

CAUTION Contains small, sharp pieces; adult supervision strongly recommended



Directions:

- Cut one slice off a pool noodle so that it is one-inch thick and another slice so it is 11/2" thick. [Note: If you picked up a kit, this step has already been done for you.]
- Poke thumbtacks in the shorter slice so that they are sticking up all around the top edge at an even distance apart. [See figure A]
- Poke thumbtacks in the taller slice all around the top side edge so that they are sticking out around the edge. [See figure B]
- Place the two "gears" together to see if the thumbtacks match up.
- Find a piece of cardboard or foam board to use as your base.
- Roll up paper to make tubes that fit the inside of each gear. Cut slits around the bottom edge of the tube, fold them up to glue them to your board once you've decided where you want your gears to be.
- Place your gears on the tubes.
- If desired, glue a paper tube to the center of the shorter gear for a handle.
- As you turn one gear, what happens to the other one? Can you make more than one move? How?

Check out details for this project at:

https://www.daniellesplace.com/html/educational-crafts-science.html



Stayton Public Library

Materials List

4 pool noodle pieces (kit contains two 1 inch pieces and two 1.5 inch pieces)

- About 40 thumbtacks (10 per gear)
- Scrap paper to roll for inner tube*
- Scrap piece of card or foam board, sized to fit two gears side-by-side*
 glue or tape to secure gear tube to base as needed *

 *not provided

A

В

Modifications & Extensions



For a younger crowd...

noth

The Scientific Method

Gears are great for discovering cause and effect relationships. What other ways might you explore cause and effect with your child?Some toys like dominoes support this naturally, but if you are looking for more ideas, check out the "Explore Further" section below.

For more advanced learners...

What other materials could you use to make gears? How could you use a set of gears to make something work? Use the Scientific Method to plan a more complex experiment. Think about the types of materials you'd like to use and what you would like to accomplish with your final product.

> Need some inspiration? Check out the "Explore Further" section below.



Explore Further



Bubbles and Whisks and other Cause and Effect activities from Kinder Care

https://www.kindercare.com/contenthub/articles/2018/august/cause-effect-activities-toddlers

How to Make Gears Science Project from Education.com https://www.education.com/science-fair/article/toothy/

Simple Gears from Cardboard by Simple ideas KM https://www.youtube.com/watch?v=PgAmC8tF-ws



Titles to Explore



Machines and mechanisms By Yoshihito Isogawa



Simple experiments with wheels and axles

By Chris Oxlade



Simple Machines
By Ade Deane-Pratt