



**SUPER POWER: Accuracy!**

# SUPER HOOP CHALLENGE

LAB NOTES...

## STABLE SPINNING

**RINGS** Spinning ring shapes are very stable. You might have noticed this if you've ever ridden a bicycle or thrown a frisbee – bicycle wheels and frisbees are stable spinning shapes. In this experiment, the ring is a great shape to use because if thrown correctly it should stay stable without wobbling or twisting in the air, allowing you to demonstrate your amazing superhero accuracy skills!



To get a ring to hook over a tube will take practice as well as hand-eye coordination, the more you try it the better you should become as your brain and your muscles start to learn and remember.

### TO MAKE YOUR SUPER HOOP...

1. Watch the video of Nanogirl and her super hoop challenge!
2. Cut some plastic rings out of the middle of your plastic bottle trying to keep the thickness the same. You may need help from an adult for this.
3. Cover your plastic rings with paper to protect from any sharp edges and tape into place
4. Make the hoop targets by rolling and taping your card or paper into tubes.
5. Make as many tubes as you like and try making them different heights or thicknesses to give yourself more of a challenge.
6. Make four small cuts around one end of each tube and bend the flaps outwards.
7. Attach the flaps to a surface and stick them down with tape.
8. Stand back and throw the rings one at a time to see if you can get them onto the tubes.

BUILD TIME  
**15**  
MINS

### YOU WILL NEED

- Empty plastic bottle.....○
- Tape.....○
- Scissors.....○
- Thin card or paper.....○

**Does the ring travel through the air differently if you spin it like a frisbee, or throw it flat like a pancake?**

Try different throwing techniques - an overarm throw, underarm throw or flat throw - notice the different shapes that your arm makes. How does this affect how the ring flies through the air, and which technique lets you throw furthest?

**How far away from the tubes can you accurately throw from?**

Is the ring shape harder or easier to throw than a ball?

**Do you think your rings would fly the same if they were square instead of circular?**