

# PENGUIN MATH BALANCE

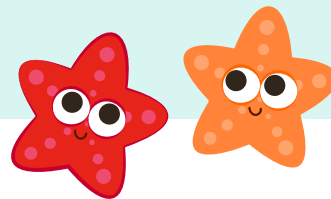




## Alligator Munch!

### Learning Goals:

This activity helps your child understand how numbers relate to each other—whether they are greater than ( $>$ ), less than ( $<$ ), or equal to ( $=$ ) another number. Sometimes, your child needs to use exact numbers, like asking for 1 apple. But in many situations, they need to compare numbers, like sharing 4 apples equally with a friend (e.g.,  $2=2$ ) [1]. Making these concepts fun and engaging through play can help your child grasp them more effectively!



### Set Up:

Print out the Greater than, Less than or Equal to pages. At the top of the first page, cut out the three alligator math signs: greater than ( $>$ ), less than ( $<$ ), and equal to ( $=$ ).

### How to Play:

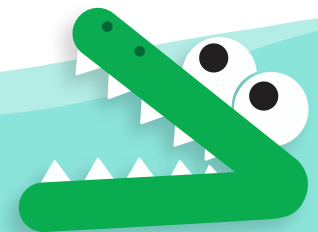
Tell your child that the alligator likes to eat the bigger number. The number inside the alligator's mouth is always bigger than the one behind it. When numbers are equal, the alligator doesn't eat. Show an example, then let your child decide which group of fish the alligator will eat. Encourage them to explain their choice.



2



4





# Heavy Fish, Light Fish

## Learning Goals:

In this activity, your child will learn about weight by comparing objects. First, they'll hold the objects in their hands, and then they'll use a scale. Since kids are sensory learners, holding objects activates their somatosensory system and helps them feel the weight [2]. We often use units like kg or lb to define weight [3], but we avoid these here to keep learning concept of weight simpler for young kids. Opt to use simple words such as "heavy" and "light" when enjoying this activity.

The somatosensory system, part of our sensory system, is spread throughout the body. It helps us sense touch, pressure, pain, temperature, position, movement, and vibration



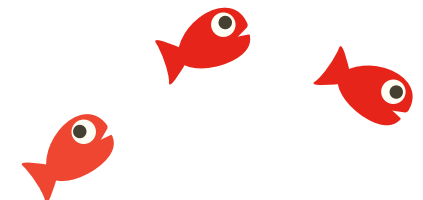
## Set Up:

Print out the three Balancing Fish pages and lay them on the ground. Keep the penguin scale and fish weights close by.

