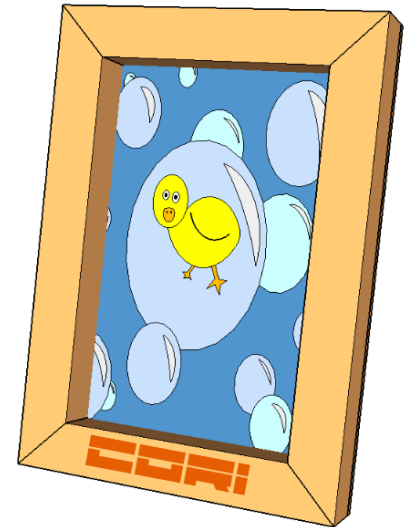


CORI FRAME

CORI lessons are designed to apply math skills through applied experiences. The CORI-Frame lesson plan challenges students with the following math concepts: Area, Perimeter, Angles, Measurement and Estimation. Design and construct a picture frame to fit your favorite 4x6 photo. Students will learn to measure, construct and decorate their very own picture frame using CORI beams.



Build Time
30-45 min



DESIGN CHALLENGE

CORI-Frame Design Challenge Prompt: The most common photo size available comes in 4x6 inch dimensions. Using CORI beams, design and construct a picture frame with the appropriate width and length to fit your favorite 4x6 inch photo. You will need to cut the CORI beams at appropriate length and width, as well as precise angles for successful fit. Good luck Eduneers!

MATH FOR EVERYONE!

The CORI-Frame starter kit series presents math problems in an experiential way. The CORI-Frame lesson integrates common core math standards 3rd through 8th grade. Below are example math problems and prompts to facilitate applied math conversations with students. The math section will have the following:

- Math prompts that directly apply with student CORI designs and creations.
- Sample math word problems
- Additional open education resources
- Reflection questions





FOUNDATIONAL MATH CHALLENGE

CORI Area & Perimeter

- What is the perimeter of the CORI-Frame based on your measurements?
- What is the area of the CORI-Frame based on your measurements?

Sample Word Problem

- What is the perimeter of a picture frame with a length of 7 inches and width of 9 inches?
- Find the missing side length when the area is 48 square units. See picture on right.

W = 8 units

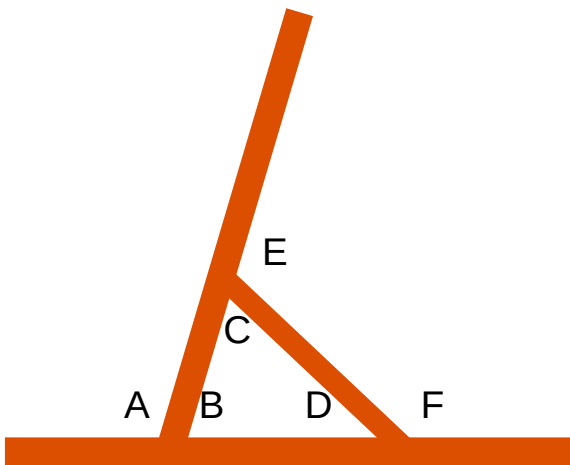
**Area =
48 square units**



STEPPING IT UP MATH CHALLENGE

CORI Angles

- Classify the angles A, B, C, D, E and F generated from CORI Frame you designed as right, obtuse or acute.
- Using the protractor, determine the angles you generated based on the viewing tilt of your frame. Find angles A, B, C, D, E and F.



Sample Word Problem

- The length of a rectangle is 3 more than the width. If the area is 40 square inches, what are the length and width dimensions?
- A picture frame is 4 inches wide and 12 inches long. The frame is 1 inch wide on each side. What is the width and length of the picture?

CLASSIFY THE ANGLES

Circle and classify the the different angles shown on the picture below as either obtuse, acute, or right.



CHALLENGE QUESTIONS

CORI Area & Perimeter

- Teacher can decide the level of rounding, decimal and/or fraction math evaluated for each group. Keep in mind the picture is a 4x6 photo, but the frame adds extra length and width. What is the difference of the area between your designed frame and the 4x6 photo? If you were to scale this frame to 8.5 times the size, what is the new perimeter and area of the frame needed to be built?
- A picture measures 20cm by 25 cm and is placed in a frame of uniform width. If the area of the frame and picture is 750 square centimeters, what is the width of the frame?



FOLLOW UP DISCUSSION AND QUESTIONS

1. Did the photo fit into your CORI-Frame on the first try?
2. Does the CORI-Frame stand on its own? How do you rate your teamwork 1 through 5? (1 - No Cooperation to 5 - Excellent Teamwork)
3. What other items could you build with the CORI-Frame design as the foundation?
4. What are real life situations that CORI-Frame could be used if they were real steel beams?
5. What careers do you think use area, perimeter, measurement and angles in their profession?

ADDITIONAL OPEN EDUCATION RESOURCES

- **Basic Angles Geometry from Khan Academy:**
<https://www.khanacademy.org/math/basic-geo/basic-geo-angle>
- **Area and Perimeter from Open Education Resources (OER):**
<https://www.oercommons.org/authoring/8677-area-and-perimeter-lesson/view>
- **Basic Area & Perimeter from Khan Academy:**
<https://www.khanacademy.org/math/basic-geo/basic-geo-area-and-perimeter>
- **CK12 Area & Perimeter:**
<https://www.ck12.org/geometry/square-and-rectangle-area-and-perimeter/>

#CORICREATE COMMUNITY

Our growing #CoriCreate Community is a place to share your designs, ideas and connect with other Cori enthusiasts. We would love to have you share your projects to the various social media platforms using our hashtag #CoriCreate. See you online!