

2014 Ballarat Science and Engineering Challenge Activity Summary

FULL DAY ACTIVITIES



Hover Frenzy

Teams construct a hovercraft from a lift fan and motorized propulsion units along with materials for the frame. The hovercraft will then be navigated through a difficult route. Designs will need to incorporate manoeuvrability as well as power.

Mission to Mars

You're in charge of the Mars exploration mission. This activity requires that your team designs and constructs a vehicle which can carry a load across the undulating surface of the planet.



Gold Fever

Students will be building a bridge to transport a trolley laden with gold safely across a ravine. The bridges are then tested by trying to get the gold safely across to the other side with the lightest bridge winning. The testing is the culminating event for the day.



Eco-Habitech

The world is changing - due to global warming, droughts, fierce storms, flooding and temperature extremes you'll need to design a high-tech, ecologically friendly home of the future to stand up to these wild conditions.

HALF DAY ACTIVITIES



Helter Skelter Shelter

A tall, stable, robust and earthquake-proof apartment block needs to be designed and constructed for the 2018 Gold Coast Commonwealth Games. Use your skills to keep visitors safe if an earthquake strikes.

Stringways

A massive new area in central Australia is being developed for settlement. Your team has been employed to develop a high-speed railway network to connect the new cities and towns. An alternative airborne network must also be developed to cater for emergencies.

ElectraCITY

In this simulation, teams design a power distribution network where the balance between cost effectiveness and efficiency of the system is key to success. Teams are assessed on the cost of their network and by the number of "blackouts" due to failure of a power source.



Flight of the Navigator

Design a glider that can be launched from the EPLAD (Engineless Plane Launch Assistance Device) and fly over long distances. Your glider must also be able to fly through the air on specific trajectories and set down on a very small landing zone.