

## Young children naturally build knowledge by being curious about the world around them.

When you do science with your children you get to share their sense of wonder about the natural world. They'll develop self-confidence when they ask and answer their own questions.

### How to get the most out of your explorations:

- **Dress for the mess**  
Science explorations can be messy.
- **Take your time**  
Play for as long as the activity holds your child's interest. Don't rush towards the 'right' answer.
- **Be curious**  
Ask "What would happen if..." and then find out. Let your child's questions guide you.

## Kitchen Contraptions

Your home is full of gadgets and contraptions, many of which can be found in your kitchen. We use these gadgets everyday to help make our lives a little easier.



### Questions to Ask

- What do you think we use this for?
- How do we work it?
- How does it make our job easier?

### What You Need

- Magnifying glasses
- Chopsticks, tongs, tweezers
- Whisk
- Garlic press, potato masher
- Can opener
- Turkey baster, droppers
- Ice cream scoop

### Hands-on

1. Have the gadgets on a tray and covered with a cloth.
2. Bring out a gadget; try to guess what it might be used for.
3. Examine the gadget and look at it using magnifying glasses.
4. Repeat with the other gadgets.

### What Next?

- Have a few of each type of tool and compare them. For examples: How are two or three ice cream scoops the same? How are they different?
- Ask children to look for contraptions in their own kitchens.
- Use the kitchen tools to make art. Drip paint with the turkey baster, make prints with the potato masher, etc.
- Put basters and droppers in a water table to give children more opportunity to explore them.
- Challenge your dexterity. Use tweezers, tongs, chopsticks, etc. to move small objects such as pompoms from one container to another.

## Catapults

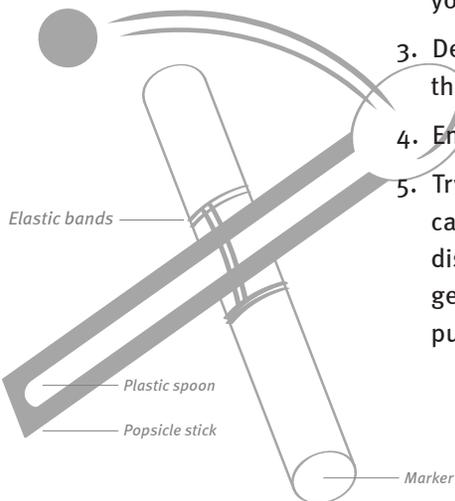
A catapult is a lever, a stick or beam propped up by a fulcrum (a pivoting point). A lever will magnify the force you put on it if the fulcrum (the pivoting point) is closer to your force than it is to the load. The catapult magnifies your force to throw a pompom. The larger the force, the farther the pompom goes.

### What You Need

- A lever arm (e.g. wooden ruler or jumbo popsicle stick)
- A round fulcrum (e.g. spool of thread or fat marker)
- Elastic bands
- Plastic spoons
- Chalk or masking tape
- A load (e.g. pompoms)

### Hands-on

1. Assemble the catapults ahead of time.
2. Create “target zones” on the ground or a table using chalk or tape, based on your catapult’s range.
3. Demonstrate how to load and launch the catapults.
4. Encourage children to try them out.
5. Try adjusting the force you use with the catapults to fire the pompoms different distances into different zones (e.g. push gently to move the load a short distance, push hard for a long distance).



### Questions to Ask

- Can you get your pompom to the target/across the “water”?
- How can you change the distance the pompom travels?
- Where should the pivot point (fulcrum) be positioned to make the pompom travel the furthest distance?
- Where should the pivot point (fulcrum) be positioned to make the pompom travel the shortest distance?

### What Next?

- Competition – who can make their pompom travel the furthest?
- Have children design and decorate their own catapult.
- Learn about the history of the catapult and trebuchet.
- Explore teeter-totters and other levers in your neighbourhood.



### Looking for more?

More science activities for young children can be found at [scienceworld.ca/preschool.html](http://scienceworld.ca/preschool.html)

This website has short videos, games and activities for 3–5 year olds [peepandthebigwideworld.com](http://peepandthebigwideworld.com)

### Our favourite books:

*Mechanimals* by Chris Tougas ISBN 978-1-55143-628-9

*Lights Out* by Arthur Geisert ISBN 0-618-47892-2

*The Preschool Scientist* by Robert A Williams, Elizabeth A Sherwood, Robert E. Rockwell and David A Winnett ISBN 978-0-87659-130-7

*Science Arts and Preschool Art* both by MaryAnn Kohl ISBN 0-935607-04-8 and 0-87659-168-3