

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

Interdependence



ENGLISH LANGUAGE ARTS

Using a picture book of your choice, choose a page that has an amazing illustration. Cover up the words. Ask a friend or family member to tell you what's happening in the story at that point. Record what they say. Compare and contrast what they told you with the actual text.

With another family member or friend, read aloud the text on the page, but don't show the illustration. Instead, have them create the illustration. Compare and contrast their illustration with the one in the book.

Reflect upon how specific aspects of illustrations contribute to what is conveyed through the words in a story. How are the two interdependent?



SOCIAL STUDIES

Interdependence is a state of mutual dependence, each element being equally important. Citizens should contribute politically, socially and economically to their community. Find examples of these contributions at this website: <https://www.uscis.gov/citizenship/learners/citizenship-rights-and-responsibilities>.

How are these contributions interdependent? Brainstorm your own list of ways citizens can contribute to their community politically, socially and economically.

Create an active citizen campaign poster or video demonstrating what it means to contribute to the community and how all the contributions of all citizens are interdependent.



SCIENCE

Time keeping dates back about 10,000 years. Read about what caused people to have a need for keeping time and what role forces and motion have in a clock: <https://kids.britannica.com/students/article/clock/605080>

In this video, you will see the inner workings of clocks in action: <https://easyscienceforkids.com/clocks-time-video-for-kids/>

Make a list of forces and motions you saw. Is it all gravity? Think about what the gears and pendulums do. Notice how they work together for the clock to work, like a "chain reaction".

Find objects in your home and practice creating your own chain reaction. Setting up dominoes to fall and hit one, then the next, is one way. What are other ideas you can think of?



MINDFULNESS

Many people believe in a connection between the energy of the mind and body. Find a quiet spot to lie down comfortably, or sit-up if you prefer.

1. Start by focusing on your feet. Gently tighten the muscles in your feet and toes, hold for a few seconds and then release.
2. Then, move your focus to your calf muscles, tighten and release.
3. Continue this process all the way up your body. Repeat, if you like, for more relaxation.

Focus on how your body parts and energies are connected and interdependent. How do you feel? Did you notice a change in your thoughts, body or energy pre- and post- meditation?



LOGIC PUZZLE

Solve these Emoji Math Equations from NASA!
Each line of the puzzle depends on how you solved the line before.

<https://www.nasa.gov/audience/foreducators/iss-emoji-math-puzzle.html>

Create your own emoji math puzzles for friends and family to solve!



FIELD STUDIES

Interdependence is the degree to which two entities depend on each other.

Let's take a trip to the site of two red ovenbirds' nest and see how birds design, engineer and build their nests to meet their needs and how their nesting is interdependent on both biological and environmental factors: <https://bit.ly/PBSovenbirds>

- What type of weather are the ovenbirds dependent upon for their nest building?
- Why do the ovenbirds need to closely monitor the size of their nest as they build it?
- Describe the internal structure of the ovenbird dome. What is its major purpose?
- How is the concept of interdependence demonstrated?
- Share what you have learned with a friend or family member.



RESEARCH EXPLORATIONS

Let's build a water clock!

While it might not be a good idea to get most clocks wet, this clock depends on water to work! A water clock depends on the speed of the inflow (water coming in) or outflow (water going out) of water to measure time.

There are a variety of ways to build a water clock:

<https://youtu.be/boUI8MEaFWM>

<https://www.steampoweredfamily.com/activities/water-clock-stem-activity/>

Create your own water clock. Use materials you have researched, or experiment with your own variation of materials. How can you alter the materials so that the water flows faster? Slower? Can you repeat the process with the same outcome for speed of water flow?



MATH

People depend on time each day. Show this by creating an hour-by-hour schedule of your day. Try converting your daily schedule to metric time.

[https://academickids.com/encyclopedia/index.php/Decimal time](https://academickids.com/encyclopedia/index.php/Decimal%20time)

Metric/Decimal Time	Standard Time
10 hours per day	24 hours per day
1 metric hour	= 2.5 normal hour

What math knowledge did you depend on to convert these measurements? Which way of keeping time do you prefer? Why?

Show your schedule to family members and ask their preferences.



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PUBLIC INSTRUCTION



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K-12

Interdependence Reference Guide

2-3 Field Studies:

To learn more about ovenbirds: <https://www.audubon.org/field-guide/bird/ovenbird>

4-5 Math:

Link for more math puzzles: <https://www2.stetson.edu/~efriedma/published/cross2/index.html>

6-7 Logic Puzzle:

Answer: lime,line,fine,fire,wire\

6-7 Science:

Based on a lesson written by the Kentucky Farm Bureau

8-9 Mindfulness:

Use the link to learn more about Chief Seattle: <https://historylink.org/File/1427>

8-9 Math:

Link to create a hexagon on Desmos: <https://www.youtube.com/watch?v=l6brztHaKIA>

Use function notation to describe transformations that would create economically efficient honeycombs.

10-12 Logic Puzzle:

Solution: S is the father of T who is the sister of R, hence R and T are siblings. R is the brother of U, so R is male. Therefore R is the son of S.

Try additional problems on Smartkeeda! https://www.smartkeeda.com/Reasoning_Aptitude/Verbal_Reasoning/Blood_Relations_Quiz/newest/all/passage/Blood_Relation_Quiz_4/page/2

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Interdependence NC Standards Alignment

Grade Span	English/ Language Arts	Social Studies	Science	Math
K-1	RI.1.5 RI. 1.6	K.G.1.3 K.G.1	1.L.1.2	NC.K.CC.5
2-3	RL.3.7	3.C&G.2.1 3.I.1.8 3.I.1.10 3.I.1.11	3.P.1.1	NC.3.MD.1
4-5	RL.5.7	5.C&G.2.2 5.C&G.2.1	5.L.2.3	NC.5.OA.2
6-7	RL.6.3	7.E.1.1 7.E.1	6.E.2.4	NC.7.RP.3
8-9	RI.9-10.8	FP.C&G.3.4 CL.C&G.4	8.L.3.2	NC.M2.IF.2
10-12	RL.11-12.6	CE.E.2.2	Bio.2.1.3	DCS.GT.1