Make a Marble Obstacle Course

If you're like most families with preschoolers, you probably have a lot of marbles around your house. With a few simple household items you can use marbles to teach your child about simple science concepts like gravity, speed, weight, and balance. Kids will love to build an obstacle course for their marbles and experiment with different designs and configurations. Plus, they'll be having fun while practicing fine motor skills..

What You Need:

- 4 empty cardboard paper towel rolls
- Scissors
- Ruler
- Pen
- Stickers, markers or crayons (optional)
- Tape (duct, packing or masking works best)
- Marbles
- Small toys that do not roll
- Blocks

What You Do:

1. Prepare to connect your paper towel tubes by cutting out a small section on the end of three of the tube. Measure a 1½ inch by 1½ inch square. Show your child how to use the ruler and talk to her about how to measure.
2. Cut out the square on the paper towel roll and recycle the scrap of cardboard.The empty space in the tube will allow a marble to pass through.
3. Have your child decorate the paper towel rolls with stickers, markers or crayons. Using a glue stick to wrap colorful tissue paper around the tubes is another quick way to decorate them.
4. When your child is finished decorating the tubes, show her how to put them together to make a simple marble run. Lay one paper towel roll in front of you with the cut out end on the right. Turn the tube so that the cut out square is on the top. Take another tube and place the end that doesn't have the cut out in the first tube. The tubes should overlap and form a 90 degree angle.
5. Take the third tube and place the end without the cutout into the end of the second tube with the cutout square. Make a 90 degree angle with the tubes. You can either have the tubes make a backwards S or a U shape. You may need to turn the tube to get the cut out are on the correct side.
6. Tape the tubes together so that the marbles will not escape from the tubes. Try to leave a little bit of slack in the tube so that the child can adjust the angle of the tubes.
7. Ready to roll? Lay the tubes flat on the ground and put a marble in an open tube. Ask her if the marble moves and why she thinks that it stay still. Tell her that you are going to make a marble run so that the marble will move through the tubes.
8. Have your child stack a tower of three blocks on the floor. It works best if she lays the blocks flat for stability. Show her how to put one end of the marble run on the top of the blocks. At the first joint in the marble run, have her place 2 blocks underneath and put the tube on the blocks. At the second joint in the marble run, have her place one block to support the tube on the blocks.
9. Time to get rolling! Show her how to put a marble in the first tube and watch how it moves through the marble run.You and your child may have to experiment with the angle of the joints and the height of the blocks to get the marble to roll through successfully. Ask her why she thinks that the marble moved through the run that was on the blocks but the marble in the in flat tube did not

move.

10. Have her put a small square shaped toy (such as a Lego) in the first run and observe what happens. Ask he why she thinks that the toy did not move through the run like the marble did?
11. Let your child experiment with different arrangements of blocks and types of toys. Have her place small toys in the tube and then try to run a marble through it. What happens? Why?

When you are done with the activity, put the marble run in a safe place. Bring it out another day for you and your child to play with again. You can also add more tubes to the run for a more extensive project.

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