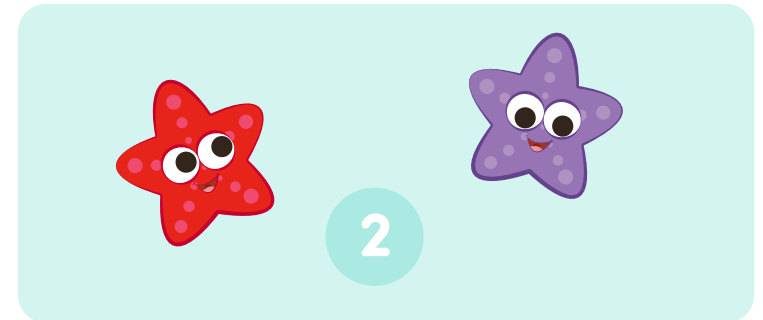
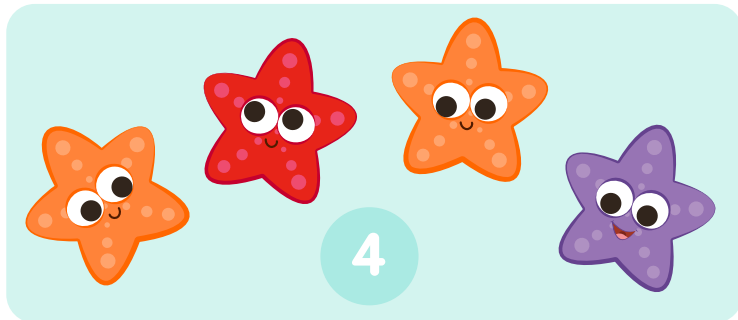
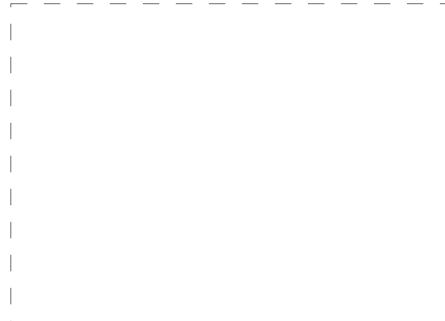
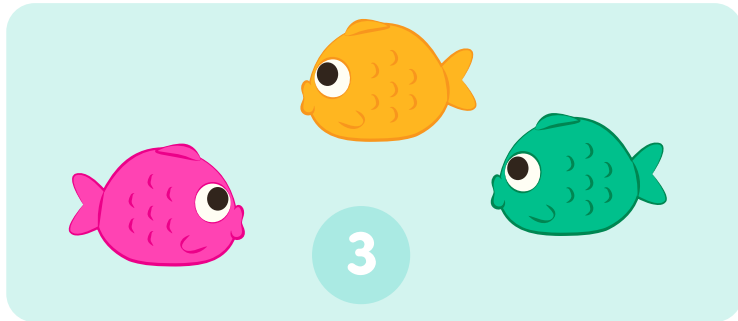
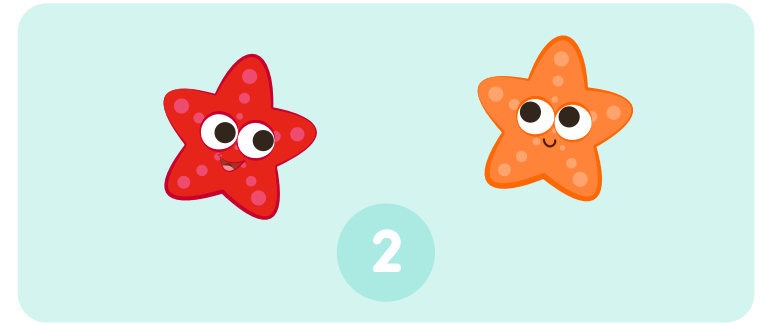
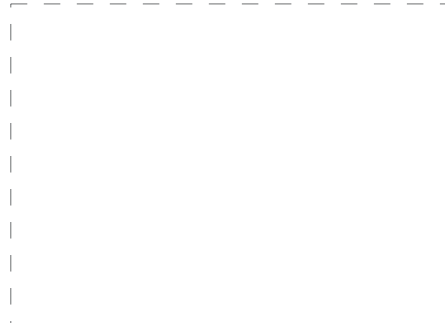
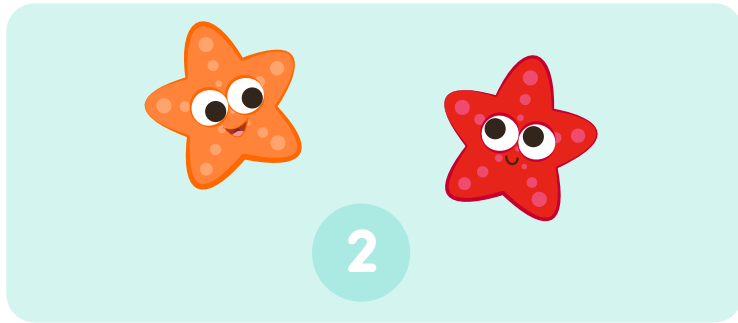
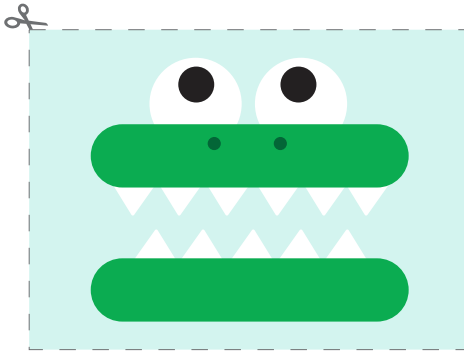
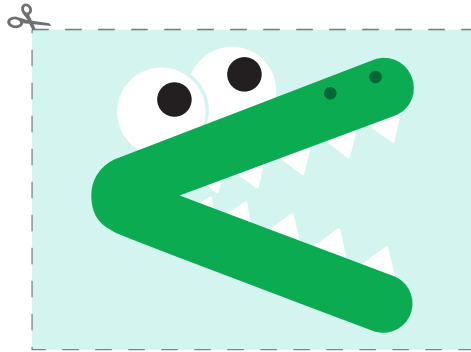
## How to Play:

1. Ask your child to pick two fish weights and hold one in each hand. Have them guess which is heavier without looking at the numbers.
2. Based on their guess, choose one of the Balancing Fish pages.
3. Have your child place each fish weight on either side of the balance on the sheet.
4. Let them check if they guessed right by looking at the numbers or using the penguin scale toy.

