

Egyptologist: Introduction to Area and Perimeter

Adventure Description:

In this adventure, students will think like Egyptologists and find the area and perimeter of a hieroglyph.

Activity

Step One: Background Information on Egyptologists and Measurements (5-10 minutes)

- Show [Video: Introduction to Area and Perimeter](#).
- Remind students that Egyptologists study what life was like in Ancient Egypt! They might study mummies or hieroglyphs, which are symbols used in Egyptian writing.
- Next, ask students why Egyptologists would want to measure the area and perimeter of hieroglyphs (e.g., compare the size of a hieroglyph to another Egyptian hieroglyph or artifact that was found, compare the size to ancient writing from other civilizations).
- Provide students with [Handout: Calculating Area and Perimeter](#). Read through the information as a class.

Step Two: Activity Set Up (5 minutes)

- Explain to students that they will imagine they are Egyptologists who have discovered a hieroglyph. They will figure out what the hieroglyph means and find the area and perimeter of it.
- Teacher note: students will create a hieroglyph to trade with another student.
- Provide students with [Handout: Steps to Create and Analyze Hieroglyphs](#).

Step Three: Creating a Hieroglyph (15+ minutes)

- Optional: have students stain their paper ahead of time to make it look old. Refer to [Handout: How to Stain Paper](#).
- Have students complete steps 1 and 2 on the handout. Students will think of a message or phrase that they want to spell with hieroglyphs. After they choose a message or phrase, they will write out the hieroglyph that goes with each letter. Then, they will write out their phrase using hieroglyphs on a separate piece of paper.
- When students are finished, they will complete step 3. They will measure the area and perimeter of their hieroglyph and write down the dimensions they found.

Please contact Allison Bischoff, Director of Customer Service, at allison@rozzylearningcompany.com or 314-272-2560 with questions.

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Step Four: Decode and Measure a Classmate's Hieroglyph (25+ minutes)

- Have students complete step 4. Students will trade hieroglyphs with each other and will answer questions related to the hieroglyph's size and meaning.
- Provide each student with a ruler. If you do not have enough rulers for the class, print out [Handout: Paper Rulers for Students](#).
- While students are working, discuss the following: The perimeter is the distance around the outside of a shape. The area is the amount of space the inside of the shape takes up. Area and perimeter are both measured in units (cm, in, ft etc.). Remind students to put units in their measurements.
 - Discussion on finding perimeter: The perimeter of a figure is the measurement of its total outline. To find the perimeter of a shape, measure each side of the shape. Add all of the side measurements together. ($P = a + b + c + d$) Each letter represents a side of the shape.
 - Discussion on finding area: Area is measured in square units such as square centimeters, square feet, square inches, etc. To find the area of a shape, multiply the length of the shape (how long the shape is) by the width of the shape (how wide a shape is). You can find the length and width from your perimeter measurements. ($A = l \times w$) l refers to length and w refers to width.
- When students are finished have them compare their results with the student that created the hieroglyph. Students should report their answers to the hieroglyph creator. The creator should say whether the answers are right or wrong. If students got an answer incorrect they can go back and try again.

Extra Time: Creating a Class Catalogue (15+ minutes)

- Explain to students that they will now create a class catalog of their hieroglyphs and the data they collected. Provide students with [Handout: Creating a Class Catalog](#).
- As a class, look at the data that was collected. Discuss the following:
 - Based solely on the data collected, which hieroglyph is the largest? Which one is the smallest?
 - Could you draw the hieroglyph from the data that you collected?
 - Why do we use 'square units' when finding area?
 - What are the differences between perimeter and area?
- Optional: have students calculate the mean, median, and mode for the area and perimeter of the hieroglyphs.

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Materials List

Provided online:

- Video: Introduction to Area and Perimeter
- Handout: Calculating Area and Perimeter
- Handout: Steps to Create and Analyze Hieroglyphs
- Handout: How to Stain Paper
- Handout: Paper Rulers for Students
- Handout: Creating a Class Catalog

Optional Materials

Note: These materials are only needed if you are having students complete the paper staining activity.

- Tray or pan large enough to fit a piece of paper
- Warm coffee
- Dixie cup (or other small paper cup)
- Sponge brush
- Instant coffee grounds
- Paper towels

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