



THE **W.O.N.D.E.R.** CENTER

DIY I-SPY TUBES

Brain Games | All Ages

Keeping your brain active is one of the best ways to improve brain function. Puzzles and games are a great way to train your brain - it's like a muscle, the more you use it the stronger it gets! These tubes are a fun and engaging game you can make at home to help keep your brain in the game. You decide how hard or easy your game will be by choosing what target items you will be searching for and what kind of filler will hide your target.



ARIZONA
SCIENCE
CENTER

Never stop wondering.
Never stop imagining.™

DIY I-SPY TUBES

SUPPLIES

- A clear plastic bottle
- Several target items (e.g. small toys, figurines, and household items)
- Filler (e.g. rice, beans, beads) - enough to fill the bottle
- Pen and paper
- Glue

HOW-TO

1. Pick a bottle. It should be clear, clean and dry, and have a good lid. It will help if it has a larger opening. You can make your game more challenging with a larger bottle.
2. Find objects that will be interesting to spy. Some things that might work well are a lego, pencil, small spoon, tiny dinosaur, tiny airplane, cloth flower, coin, and a button. Try to have a lot of variety. You decide how hard the game is by what and how many objects you put in. Keep in mind that:
 - More objects will make it easier than fewer objects
 - Smaller objects will make it easier than large ones
3. Pick a filler such as beans, rice, or beads. You can use whatever you have handy but, if you have choices, consider these characteristics:
 - A filler of uniform shape and color will make it easier than using mixed shapes and colors
 - A filler with a larger diameter will make it easier than the smaller diameter.
4. Once you have your target items, make an inventory. You might use this as part of the game later.
5. Fill the bottle by putting a few items and a handful of filler. Give it a little shake and put a few more items and a little more filler. Repeat until the bottle is about 90% full; you need a bit of space for everything to move inside the bottle.
6. Glue the lid on tight so everything stays clean inside.
7. Now, just roll it, shake it, and look for your targets.

QUESTIONS

1. Try setting different challenges: How many red objects can you find? How quickly can you find a particular target? How long does it take to find all of the targets? What other challenges can you think of?
2. What do you observe while the filler and targets are moving in the bottle? Are all the objects moving in the same way or do some seem to move differently? If you move it one way and move it back in reverse does everything go back to the same place?
3. What do you hear? Can you make different sounds by moving the bottle in different ways?