation plans.
- Hair, clothing, footwear and jewellery are worn in a manner that is appropriate and safe for the activity.
- Personal items, e.g. drink bottles, towels and mouthguards, will not be shared between students.

What will the students be using?

- Instruction in safety procedures and safe handling of equipment is provided.
- Equipment is suitable for the activity, properly maintained, appropriately used and complies with the relevant safety standard.
- [Relevant department procedures and guidelines](#) are adhered to for the use of equipment and work processes.

Who will be leading the activity?

- A registered teacher has overall responsibility for the activity.
- Sufficient adult supervision is in place to manage the activity safely (including in emergency situations).
- The activity leader has the competence (knowledge and skills) to plan, induct, instruct and manage the activity safely for students and others.
- There are sufficient adults present with current First Aid qualifications (including CPR) or ready access to qualified first aid personnel.
- Blue Card requirements are adhered to for leaders/volunteers.

I have incorporated the above factors when planning my risk management strategies for this activity.

Additional activity-specific requirements for students with specialised learning needs are provided in the Other Details box below.

Visiting school to provide extra supervision for, and liaise with centre staff regarding requirements of, students as deemed necessary.