

Balance Activity

Introduction: (teacher)

- **What is balance?**
- We use the concept of balance every day.
 - Stacking blocks into tall towers
 - Walking carefully along curbs and/or on logs
- But these objects can get out of balance by:
 - Someone might come by and accidentally hit the tall tower of blocks causing the blocks to fall
 - When we slip or jump off the curb or log we are walking on
- Balance requires the **center of gravity** to be over the **base** of support.

Warm-Up: (teacher)

- Try to stand on one foot
 - The student loses balance since standing on one foot offers a relatively small base, so a slight sway to one side will carry the center of gravity off to the side of the base.
- Stand on both feet with legs spread wide
 - Since there is a larger base (from side to side) the student can sway from side to side without falling over
- Lay down on the floor as straight as they can (like a pencil)
 - The students will not fall over when they are laying on the floor since their base is HUGE and there can be little danger of the center of gravity moving to a position beyond the base of support
 - THIS IS THE BEST AND TRULY STABLE POSITION WITHOUT THE DANGER OF FALLING OVER

Introduction to the crayfish activity:

- We are going to use this new knowledge of the bigger the base the better by using crayfish
- **What is a crayfish?**
 - A freshwater shellfish
- Send the students to their centers to meet with their "special" crayfish

The Crayfish Balance Activity

Materials:

- 2 clothespins
- 1 tag board crayfish

Begin the Activity By:

- Pass out the students crayfish (one for each student) Tell the students that these “special” crayfish can do a trick! They can balance on your one finger! They aren’t going to tell you how so we need to find out how!
- Have the students explore different ways, such as:
 - On the side of the crayfish
 - On the tail
 - On the nose
 - On one of the claws
 - On the other claw
 - **Did it work?**
- **After several minutes of the students trying to balance their crayfish in various positions:** Now pass out the two clothespins to each student. Tell the students that they may find that the clothespins can be useful for getting their crayfish to perform their trick!
 - Try putting one clothespin on the tail and the other on one of the claws
 - Allow the students to investigate in other ways
 - **Did it work?**
- **After several minutes of the students trying to balance their crayfish in various positions using the two clothespins:** Show that the students are able to balance the crayfish on their one finger if they put a clothespin on each claw and balance the nose of the crayfish on their one finger.
- Tell the students that when they put a weight, like a clothespin, on the crayfish the crayfish is able to balance on its nose. This weight is called a **counterweight**. Counterweights can be used to balance the crayfish in many ways if placed in the right position.
- Show that if they put two clothespins on the tail and balance the crayfish at the tail it will balance for the reason that there is counterweight.

Extension Activity (If there is an enough time)

Materials:

- 1 tag board triangle
- 1 tag board arch
- 1 craft stick
- 2 clothespins
- A piece of masking tape
- ***Depending on how many students are in your group pre setup one craft stick taped in each cubby. One cubby for each student.***

Begin By:

- Review with the students that they just discovered that a crayfish could balance on its nose with the help of a counterweight, the clothespin.
- The crayfish was in a **stable position**, meaning that it was steady and it did not fall over when given a little push. The crayfish wobbles back and forth, but does not fall. It will always come back to a stable, balanced position. You may want to balance a crayfish on your finger and ask the students to softly push it to show this idea.
- Ask the students to hold up the **triangle**
- Ask the students to hold up the **arch**
- Tell the students that they will investigate the two shapes to find out how many ways they can get the shapes to balance in a stable position.
 - They will use the craft stick in their cubbies instead of their finger.
 - Use the worksheet and do each one with the students.
 - Ask does the shape balance? Yes or No
 - Ask the students to test to see if the shape is in a stable position if the shape is able to be balanced.
 - If it does, ask the students to circle the shape on their worksheet.
- Ask the students to look at their worksheets.
 - Point out that the small black rectangles in each picture are representing a **balance point** which is the area of the shape that balanced on the end of the craft stick.

In Action

