

PowerUp 3.0 Paper Plane Obstacle Challenge

SLQ Wiki Fabrication Lab 2026/01/16 01:01

PowerUp 3.0 Paper Plane Obstacle Challenge

Activity developed by [Redland City Council Libraries](#)



Details

Age group	Year 3+ (ages 8+)
Method	Small group activity
Participant to facilitator ratio	10:1
Duration	1 hour 25 mins

Aim/Key Learning

Participants will work collaboratively in a team to design a paper plane that can maneuver through an obstacle course of hoops hung from the ceiling to 'rescue' a LEGO figurine and return to the start.

This activity encourages participants to think creatively to solve the difficulty of navigating the hoops, as well as test a number of prototypes in order to determine the best plane design.

Preparation and Materials Required

- Paper
- PowerUp 3.0 kits
- Tablets
- Lego figurines
- Hula hoops
- Tape
- Laptop and projector
- Paper plane folding instructions
- Pens and pencils
- Three – four 3D printed 1st prizes (optional)

Activity Steps

1. Instruction and Demonstration

Time: 10 min

Welcome attendees to the session. Introduce yourself and other staff and run over the housekeeping e.g. Fire evacuation, toilets etc. and quickly explain what we will be doing in this session. Show an example of a PowerUp 3.0 and what can be achieved with the paper plane kit.

- Introduce staff
- Fire evacuation
- Quickly run through session
- Show some examples on projector of what the kit can do
- Attendees will break off in to groups of 3 (two groups of 4)

2. Folding and Testing Planes

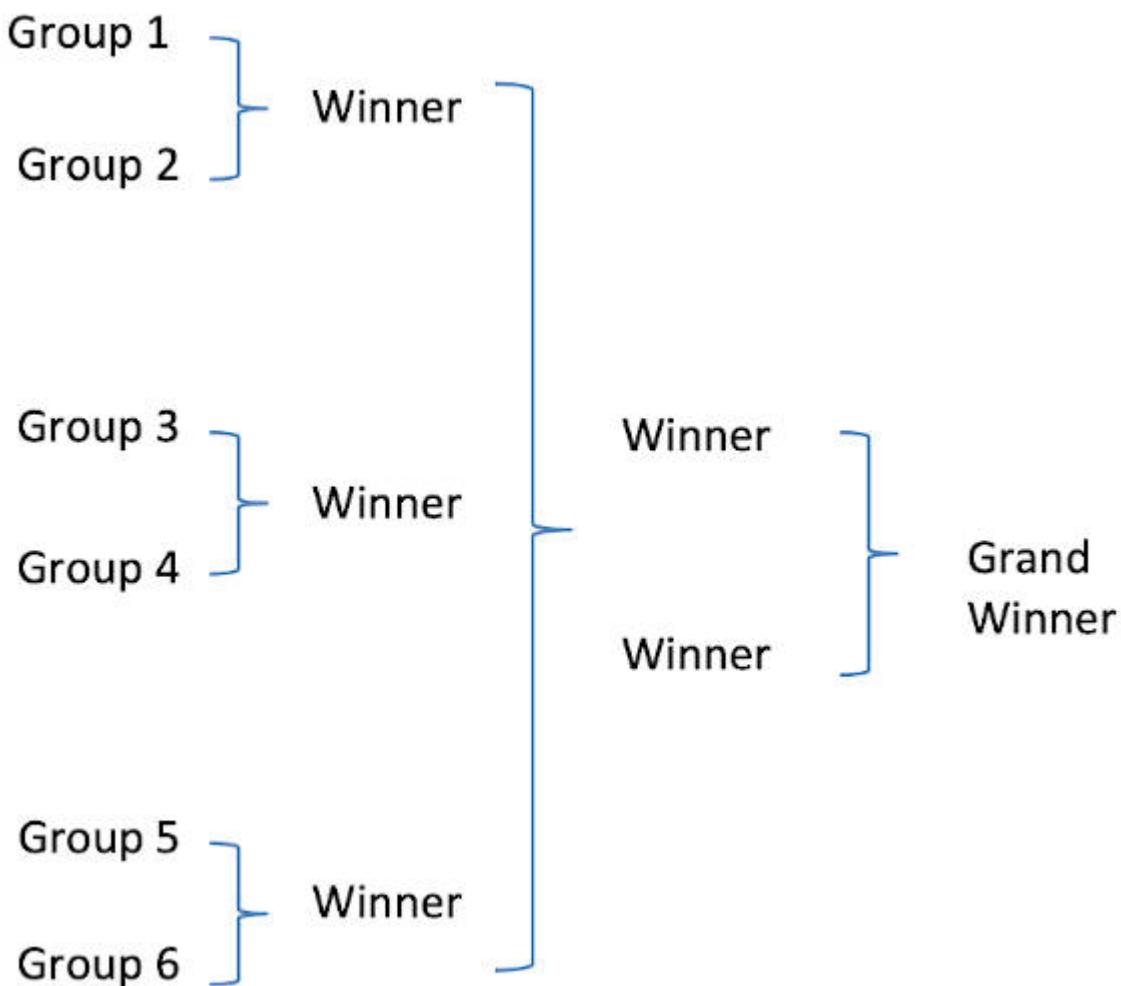
Time: 40 min

- Display basic folding instructions either on handouts or projector, and make participants aware there is assistance available if needed
- Allow participants to test their planes (without the PowerUp 3.0 kit) on the obstacle course and refine their designs within the allocated time.
- Advise participants as the time for the obstacle challenge nears.
- Pens and pencils are provided if the attendees wish to colour or decorate their planes

3. Obstacle Challenge

Time: 30 min

- Participants will compete against each other to see who can get their plane through the suspended hoops to the Lego person and back again in the shortest time. Below is a template of how a competition could be run with 20 participants.
- The winners of the challenge receive a 3D printed prize (optional)



4. Evaluation and Closing

Time: 5 min

At the end of the session, ask for volunteers to share their learnings or how they found the session. Thank everyone for their participation and team work.

Additional Inspiration and Resources

- [Folding the paper planes \(Invader\)](#)
- [Folding the paper planes \(Phantom\)](#)
- [Paper plane folding tips and tricks \(Plane stability\)](#)

Loanable Kits

State Library has kits of this item available for loan to libraries within the Regional Libraries Queensland and Indigenous Knowledge Centres network. Libraries can place a reservation through the Aurora catalogue (availability is subject to existing reservations, loans and associated return dates).

The kits are for use by patrons within the library only, as part of supervised library programming. They will not be listed in the public online catalogue for personal reservation.

Please contact [Access Services](#), or phone 07 3842 9014 with any queries.

Loanable Kits

State Library does not have kits of this item available for loan to libraries.