

Balancing Sculptures

Use materials from around your home and in the recycle bin, along with your own problem-solving skills and persistence, to create a sculpture that balances from a single point.

Recommended Age: 6+ years old

Time needed: 15+ minutes

Link to the Video:

https://www.youtube.com/watch?v=_oklOkLxevk

What You Need

- A chopstick, dowel, stick, or similar object; and a way to make it stand up
- String
- Scissors
- Tape
- Glue
- Assorted materials like: cardboard, corks, toilet paper or paper towel tubes, paper clips, yarn, toothpicks, paper, stuff from the recycle bin, toys like LEGO or TinkerToys
- Optional: A friend or two



What You Do

- Figure out a way to make your chopstick stand up
 - Drill a hole in a block of wood and glue it in
 - Stand it up in a container of playdough or clay
 - Stand it up between 2 books or boxes, or inside a cup, and tape it in place
 - What else can you try?
- Now it's time to play around. Test a few objects to see if they balance on the end of your stick. What can you do to make them balance? Think about other structures you have seen that involve balancing--look at some photos and the video. How do YOU balance?
- Keep trying! Sometimes your sculpture will fall over, but that's OK. Try a few things and if you are working with a friend, bounce ideas off each other. Keep trying different techniques and materials until you've got a balancing sculpture you're happy with.



Tips for Adults

- If you are the friend that is helping your child, be sure to let your child take the lead. You may see your child trying something that you know won't work, but just let it happen. Your child is learning!

- This activity can be frustrating. Model persistence and remember this is supposed to be fun! Laugh when things fall over, and encourage their next idea.
- To make this activity more simple, encourage your child to start by balancing two objects. To make it more challenging, encourage them to add more parts.
- As your child is working, ask them questions about their design, such as:
 - What is working well?
 - What isn't working? Why do you think it's not working?
 - Tell me about your design. What materials did you use? How did you put them together?

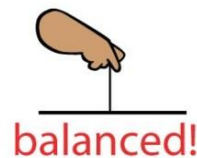


Learning and Skills Connection

- **Persistence:** Focusing, sticking to it, learning from mistakes
- **Experimenting:** Making and testing predictions, trying multiple solutions
- **Working flexibly:** Incorporating and revising ideas based on new information, employing objectivity and acknowledging subjectivity
- **Collaboration:** Respecting, drawing from, and building on the ideas of others, working within a team

What's Going On?

Balance means there is an equal distribution of weight. An object is balanced when it is stationary (not moving), and that happens when forces are equal on all sides. Imagine you are standing still. You are balanced. Now stand on one foot. What happens? You probably put your arms out to the side without thinking about it. Doing that shifts things around so that the forces pushing on your body are equal, and you can be still again.



Doing STEAM with Kids

STEAM stands for Science, Technology, Engineering, Art, and Math. There are lots of ways you can explore these letters, apart or together. Ask your child to make predictions, describe what they see, and to imagine possibilities and solutions. Don't worry so much about the "right" answer. Developing curiosity, and problem-solving skills are important first steps to doing STEAM!

