



# The Arcade

## Key Learning Areas & Outcomes

### Maths

MA3-1WM describes and represents mathematical situations in a variety of ways using mathematical terminology and some conventions

MA3-2WM selects and applies appropriate problem-solving strategies, including the use of digital technologies, in undertaking investigations

MA3-3WM gives a valid reason for supporting one possible solution over another

MA3-9MG selects and uses the appropriate unit and device to measure lengths and distances, calculates perimeters, and converts between units of length

MA3-19SP conducts chance experiments and assigns probabilities as values between 0 and 1 to describe their outcomes

### Science & Technology

ST3-2DP-T plans and uses materials, tools and equipment to develop solutions for a need or opportunity

ST3-7MW-T explains how the properties of materials determine their use for a range of purposes

ST3-8PW-ST explains how energy is transformed from one form to another

### CAPA

VA3.2 Makes artworks for different audiences assembling materials in a variety of ways

### English

EN3-1A communicates effectively for a variety of audiences and purposes using increasingly challenging topics, ideas, issues and language forms and features

EN3-2A composes, edits and presents well-structured and coherent texts

EN3-3A uses an integrated range of skills, strategies and knowledge to read, view and comprehend a wide range of texts in different media and technologies

EN3-7C thinks imaginatively, creatively, interpretively and critically about information and ideas and identifies connections between texts when responding to and composing texts

EN3-8D identifies and considers how different viewpoints of their world, including aspects of culture, are represented in texts

## Community Connections:

Online forums and videos  
Makerspace experts

## Driving question

How can we as engineers design and build an arcade game from cardboard and recycled materials that incorporates electronic components?

## Project Description

In this project students learn about 1 little boy's adventures in making an arcade by utilising materials around his dad's store. This amazing story shows just how important it is to create and design things of interest. The unit also links to sustainability by reusing old materials found around the home, as well as many other curriculum areas. Students will use the concept of Caine's Arcade to use recycled materials and generate an arcade for their buddy classes. Students will also explore electrical circuits and may include this in their arcade.

## Final Product/s

As a group, students will co-create an arcade game, with an electronic component in order to create a Year 6 arcade for their buddy classes (kindergarten students) to play with.

## Need to knows...

What is an arcade?

Why would someone go to an arcade?

What types of games are in an arcade?

What is an electrical circuit?

How do electrical circuits work?

What materials conduct electricity?

What materials could be used?

What constitutes as a recycled material?

How will I join materials together?

How does the players skills and size effect my design?

# Bringing the Project to Life

## Consider the context:

- What information do students need to make engaging games?
- Where will they get the materials from?
- Where and when will the exhibition take place?
- How will you support students to incorporate electrical circuits into their game?
- Are there any parents or community members who might serve as experts for this project? How might you leverage their expertise?

## Consider the students:

- What issues might arise for your students?
- How can you use this project as a way to help your students make their unique voices and perspectives heard?
- What types of exemplars could you show students?

## Consider the content and skills:

- How will you scaffold student's technology and mathematics skills that student will need in order to engage effectively with the project?
- What supports will your students need as they plan, draft and revise their designs? How will you help them structure this process?
- What models and examples might help students understand how to create a work and engaging arcade game?