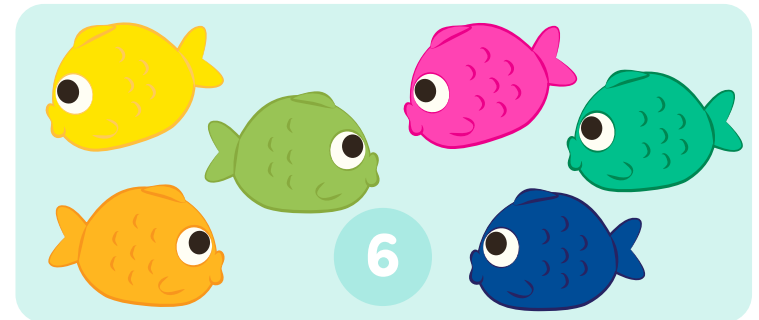
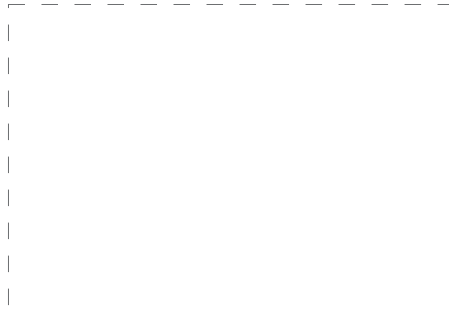
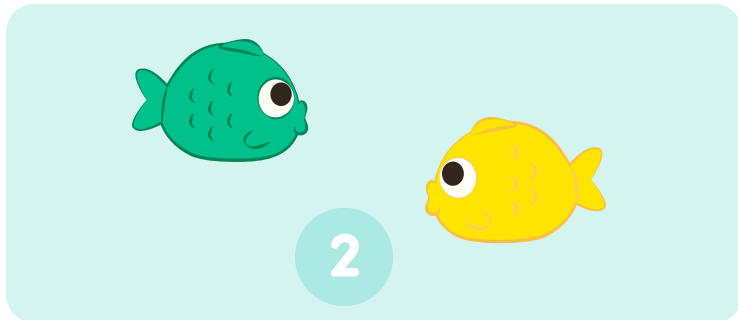
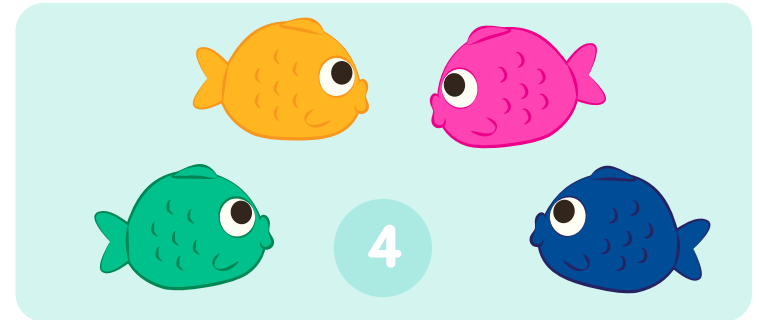
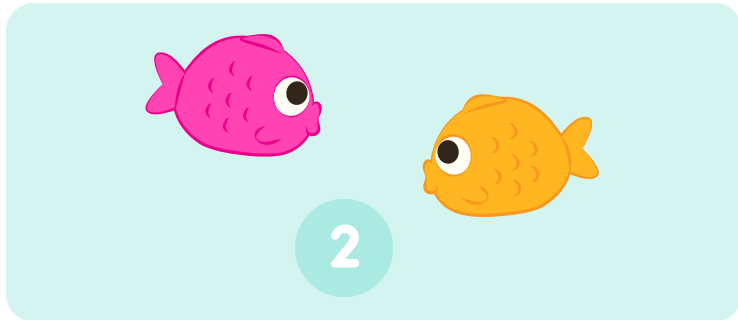
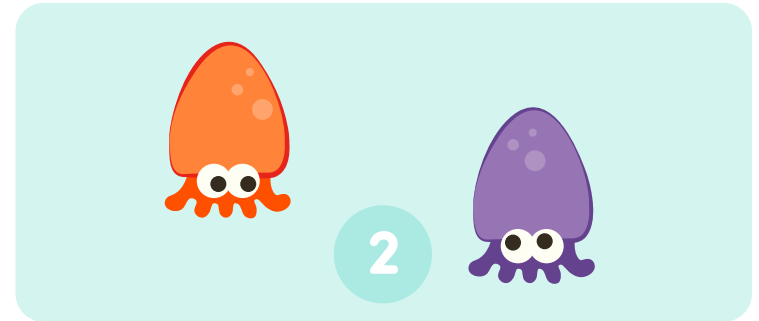
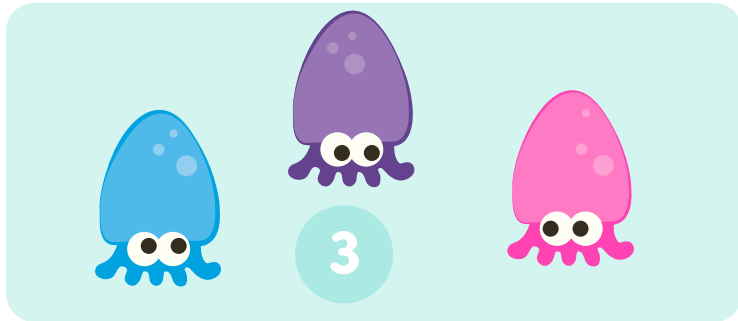
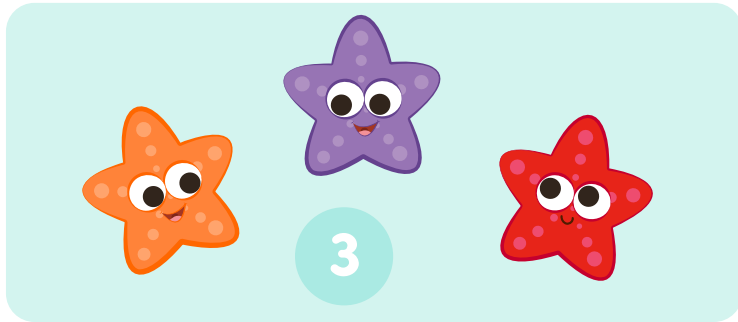
Try this activity with small items you have at home, like fruit, toys, or utensils.



