

Remotely piloted aircraft (Drones)

The planning considerations that are common to all curriculum activities can be found in the [CARA generic template](#). These must be considered as well as the activity-specific considerations outlined below.

Activity scope

This guideline relates to the building and flying of remotely piloted aircraft¹ (RPA) under 2kg, as a curriculum activity.

Flying drones may involve other activities that have various risk levels (e.g. soldering). Refer to the relevant activity guideline (e.g. [Industrial Technology and Design activity guidelines](#)) for mandatory requirements associated with these activities.

Note: This guideline does not cover the flying of RPA of over 2kgs as part of a curriculum activity. A separate risk assessment should be undertaken for this activity.



Mandatory requirements

Mandatory requirements must be met for the activity to be conducted.

- Check with the local government authority for any permits required for the school to operate an RPA.
- Obtain parent/carer consent for high risk activities.
- When flying outdoors, comply with all regulations outlined by the Civil Aviation Safety Authority (CASA) at [Commercial unmanned flight - remotely piloted aircraft under 2kg](#) including all information, guidance and standard operating conditions found in the [Advisory Circular AC 101-10](#). (Any person operating the RPA found in breach of CASA regulations may be issued with a large fine).
- Establish and implement procedures appropriate to the activity, location and conditions. This must include, but is not limited to emergencies (e.g. injury, first aid); communication (e.g. assistance); and supervision.
- Establish and implement safety procedures. This must include, but is not limited to: the Standard operating conditions; Emergency procedures and Personnel training found in the [Advisory Circular AC 101-10](#) when flying outdoors; the location of exclusion and safety zones; instructions for launching, landing and collecting RPA in an exclusion zone; the role of the spotter and pilot; and the identification/control of injury hazards (e.g. from rotors, batteries, crashes).
- Induct students on procedures for emergency, safety procedures (e.g. remove propellers when testing motors) and correct technique (e.g. take-off and landing).
- Download and use [Can I fly there? – Drone safety app](#) (free) for standard operating conditions.

Additional requirements for extreme risk activities

- Follow the [Use of mobile devices](#) procedure and [Tips for protecting personal information](#) guideline when using RPA fitted with mobile devices such as cameras or other image or sound capturing equipment.

Risk level

- **Medium** risk: Building, constructing and/ or flying RPA under 2kgs.
- **High** risk: Building, constructing and/ or flying RPA under 2kgs when photo/videography is to occur.

¹ The Civil Aviation Safety Authority (CASA) has advised the Department of Education and Training that all drone activities being conducted in schools for educational and/or promotional purposes will be considered as **commercial operations** when flying outdoors.

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.

Qualifications for supervisors

- A registered teacher with competence (knowledge and skills) in constructing and controlling RPA, and having completed the online [Remotely piloted aircraft \(RPA\) eLearning module](#) available through CASA.
- OR**
- An adult supervisor other than a registered teacher with competence (knowledge and skills) in constructing and controlling RPA, and having completed the online [Remotely piloted aircraft \(RPA\) eLearning module](#) and working under established safety procedures and the direct supervision of a registered teacher.

Note: while not mandatory for all circumstances, an RPA operator's certificate (ReOC) or a remote pilot licence (RePL) is recommended. CASA has further information on how to become a [certified operator](#).

Requirements for facilities and equipment

- Location must be suitable to the activity being undertaken. That is, in a workshop when constructing/repairing RPA, or at an appropriate outdoor site when flying.
- Designated exclusion zones for take-off/flying/landing and designated safety zones for pilots/spotters/observers. Inspect the flight path prior to starting the activity to identify potential obstructions (e.g. towers, overhead cables, trees, powerlines etc).
- A pre-flight check of battery, propellers and motor direction with the blades removed, signs of damage, calibrated compass, and connection to GPS signal to ensure RPA is safe and ready to fly.
- [Personal protective equipment](#) must include safety glasses with [Australian Standard](#) specification to protect pilots and observers from falling or flying parts.
- Constructions or repairs must comply with [CASA regulations](#). Note that modifications or enhancements to commercially available RPA are not permitted.

Hazards and controls

Before the activity

Hazards	Control measures
Considering environmental conditions	<ul style="list-style-type: none"> • Ensure the location, including the exclusion zone, is clear of obstacles and wildlife (e.g. snakes) that may pose hazards when flying outdoors. • Inform owners of neighbouring properties of flying times to reduce the likelihood of trespass and/or nuisance and/or noise complaints. • Ensure the school's sun safety strategy is followed when flying outdoors.
Accessing facilities and using equipment	<ul style="list-style-type: none"> • Inspect the flight path or flying venue prior to starting the activity to identify potential obstructions (e.g. towers, overhead cables, trees, powerlines etc). • Erect signage on the perimeter of the flying zone to indicate that an RPA is flying in the area. • Ensure the exclusion zone for take-off and landing is level and stable and clearly defined. • Engage the GPS lock/failsafe mechanism (if fitted) prior to flying.
Managing student considerations	<ul style="list-style-type: none"> • Establish, induct participants on, then implement the correct operational procedures of all equipment including the safety indicators applicable to each RPA. Refer to the manufacturer user manual.

During the activity

Considering environmental conditions	<ul style="list-style-type: none"> • Perform a hover test before flying. • Only fly during the day and in visual line-of-sight. Cease activities where conditions tend toward unfavourable (e.g. increased wind). • Do not fly over private property without permission.
Accessing facilities and using equipment	<ul style="list-style-type: none"> • Enforce safety guidelines during construction/repair of RPA (e.g. check for damage before using equipment, follow standard operating procedures for all equipment, ensure battery is fully charged). • Ensure all propeller guards are in place. • Do not allow the pilot to wear first person view (FPV) goggles to fly RPA (as per CASA regulations). They may only be worn by RPA crew to assist the pilot. • Keep the RPA battery maintained above 10 percent at all times to avoid crash injury.
Managing student considerations	<ul style="list-style-type: none"> • Use a transmitter with a connection to a supervisor's training transmitter (if feasible) to allow the supervisor to take control at any time. • Ensure students <i>do not</i> pick up an RPA at any time that is armed and ready for flight. Always disarm the RPA before handling and disconnect the battery as soon as possible. • Enforce clothing/hair/jewellery rules to avoid entanglement. • Never allow students to catch-land an RPA. Have students use a controlled landing to descend the RPA slowly to the ground and land in the exclusion zone.

After the activity

Accessing facilities and using equipment	<ul style="list-style-type: none"> • Ensure RPA devices and lithium polymer (Li-Po) batteries are handled, charged and stored under supervision and in accordance with manufacturer instructions.
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Additional links

- [CASA's Legislation and requirements](#)
- [Drone rules in Australia video \(CASA\)](#)
- [International Air Sports Federation](#)

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