

Bridges in Mathematics Tech-Enhanced Activity for Seesaw

Counting Penguin Feathers

This activity is based on The Math Learning Center’s Tech-Enhanced Activities (TEAs), adapted from the Bridges in Mathematics Second Edition PK–5 math curriculum. This activity is designed to support Bridges Grade 1 Unit 6, Module 3, [Session 3](#) (login required). For standards alignment, refer to the Bridges session.

Overview

The work supports students’ understanding of making equivalent combinations within 20 and working with true/false equations, including equations with expressions on both sides.		
	Students will:	Assets
Part 1	Use the context of penguin feather collections to explore addition combinations and make equivalent combinations of 10 and 15 feathers on a number rack.	Introducing Combinations & Penguin Feathers
Part 2	Compare addition strategies, explore patterns within combinations, complete addition equations with the unknown in all positions, and make combinations of 20 in different ways.	More Combinations & Penguin Feathers
Part 3	Review and identify true and false equations, and make corrections to false equations to make them true.	True or False?

Content notes:

1. Parts 1 and 2 focus on various combinations of penguin feathers and align with Session 3 steps 1–13. A digital version of the number rack is included throughout the TEA for students to show their thinking. The TEA includes some combinations not found in the session.
2. Part 3 focuses on true and false equations. Although Work Place 6C True or False? is omitted from this TEA, students still explore similar math ideas. They identify whether equations are true and false, and extend their thinking by changing false equations to make them true. The penguin feathers context has been added to the true and false equations.

Note: The digital number racks in this activity are included for optional support. If you and your students have physical number racks available, consider using them in place of or in conjunction with the digital number racks used throughout this activity.

Part 1: Introducing Combinations & Penguin Feathers [[Seesaw](#)]

Students use the context of penguin feather collections to explore addition combinations and make equivalent combinations of 10 and 15 feathers on a number rack.

1. Preview the activity:

If delivering asynchronously	If delivering synchronously
<ul style="list-style-type: none">● Students self-pace through the activity.● Students study each page and explore equivalent combinations of black and white penguin feathers.● Students use the number rack to model equivalent combinations of 10 and 15.	<ul style="list-style-type: none">● Start a Zoom or Google Meet session.● Open the activity and share your screen. Students do not yet need to open their copy.● On the “Ten feathers each” page, work together as a group to make the first combination of 10. Annotate the page with summarized student input.● Have students open their copies of the pages.● Preview the last two pages and invite students to solve the problems to make equivalent combinations of 10 and 15.

2. Review responses to the problems on the last two pages, taking note of the strategies used to generate combinations of 10 and 15.
3. Student responses from the last problem can be used to customize the pages for Part 2 of this activity. Consider choosing 2–3 combinations that illustrate addition strategies such as doubles plus 1, adding 10, or counting on.

Part 2: More Combinations & Penguin Feathers [[Seesaw](#)]

Students compare addition strategies, explore patterns within combinations, complete addition equations with the unknown in all positions, and make combinations of 20 in different ways.

1. Preview the activity.
2. Choose your delivery method:

If delivering asynchronously	If delivering synchronously
<ul style="list-style-type: none">● Students self-pace through the activity.● Students read or listen to other students describe different strategies for solving the problem.● Students explore patterns within combinations to 15.● Students solve for the unknown in a series of problems and use the number rack to model different combinations to 20.	<ul style="list-style-type: none">● Start a Zoom or Google Meet session.● Open the activity and share your screen. Students do not yet need to open their copy.● On the “Comparing strategies” page, lead a discussion about combinations of 15. Encourage students to share combinations and strategies not shown on the page.● Discuss and solve “Combinations and patterns” together as a group. Record student thinking on the page.● Facilitate the remainder of this activity as a whole group or have students open their copies of the activity.

3. Review responses to the penguin feather problems 1–4 for evidence of making equivalent combinations and completing addition equations with the unknown in all positions.

Part 3: True or False? [[Seesaw](#)]

Students review and identify true and false equations, and make corrections to false equations to make them true.

1. Choose your delivery method:

If delivering asynchronously	If delivering synchronously
<ul style="list-style-type: none">● Students self-pace through the activity.● Students listen to other students review true and false equations, preparing them for work in this activity.● Students sort true and false equations and then work to make corrections to the false equations to make them true.	<ul style="list-style-type: none">● Start a Zoom or Google Meet session.● Open the activity and share your screen. Students do not yet need to open their copy.● On the “Reviewing true and false equations” page, invite students to share what they know about true and false equations.● Work together as a group to complete “Sorting true and false equations” and “Fix the notebook – Problem 1.” Record students’ thinking on the pages. Questions to advance student thinking include:<ul style="list-style-type: none">○ <i>How did you know that equation was true/false?</i>○ <i>How could we change the false equation to make it true? Is there more than one way?</i>● Have students open their copies of the pages.● If possible, allow students to work in pairs or small groups in breakout rooms to complete the remaining two problems before discussing them with the whole group.