

ADVANCED LEARNING LABS

Collaboration between NC Department of Public Instruction and AIG Teachers across the state

TO ENGAGE, ACTIVATE, AND GROW OUR STUDENTS

GRADES

2-3

Balance



ENGLISH LANGUAGE ARTS

Choose an informational article or book to read about a topic that interests you. As you read, become a 'designer' looking for at least three key points the author uses to support each main idea—similar to the need for at least three legs to help balance a stool and be able to confidently sit on it.

Create an HGTV video in which you explain what you feel is the seat/main idea of the article and how the legs (key details) help to support it or design a stool graphic organizer that explains the same.

Want an extra challenge? Find at least two other informational articles on the same subject and repeat the exercise to see if there are similar main ideas or other viewpoints on the subject. Before you know it, you'll have an authentic "woodshop of ideas" that you've fully analyzed.



SOCIAL STUDIES

There is an economic term for when there is a balance between supply and demand; it is called equilibrium.

Watch this video about supply and demand: <https://youtu.be/N-2mF0rGgUQ> As you watch, look for ways that supply and/or demand affects the choices an individual can make.

- How do choices impact balance?
- Is balance always a good thing from an economics standpoint? Why? Why not?
- Discuss this with a friend or family member.

Create your own music, dance, or movie video, using a favorite song or movie to demonstrate an understanding of equilibrium and how supply and demand impacts both buyers and sellers.



SCIENCE

An ecosystem's balance can be affected by how well plants survive and grow in the environment. The "Conscious Challenge" website gives information on how the delicate balance of earth is being upset and what we can do to help.

Visit the website and watch the three short videos (the first focuses on vocabulary): <https://www.theconsciouschallenge.org/ecologicalfootprintbibleoverview/extinction-plants>

What did you learn about the problems with Hawaii's ecosystem? How are new plants harming the population of native plants? What are humans doing that harms the ecosystem? What can humans do to help the plants?

Share your findings with your family.



MINDFULNESS

Mindfulness can help us to notice and acknowledge unbalanced feelings without judgment and return to a balanced emotional state.

One way to achieve that balance is to "clean house."

Cleaning house can mean literally cleaning your house (or room), but it can also mean letting go of any things that worry you that are no longer benefiting you or are having a negative impact on your life.

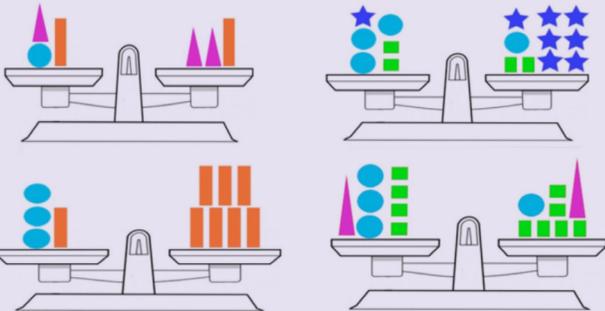
Look around your room, turn on some quiet music, and quietly organize and declutter to achieve a more balanced space. After you finish, focus on the stresses that have been weighing on your heart and mind, and write those down. Then symbolically throw them away and let them go.



LOGIC PUZZLE

Balance Puzzles

Each of the scales below is balanced - with equal weight on the two sides. Remove as many blocks as possible so that each remains balanced.



If the blue ball weighs 12 ounces, how much does each of the other blocks weigh?



FIELD STUDIES

Much like a tightrope walker holds a stick for balance, some animal tails serve the same function. The cheetah, kangaroo, and squirrel, among others, use their tails to maintain balance as they run and jump. Humans can have trouble with balance too. So, researchers in Japan have created a tail for humans to wear! This tail, modeled after the structure of a seahorse tail, is intended to aid a person's balance.

Read more about their research and structures of a seahorse tail at these links: <https://bit.ly/2CeonA>
<https://www.smithsonianmag.com/science-nature/why-seahorses-have-square-tails-180955802/>

After studying more about tails and balance, create your own "Tall Tale" (or "Tall Tail") about a human with a seahorse tail. Remember, a Tall Tale is a fiction story that exaggerates the truth and is meant to be humorous. Share your story with friends and family.



RESEARCH EXPLORATIONS

Have you ever played Jenga before? Or built with Kapala blocks? It's a lesson in balance and fun, but did you ever realize that it's also a lesson in structural engineering?

Read the following article about structural engineering: <https://science.howstuffworks.com/engineering/structural/5-things-jenga-teaches-structural-engineering.htm>.

After reading, experiment and try to build a structure that capitalizes on the principles of structural engineering discussed in the article. How tall can you make your structure? How strong/solid? How does balance play into your design?



MATH

When solving math equations, the value of each side must be the same to be equal, or balanced. Algebra is the part of math where letters or symbols are used to represent unknown numbers. To problem solve, you use the information you have to "balance" both sides of the equation, trying to figure out each unknown number.

This website uses a virtual pan balance to illustrate solving algebra problems: <https://www.nctm.org/Classroom-Resources/Illuminations/Interactives/Pan-Balance---Shapes/>

The "weights" used for the balance are geometrical shapes. Use the shapes to make the scale balance. Then, try to figure out what number/weight each shape represents.



North Carolina Department of
PUBLIC INSTRUCTION



Balance Reference Guide

2-3 Logic Puzzle:

Solution:

blue = 12; orange = 12

blue ball = 12; blue star = 4

blue = 12; orange = 6

blue = 12; green = 6

https://drive.google.com/file/d/0B624p_lrRSi0QzU3bGpBOWw5S0U/view

4-5 Logic Puzzle:

Solution: The "balance" and "spend" columns do not have to match, and in most cases, will not match. They are not always equivalent because you cannot compare them in that way. The amount in the "balance" is what is left over and depending on how much you "spend," equals what is left (the "balance") and therefore, if you only spend \$1 at a time, you will always have large numbers left over. Whereas, if you spend all of it at one time, you will have \$0 in the "balance."

6-7 Logic Puzzle:

Solution: If the coin picked by the warden is real then the scale would display 0 or an even number. If the coin is fake then the scale will display an odd number.

8-9 Logic Puzzle:

Solution: If the coin picked by the warden is real then the scale would display 0 or an even number. If the coin is fake then the scale will display an odd number.

10-12:

Logic Puzzle Solution: <http://www.bridbles.com/2011/10/hardest-balance-logic-puzzle.html>.

Math Solution: \$156.83

Work on more problems with IXL: <https://www.ixl.com/math/algebra-2/continuously-compounded-interest-word-problems>

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K-12

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NC Standards Alignment

Grade Span	English/ Language Arts	Social Studies	Science	Math
K-1	W.1.1	1.E.1.3 1.E.1.2 1.E.1.3	K.P.2.1 science K.MD.2 -math	NC.1.OA.4 NC.1.OA.7 NC.1.OA.2
2-3	RI.3.2	3.E.1.2 3.E.1.4	3.L.2.2	Mathematical Practice Standard 2
4-5	RI.5.8	5.E.2.2 5.E.2.1 5.E.2.2	4.L.1.1	Mathematical Practice Standard 2
6-7	W.6.1	7.H.2.1 7.H.1	7.P.1.2	NC.6.EE.7 NC.7.EE.4
8-9	W.9-10.2	8.G.1.1 8.G.1.3	8.L.5.2	NC.M1.A-CED.1 NC.M1.A-CED.2
10-12	W.9-10.2	AH2.H.4	PSc 2.2.4	AFM 2.01