



Children's Museum of Houston

Set it Straight

Attempt to make the seesaw balance by experimenting with weights and distances.

What you need

- Wood cylinder
- Ruler
- Washers

What to do

1. Tape the wood cylinder to the counter.
2. Place the center of the ruler on the center of the cylinder, making it balance.
3. Place three washers on each end of the ruler, making it balance. Then remove the washers.
4. Place three washers on one side of and six on the other side of the ruler, making it balance. Then remove the washers. (Does it make a difference if the washers are scattered and not stacked on top of one another?)
5. Place five washers on one side and none on the other side of the ruler, making it balance. (What happens if the seesaw's (ruler's) position on the cylinder, or the *fulcrum*, is moved?)

Learn More Together

When trying to create a balance on top of an object (in this case, the cylinder), the distributed weight is not the only factor of importance. Position, or the distance between the *fulcrum* (place where the ruler touches the cylinder) and the weights are of equal importance. Together, with the force of gravity, weight and distance create leverage. That's why you can balance different weights on opposite sides of the seesaw. Try to create a balance from other handy objects and the washers, whose own distribution of weight is varied (similar to the difference between a stack of washers and scattered washers). For example, place three washers on one side of the ruler, and a large eraser on the other.