# GREATER THAN, LESS THAN OR EQUAL TO



# GREATER THAN, LESS THAN OR EQUAL TO



# GREATER THAN, LESS THAN OR EQUAL TO



1



3



3



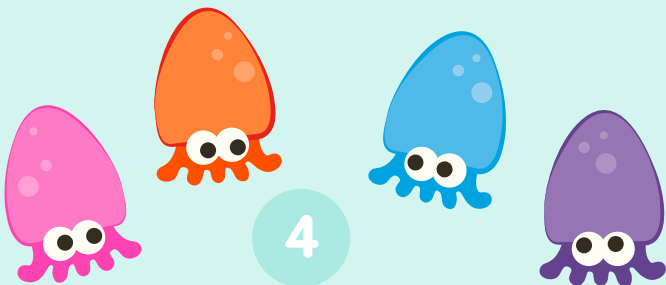
3



5



1



4



2

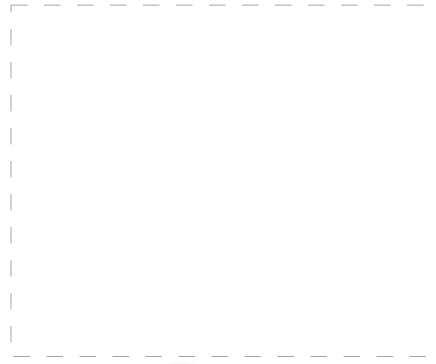


**This is lighter**

**This is heavier**



**This is equal**







**This is heavier**

**This is lighter**

# Penguin Math Balance

## References

- [1] Mix, K. S., & Battista, M. T. (Eds.). (2018). *Visualizing mathematics: The role of spatial reasoning in mathematical thought*. Springer.
- [2] Walsh, K., & Bracken, M. (2023). *The Reading Aloud Resource Book: A Practical Guide for Developing Speech and Language Using Picture Books*. Taylor & Francis.
- [3] Guy-Evans, O. (2023, September 18). Somatosensory Cortex Function and Location. *Simply Psychology*. <https://www.simplypsychology.org/somatosensory-cortex.html>

