

Balancing Nature

Peg and Cat use math every day to solve problems and answer questions. In this activity, your child will build a balance scale to compare the weights of objects found in nature.



How to Make a Balance Scale

Beginning at an early age, children can use their senses to compare objects and notice similarities and differences. Very young children may notice if two blocks are different colors or different shapes. Children who are a little bit older may notice that rocks can be small or large, smooth or rough, heavy or light. In this activity, your child will expand on these general observation skills by taking a more scientific approach...making predictions, using a simple tool to compare and contrast two objects, and talking about the results.

While You Play

Before you begin the activity, take some time to talk about how to compare two objects in general. If you look at a circle and a square, what do you notice that is the same or different about each? Now talk about comparing weights by asking these questions.

1. What are some ways that we can compare the weights of two objects?
 - Can we use a scale? What kind?
 - Can we hold an object in each hand and estimate which object is heavier?
 - How else can we compare the weights of two objects?
2. If we look in our neighborhood, what kind of objects from nature do you think we could find that we can observe, weigh, and compare?

The Science Behind the Fun

Earth and Space Science:

Your child is learning to use senses and simple tools to observe and explore natural objects such as water, rocks, and sand.

Engineering and Technology:

Your child is learning to build and use simple tools as part of a science investigation.

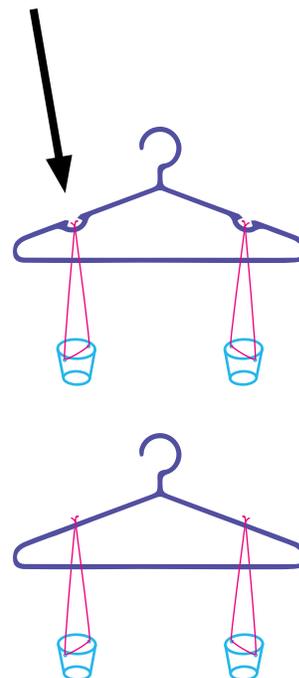
After the experiment, be sure to talk about the results. By completing this activity, your child can learn valuable math and science skills and develop critical thinking skills that can be applied during many learning opportunities.

Balancing Nature

What you'll need

- Clothes hanger (preferably with strap slots, but any type of hanger will work)
- 2 pieces of string or yarn (each approximately 24 inches in length)
- Hole punch or scissors
- 2 plastic drinking cups OR 2 plastic fruit/applesauce cups
- Natural materials that will fit in the cups (Ideas include rocks, sand, soil, small sticks, leaves, water)

Choose a hanger with strap slots if available



Directions

Step 1

Using a hole punch or a pair of scissors (adults), carefully punch one hole on opposite sides of a plastic cup slightly below the top lip of the cup.



Step 2

Loop one string through both holes in the first cup so that the center of the string ends up crossing the top center of the cup. Tie the two loose ends of the string together. Repeat the process for the second cup.



Step 3

If your hanger has a slot for clothing straps, hang one string in each clothing slot. If your hanger does not have a slot for straps, shorten your string a little and tie each string to the bottom bar of the hanger with one cup hanging from the right side and one cup hanging from the left side.



Directions continued

Step 4

Hang the hanger on a doorknob or other surface that allows the two empty cups to hang level with each other. is facing the flashlight so that is shows correctly on the wall.



Step 5

Gather natural materials to weigh in your balance scale and then make predictions about the weight of the objects.

- Which object do you think is the heaviest?
- Which object do you think is lightest?
- Do you think there are two objects that weigh about the same?



Step 6

Put one or more objects in each cup. If one cup hangs lower than the other, then the object in the lower cup is heavier and the object in the higher cup is lighter.



Talk about Your Results

- Which object is heavier? How do you know?
- Which object is lighter? How do you know?
- Did any two objects weigh about the same?
- Can you add more items to the cups to make the two cups level and the scale balance?

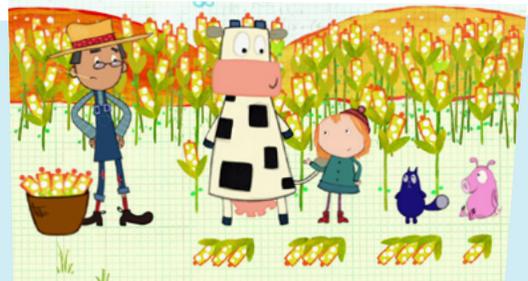
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The contents of this release were developed under a grant from the Department of Education. However, those contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government. The project is funded by a Ready To Learn grant (PR/Award No. U295A100025, CFDA No. 84.295A) provided by the Department of Education to the Corporation for Public Broadcasting. All rights reserved; Peg + Cat © 2017, Feline Features LLC. PBS KIDS and the PBS KIDS Logo are registered trademarks of Public Broadcasting Service. Used with permission.