



CD Spinning Top Craft and Science Project

Materials for CD Spinning Top Craft

- [CD](#) (You can reuse an old CD or purchase a blank CD.)
- Marble (We used some from a [marble set like this one.](#))
- Small plastic cap from water bottle
- Hot glue gun ([This is my favorite](#) because it has dual temp controls.)
- Optional: Chalk markers (We used a set [similar to this one.](#))

Directions for Making CD Spinning Top Craft

1. Decorate your [CD](#). We used chalk markers ([similar to these](#)) to draw various designs on the shiny sides of ours.



2. Turn your decorated CD over and use your [hot glue gun](#) to glue a [marble](#) into the center hole of the CD. You can place the CD on a lid or bowl to hold it in place while gluing. (This step will need to be done by an adult if working with young children.)



3. Turn your CD right-side up and glue a plastic cap to the center of the top of the CD. (This step will need to be done by an adult if working with young children.)



4. That's it! Once the glue is dry, use the plastic cap to spin your top and start exploring physics!



What's Going On?

Although young children might not fully understand the various concepts and explanations listed below, they will be learning by making observations and describing the motion of the spinning tops, as well as noticing the effect of pushes and pulls on the tops themselves.



So what makes a top spin and eventually wobble and tip over? All kinds of forces are at play!

The science behind spinning tops is actually very complex. Here's a very simplified version as to what's going on: When you initially spin the top, you're turning the top's stored energy (potential energy) into energy of motion (kinetic energy). The top eventually stops spinning because of friction and gravity. The surface below the top provides friction, eventually causing the spinning to slow down, and the top begins to wobble. As it begins to wobble, the top tilts, allowing gravity to pull it over.

Be sure to check out this video on the science behind spinning tops. It's a great visual for the kids and provides a wonderful explanation for older children. They even give directions on how to make a spinning top that draws using cardboard and a marker!

More Ideas to Try

It's so fun to watch kids explore the spinning tops on their own and see what ideas they can come up with all on their own! For example, as Theo (age 6) was playing with his spinning top, he decided to flip it over and see how it spun when it was upside down. "It still works! It just spins differently."

- Try spinning your top on different surfaces. How do the various surfaces affect how long the top will spin?
- How does spinning the top affect the designs? Try out different designs on your CD and see how they look when spinning.
- Can you think of any other materials to use for the point (or tip) of the top? Try them out.
- What other materials could you make a top out of instead of a CD?
- What happens when more than one spinning tops are going at the same time? What happens when they touch or crash?