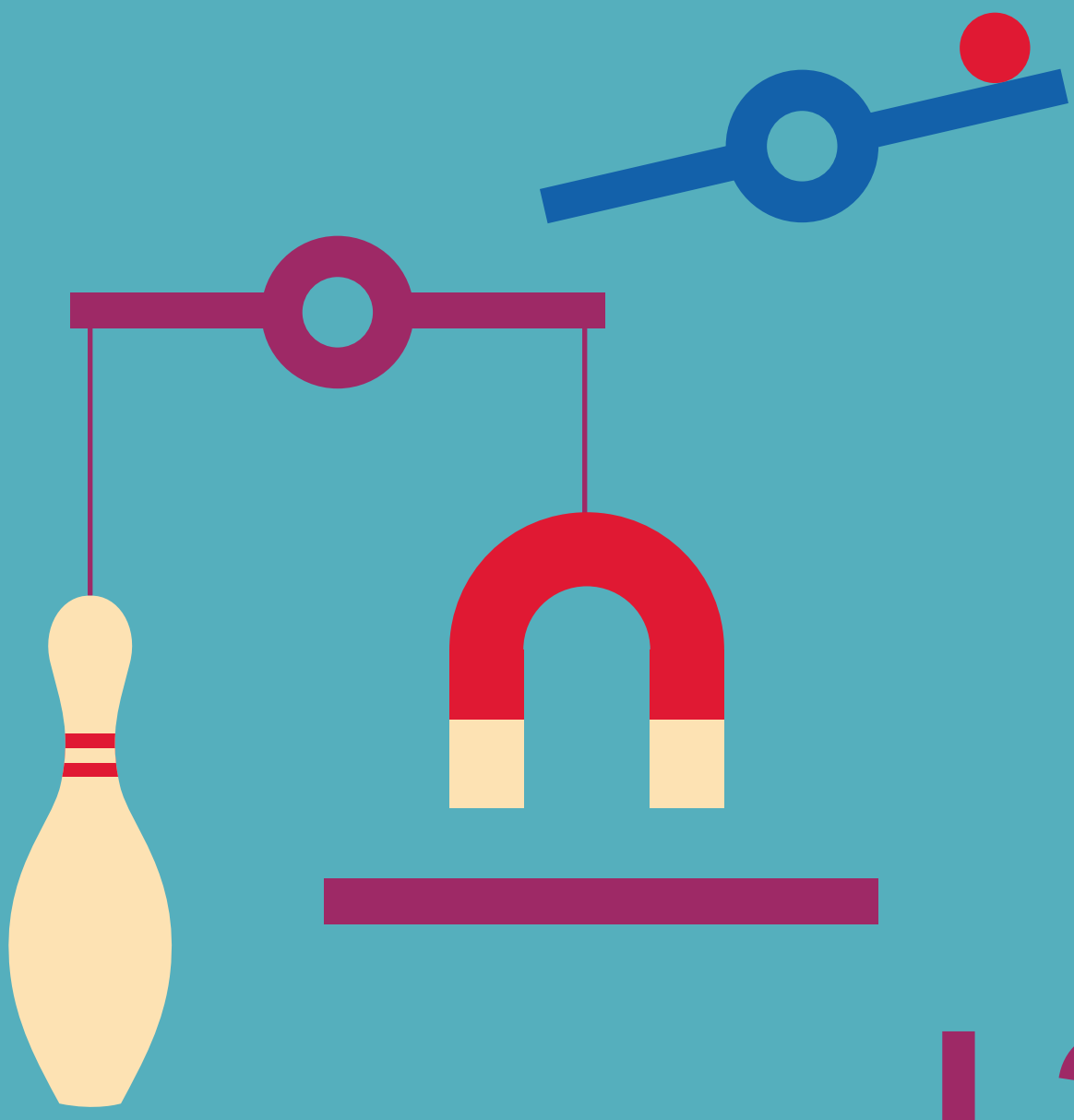
Making a Mark

Rube Goldberg Machines

Technology and Visual Arts



L3

A Rube Goldberg machine is, in its essence, a trial-and-error thing.

Adam Sadowsky

An activity whereby students develop a simple machine with the stated purpose of placing a mark on paper.

A Rube Goldberg machine, named after American cartoonist Rube Goldberg, is a machine that completes a task in a way which is much more complicated than other methods. For instance, a machine that finds a way to put a mark on a piece of paper in a multi-step way when it is much easier just to do so with a brush in your hand.

Method

1 Show learners the following video

www.youtube.com/watch?v=6FzUx2EFk8s

2 Concepts

Discuss the ways which Science concepts are illustrated by the video

Helpful vocabulary:

- Motion energy
- Gravitational energy
- Inertia
- Kinetic energy

3 Source objects

Students source objects in the classroom and create a very simple Goldberg machine.

4 Discuss

Discuss ways in which this way of working could have the end result of making a mark on paper.

5 Split into groups

Students are grouped as best suits the dynamics of mahi in your class.

6 'Compete'

Students 'compete' to come up with a machine that will, in a unnecessarily complicated way, place a mark on a blank piece of paper.

7 Evaluate the designs

Guest judges could find a winner out of the groups based on:

- Complicatedness
- Creativity
- Effectiveness

Extra Resources

A great music video!

www.youtube.com/watch?v=qybUFnY7Y8w

Materials

This is as broad or narrow as desired for you and your learners. It is great if they can use items and materials from their environment — repurposed for the task in an imaginative way.

Curriculum links

Technological Practice

Planning for practice
Undertake planning to identify the key stages and resources required to develop an outcome. Revisit planning to include reviews of progress and identify implications for subsequent decision making.

Brief development
Describe the nature of an intended outcome, explaining how it addresses the need or opportunity. Describe the key attributes that enable development and evaluation of an outcome.

Technological Knowledge

Technological modelling
Understand that different forms of functional modelling are used to inform decision making in the development of technological possibilities and that prototypes can be used to evaluate the fitness of technological outcomes for further development.

Visual Arts

Developing practical knowledge
Explore some art-making conventions, applying knowledge of elements and selected principles through the use of materials and processes.

Science

Communicating in science
Begin to use a range of scientific symbols, conventions, and vocabulary.

Participating and contributing
Explore various aspects of an issue and make decisions about possible actions.