Geoboard Fractions

Supports Bridges Grade 4, Unit 3, Module 2, Session 1 and Session 3

Overview

This Tech-Enhanced Activity, based upon learning in Sessions 1 and 3, supports students' understanding of the relationship between fractions shown on a geoboard.

Preview the content of this activity with a short video.

	Students will:	Asynchronous Assets	Synchronous Assets
Part 1	Explore and create fractions in multiple ways using a geoboard. Justify equal parts on the geoboard by reasoning about the area of the parts.	Fractions on a Geoboard [Slides]	
Part 2	Compare and record observations about fractional regions on a geoboard.	Regions on a Geoboard [Slides]	
Part 3a	Create equivalent fractions on geoboards.	Equivalent Geoboard Fractions [Slides]	
Part 3b	Recognize patterns and relationships between fractions representations for ¼, ½, and ¾ on the geoboard.	Comparing Geoboard Fractions [Slides]	

Some tech skills your students will need:

- Upload a screenshot or photo to Google Slides
- Open and use the MLC Geoboard app

Content notes:

1. Part 1 of this TEA is an opportunity for students to explore representing fractions on a geoboard. This opportunity is unique to the TEA and isn't found in the Bridges Teachers Guide.
2. Part 2 aligns with the Exploring Fractions on the Geoboard Problems & Investigations from Session 1. The Equivalent Fractions Checkpoint Assessment from Session 1 and Session 2 is not included in this TEA.
3. Part 3a of this TEA reflects steps 1–4 of the Comparing, Adding & Subtracting Fractions Problems & Investigations in Session 3. Part 3b provides an opportunity for students to reflect on the patterns and relationships found in the completed chart (step 5 of the P&I).

Part 1: Fractions on a Geoboard

Students explore and create fractions in multiple ways using a geoboard. Justify equal parts on the geoboard by reasoning about the area of the parts.

You will need your copy of:

Google Slides: Fractions on a Geoboard (asynchronous learning)

- English: preview | copy
- Spanish: preview | copy

1. Distribute the Google Slides to students via Google Classroom, email, or another preferred method and ***make a copy for each student***.
2. Students self-pace through the slides. Students are prompted to apply their understanding of unit fractions to a geoboard model to make halves, fourths, eighths, and sixteenths in the Geoboard app.

Part 2: Regions on a Geoboard

Students compare and record observations about fractional regions on a geoboard.

You will need your copy of:

Google Slides: Regions on a Geoboard (asynchronous or synchronous learning)

- English: preview | copy
- Spanish: preview | copy

If delivering asynchronously	If delivering synchronously
• Distribute the Google Slides to students via Google Classroom, email, or another preferred method and ***make a copy for each student***. • Students self-pace through the slides, recording observations of different regions on a geoboard and how they relate to fractions and each other.	• Start a Zoom or Google Meet session. • Open the slides and share your screen. • Direct students to observe the different regions of the geoboard in the image provided. • Facilitate the discussion of each region through the images in the slideshow. Focus the discussion on how the regions relate to fractions and each other. • Record students' observations of the regions on the slides.

Part 3a: Equivalent Geoboard Fractions

Students create equivalent fractions on geoboards.

You will need your copy of:

Google Slides: Equivalent Geoboard Fractions (asynchronous or synchronous learning)

- English: preview | copy
- Spanish: preview | copy

1. Distribute the Google Slides to students via Google Classroom, email, or another preferred method and ***make a copy for each student***.
2. Choose your delivery method:

If delivering asynchronously	**If delivering synchronously**
• Students self-pace through the slides, using the Geoboard app to create equivalent fractions.	• Start a Zoom or Google Meet session. • Open the slides and share your screen. • Facilitate the discussion of each image. Students can work on their own slide decks in breakout groups of 2–3, or independently. • Students record their work on their own slide deck.

Part 3b: Comparing Geoboard Fractions

Students recognize patterns and relationships between fractions representations for ¼, ½, and ¾ on the geoboard.

You will need your copy of:

Google Slides: Comparing Geoboard Fractions (asynchronous or synchronous learning)

- English: preview | copy
- Spanish: preview | copy

1. Choose your delivery method:

If delivering asynchronously	**If delivering synchronously**
• Distribute the Google Slides to students via Google Classroom, email, or another preferred method and ***make a copy for each student***. • Students self-pace through the slides, recording their observations of patterns and relationships between the fractions in the table. • Review student work for evidence of an understanding of the relationships between equivalent fractions.	• Start a Zoom or Google Meet session. • Open the slides and share your screen. • Facilitate discussion of each image. For equivalent fractions of ¼, ½, and ¾, check for student understanding from Part 3a. • On the final slide, facilitate discussion of patterns and relationships between the fractions in the table.