



Australian Youth Rocketry Challenge



PO Box 84, Browns Plains QLD 4118
www.rocketcontest.org.au

Australian Youth Rocketry Challenge 2018 Event Rules for Primary Students

31 March 2018

1. **SAFETY.** All rockets must be built and flown in accordance with the Model Rocket Safety Code of the Australian Model Rocket Society (AMRS), any applicable local fire regulations, and Civil Aviation Safety Authority (CASA). Rockets flown at the fly-off must have previously flown successfully. They will be inspected before launch and observed during flight by an event official, whose judgment on their compliance with the Safety Code and with these rules will be final. Teams are encouraged to consult with designated Australian Youth Rocketry Challenge (AYRC) officials who are running this event well before any round or the final fly-off to resolve any questions about design or flight safety, about the Safety Code, or about these rules.

2. **TEAMS.** The application for a team must come from a single school or a single Australian incorporated non-profit youth organisation (excluding the Australian Model Rocket Society, National Association of Rocketry, Tripoli Rocketry Association, or any other rocket club or organisation). Team members must be students who are currently enrolled in grades 1 through 6 in an Australian school or home school. Teams may have members from other schools or other organisations. Teams must be supervised by an adult approved by the principal of the school, or by an officially-appointed adult leader of the youth organisation. Minimum team size is two students and maximum is six students. Each student member must make a significant contribution to the designing, building, and/or launching of the team's entry. No part of any of these may be done by any adult, by a company (except by the sale of standard off-the-shelf components available to the general public) or by any person not a student on that team. No student may be on more than one team. The supervising teacher/adult may supervise more than one team. The AYRC has a limited number of positions available.

3. **ROCKET REQUIREMENTS.** Rockets may be any size, but must not exceed 1500 grams gross weight at liftoff. They must be powered only by commercially-made model rocket motors that have 62.5 grams or less of propellant each and are listed on the AYRC Certified Engine List posted on the AYRC website and provided in the AYRC Handbook. They must have only one stage. Two SCR-C6-5 (or similar) motors will be issued to each team at the fly-off. Teams may supply their own motors if desired. Loose black powder, separate from the certified rocket motors and their as-designed ejection charges, may not be used in rockets as its use requires an explosives license not available to minors.

4. **FLIGHTS.** All team members must be listed on the original entry form. Only team members on record at AYRC with valid parent consent forms are eligible to receive prizes. Only two flights are allowed per team at the fly-off. A rocket that departs the launch pad under rocket power is considered to have made a flight, even if all motors do not ignite. If a rocket experiences a rare "catastrophic" malfunction of a rocket motor (as determined by the AYRC official observer), a replacement flight may be made, with a replacement vehicle if necessary. This year's challenge will be held in Queensland on:

- 28/07/2018 (rain date – Sunday 29/07/2018)

5. **SAFE RECOVERY.** Each part of the rocket must either contain a recovery device or be designed to glide, tumble unstably, or otherwise return to earth at a velocity that presents no hazard. Any entry which has a major part (including but not limited to an expended engine casing) land without a recovery system (lightweight gliding/tumbling tube sections are considered to be a system), or at a velocity that is judged by an event official to be hazardous, due to recovery system absence, insufficiency, or malfunction, will be disqualified.

6. **LAUNCH SYSTEMS.** Teams may use the electrical launch system and the launch pads (with 1 metre long, 3mm and 6mm rods or 1.7 metre 1010 rails) provided by the event officials at all rounds and the final fly-off, or may provide their own system. Systems provided by teams for their own use must be inspected for safety by an event official before use, and must provide at least 1 metre of rigid guidance, including use of a rod diameter of at least 3mm, if a rod is used. All launches will be controlled by the event Range Safety Officer and must occur from the ground.



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7. **FREE FLIGHT.** Rockets may not use an externally-generated signal such as radio or computer control (except GPS navigation satellite signals) for any purpose, including flight termination after liftoff. They may use autonomous onboard control systems to control any aspect of flight.

8. **JUDGING & PLACES.** Scores in rounds and the final fly-off competition shall be based on total flight duration of the rocket, measured from first motion at liftoff from the launch pad until the moment of landing or until the rocket can no longer be seen due to distance or to an obstacle. Three judges will assess aspects of the rocket and flight including build quality, flight performance, recovery, how close the rocket is recovered to the launch pad and aesthetics. An average score will be collated from the two flights and the top three final places will be ranked on the basis of the scores from the two qualified flights made at all rounds and the fly-offs. Australian Youth Rocketry Challenge reserves the right to make all last and final contest determinations. Judges decision is final and no correspondence will be entered into.

You can download copies of the Australian Youth Rocketry Challenge rules at www.rocketcontest.org.au

