### **Balancing Act**



## AUTHOR/ ILLUSTRATOR:

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Two mice balance on a teeter-totter. More animal friends come to join in, but the teeter-totter doesn't always balance. Find out what happens when a bird wants to join in the fun.

Ages: 2 to 6 years

Lexile: 330L

# ATOS Reading Level: 0.9

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# **Balancing Act**

#### What does it take to balance a teeter-totter?

Topics: equal, balance, weight, counting

#### **Activities To Do Together:**

Use *Balancing Act* to explore the concepts of weight, balancing, and equal amounts. The concept of equal amounts is fundamental to gaining an understanding of mathematics. At any level of math, the equal sign in a number sentence or equation indicates one thing is equal to another. *Balancing Act* provides a concrete way to illustrate this idea.

Before reading the book:

- Ask your child to look at the cover of the book, then ask what they think the book is about.
- Talk about teeter-totters with your child. If your child is familiar with them, ask them to tell you what they already know about teeter-totters. What do they look like? How do they work? etc. If your child has played on a teeter-totter, ask them to tell you what they noticed and experienced when they played on it. If your child isn't familiar, explain how a teeter-totter works or make a small model of a teeter-totter by placing a book, board, or long piece of cardboard over a rock or other small object and together, explore how a teeter-totter works.
- Talk with your child about an experience they may have had playing on a teeter-totter. What did they notice?

While reading the book:

- Encourage your child to predict whether the teeter-totter will balance each time a new animal comes along.
- Together, count the items on the teeter-totter.

When you have finished reading the book:

- Play on a teeter-totter at a park or playground. Talk about what you notice together.
- Make a balance scale and explore which items will balance others. How many apples will balance two bananas?
- Will one apple balance with one apple? Why or why not?
- Try to find two different items that balance each other exactly. What do you think this tells you?



#### **Conversations During Daily Routines with Toddlers:**

- Snack Time Create two equal groups of snacks for your child to eat. Count each group and note that the groups are equal in number.
- 2. Park Time Make a small pile of stones. Together, count the stones and then ask your child to make another pile equal in number to the first.
- 3. Play Time Ask your child to find two toys that weigh about the same. Check using a balance scale.
- Shopping Time Explore the scales in the produce section of a grocery store together. Find two vegetables that have the same weight. Have your toddler notice the different in weight between a head of cabbage and a potato.

#### **Questions for Mathematical Thinking:**

- What do you think would happen if you sat on one end of the teeter-totter and the mouse sat on the other end? How many mice do you think would have to sit on the other end of the teeter-totter to balance you? How could you find out?
- 2. If you were sitting on one end of the teeter-totter, who (or what) could you place on the opposite end to balance you? Why do you think so? How could you find out?
- 3. In the beginning of the story, the two mice balance on the teeter-totter. What would happen if the mice switched places? Would the teeter-totter still balance?
- 4. What happened when the bird wanted to join in? Why do you think that happened?
- 5. Why do you think the teeter-totter broke at the end of the story?

#### Early Math Project Resources:

Click <u>Activities for Balancing Act</u> or visit www.earlymathca.org/balancing-act

Follow this <u>link</u> or visit earlymathca.org/externalresources for additional online resources.

#### Vocabulary

Math words found in the story: another, balance, one, too many

**Related math words:** equal, fulcrum, weight

Words to build reading comprehension: stepped in, ta-da, teetertotter

**Related Books:** Just a Little Bit by Ann Tompert

Click this link to the <u>World Catalog</u> or enter bit.ly/3L4nz8R to find *Balancing Act* in the public library.



**Math Connections:** Use *Balancing Act* to engage your child in an investigation of balance and what it means to be equal. In the story, the teeter-totter balances when there are the same number and size of animals on each side. This is the basis for number sentences and equations: one side is equal to the other with the equal sign being the balancing point. Investigate this concept of equal by playing with a balance scale. (See the EMP Resources for directions to make a scale.) Ask your child to make the scale balance by putting objects that weigh the same, one on each side of the scale. Remind your child that the objects weigh the same and that is why the scale balances. Then add other objects that weigh the same as each other, one at a time just like in the story. As long as the weight on each side of the scale is the same, the scale will balance.

Once the scale balances, ask your child to switch the objects from one side to the other. Do they still balance each other? For younger children, this is important when they solve number sentences or equations and understand that "2 + 3 = 5" *AND* "5 = 2 + 3". Many children view the equal sign as a signal to do something, add or subtract, and do not view it as meaning that the two sides of the equation are equal. This misconception holds even later in Algebra. Children see "x + 8 = 25" and expect to perform an operation. They must un-learn this notion of the equal sign.

In the story, when the bird joins the fun, the animals must rearrange themselves to balance the relatively heavy bird! On the balance scale, children can place one heavier object on one side of the scale and add several lighter objects on the other side until it balances. This concept is important so children realize that many light objects together can weigh as much as one heavier object.





| Age Level          | Related Infant Toddler Foundations,<br>Preschool Foundations and<br>CA State Standards  |
|--------------------|---|
| Infant/<br>Toddler | <b>Problem Solving</b> The developing ability to engage in a purposeful effort to reach a goal or figure out how something works.   |
| Preschool/<br>TK   | <ul> <li>Measurement 1.1 Demonstrate awareness that objects can be compared by length, weight, or capacity, by noting gross differences, using words such as bigger, longer, heavier, or taller, or by placing objects side by side to compare length.</li> <li>Mathematical Reasoning 1.1 Begin to apply simple mathematical strategies to solve problems in their environment.</li> </ul> |
| Kindergarte<br>n   | <b>Measurement and Data K.MD.1</b> Describe and compare measurable attributes.  |
| Grade 1            | <b>Operations and Algebraic Thinking 1.OA.7</b><br>Work with addition and subtraction equations.<br>Understand the meaning of the equal sign  |



