Episode 3: Magnificent Music Machine

What is a chain reaction? Luke is testing a chain reaction experiment with musical chimes to create a Magnificent Music Machine! Tune and chime on in to see of the machine is a scientific success!

Scientific concept:	Machines can make things move.
Science process skills:	Observing, comparing and communicating.
Let's investigate:	***How can be build a 'knocking down' machine?***

Materials

Bits and pieces from around the house to build a knocking down (or Rube Goldberg) machine. Find things to use as ramps, things that roll and things that move, for example:

- Small wooden blocks of different shapes and sizes
- Toy trains or cars
- Train tracks
- Books
- Golf balls
- Marble run toy
- Large colanders
- Pipes
- Foam tubes
- Plastic cutlery
- Tape
- Dominoes
- Sticky tac
- Paper towel rolls

Experiment procedure

1. Use your imagination and set up household items and toys to create a Magnificent Music Machine! This type of Rube Goldberg machine will use a chain reaction to carry out the simple task of playing a set of chimes. Basically, your machine invention will make things move via a series of chain reactions to make music.
2. You could start by building something to make a small ball travel down a ramp and hit a train.
3. Then connect other parts of your construction together. Try to make things travel down, push each other and knock things over in your machine.

Early Education links

Episode themes relate to EYLF Learning Outcomes 4.1, 4.2, 4.3 and 4.4. This learning experience builds problem-solving skills by constructing with a variety of objects and experimenting with cause and effect, trial and error, and motion. Encourage children to brainstorm chain reactions and test their ideas by asking questions such as – *Can a rolling ball move a toy train? How will the train push the blocks, to knock over the ball in your machine?*

Follow-up learning

- Develop scientific understandings by supporting children to design and engineer different Rube Goldberg machines to perform other simple tasks using a chain reaction e.g. to ring a bell or pop a balloon.