

# Let's make simple machines

## Popsicle Stick Catapult



### Things you need

- Popsicle sticks (or craft sticks)
- Rubber bands
- Plastic Spoon
- Styrofoam Balls (or Pom Poms or marshmallows or anything that fits in the spoon)



Make a stack of 7 popsicle sticks and use rubber bands to tie them together on both ends.



Make a stack of 2 popsicle sticks and use a rubber band to tie them together on one end only.



Pull the 2 popsicle sticks apart and wedge the stack of 7 popsicle sticks between them.



Use two rubber bands, secure the plastic spoon to the upper popsicle stick.



Place the ball onto the spoon. Hold the catapult with one hand, use the other hand to push down the spoon. Release the spoon and watch the ball fly!





Make 2 or 3 different kinds, and vary the positioning of the rubber bands and sticks, to see which works the best. See which one can go the furthest.

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## Show and Tell

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Name:

# Let's make simple machines

## Big Wheels



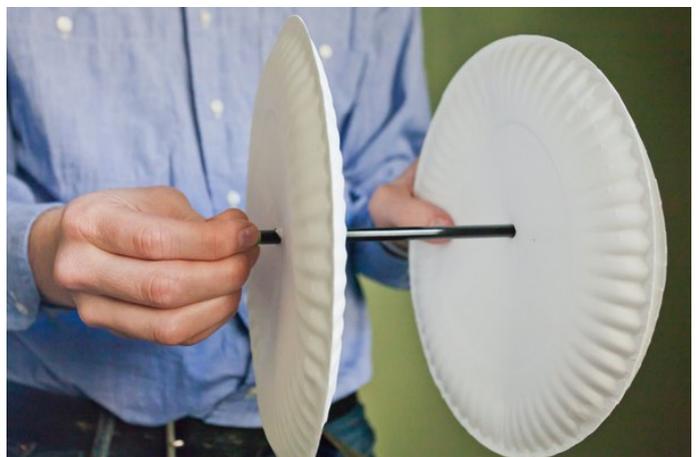
### Things you need

- Four paper plates
- Pencil or Chopsticks
- Thread or yarn

Glue two paper plates together so that the two tops of the plates are facing each other. Do this for two sets of plates.



Take a pencil and stick it through centers of both sets of plates. Your project should look like two large wheels with the pencil serving as an axle.



Wrap a piece of string around the pencil but leave enough thread so you can grip the string.



Pull the string to unravel the thread from around the pencil. Your pencil will begin to turn which will cause the plates to turn, moving your machine forward. The plates and pencil act as a **wheel and axle** while the string and pencil act as a **pulley**, making a compound machine. (Two simple machines, working together)



## Show and Tell

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## DIY Marble Run



### Things you need

- Shallow cardboard box
- Straws
- Wooden bits like small wooden beads, mini blocks and spools
- Hot glue gun (this low temp one is great for kids)
- Scissors, pencil
- Small marble or wooden bead



Draw out a maze in pencil. You decide start and goal point.



Cut out straws.



Hot glue onto their penciled maze.



Use your wooden bits, beads, or mini wooden spools to act as stoppers.



Finally to play, use a wooden bead or marble and drive it around your newly constructed maze.





Can you make a marble ball to the goal? That is **Inclined plane** power.

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Show and Tell

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Name: