



Virtual Card Sorts on Desmos.com

Instructional Protocol

Purpose: For student to strengthen or maintain conceptual understanding of whole numbers, fractions and integer operations by matching cards with multiple representations. <i>(10 to 15 minutes)</i>	
Before	<ul style="list-style-type: none">▪ Decide which link(s) to share and verify that they display properly on the student devices.▪ Display your screen to the students.▪ Open the webpage, read the directions, and “think aloud” as you begin to organize the cards and make matches on the first slide.
During	<ul style="list-style-type: none">▪ Students open the link and work with partners to match cards on each slide.▪ Students take screen shots of each slide to show their progress. (Optional)
After	<ul style="list-style-type: none">▪ Students reflect<ul style="list-style-type: none">○ What felt easy and/or difficult during the card sorts?○ Describe how each card that was matched was similar, but different from the others.

Whole Numbers

[Link to Shared Collection](#)

Card Sort	Directions
Add Numbers to 5	Match each addition problem (pink) with the five-frame problem (yellow), five-frame solution (blue), and answer card (purple).
Add Numbers to 10	Match each addition problem (pink) with the ten-frames problem (yellow), ten-frames solution (blue), and answer card (purple).
Add Numbers to 20	Match each addition problem (pink) with the ten-frames problem (yellow), ten-frames solution (blue), and answer card (purple).
Subtract Numbers within 5	Match each subtraction problem (pink) with the five-frame solution (yellow), "Think add to subtract" strategy (blue), and answer card (purple).
Subtract Numbers within 10	Match each subtraction problem (pink) with the ten-frame solution (yellow), "Think add to subtract" strategy (blue), and answer card (purple).
Subtract Numbers within 20	Match each subtraction problem (pink) with the ten-frames solution (yellow), "Think add to subtract" strategy (blue), and answer card (purple).
Multiply Numbers from 0 to 10	Match each multiplication problem (pink) with the ten frames solution (yellow), area model solution (blue) and answer card (purple).
Divide numbers by 1 to 10	Match each division problem (pink) with the area model solution (yellow), "Think multiply to divide" strategy (blue), and answer card (purple).



Integers

[Link to Shared Collection](#)

Card Sort	Directions
Add and Subtract Integers – Sort 1 of 2	Match each subtraction problem (pink) with the "add the opposite" strategy (yellow), model using integer tiles (blue) and answer card (purple).
Add and Subtract Integers – Sort 2 of 2	Match each subtraction problem (blue) with the "add the opposite" strategy (yellow), and answer card (green).
Multiply and Divide Integers - Sort 1 of 2	Match each model using integer tiles with the unknown multiplication problem (yellow), division problem (blue) and answer card (green).
Multiply and Divide Integers - Sort 2 of 2	Match each division problem (blue) with the "Think multiply to divide" strategy (yellow) and answer card (green).

Fraction Concepts

[Link to Shared Collection](#)

Card Sort	Directions
Identify Fractions and Their Parts	Match each fraction picture (pink) with the description (yellow), fraction (blue) and part of the fraction (purple).
Name Fractions on a Number Line	Match each equal part (pink) with the number line (yellow), point on the number line (blue) and value of the point (purple).
Compare Fractions with the Same Numerator or Same Denominator - Sort 1	Match each fraction comparison with the fraction strip representations, and correct inequality sign of the same color. Note: Three equality cards will not be used!
Compare Fractions with the Same Numerator or Same Denominator - Sort 2	Match each fraction comparison card with the correct thinking strategy and inequality sign of the same color and the correct reason. Note: Six cards will not be used!
Compare Fractions with Different Numerators and Different Denominators - Sort 1	Match each fraction comparison card with the fraction strip representations of each fraction and the correct inequality sign of the same color. Note: Three equality cards will not be used!
Compare Fractions with Different Numerators and Different Denominators - Sort 2	Match each fraction comparison card with two supporting statements (white) and the correct inequality sign of the same color. Note: Three cards will not be used!
Convert Between Improper Fractions and Mixed Numbers - Sort 1	Match each improper fraction card (blue) with two visual representations and the equivalent mixed number (green).
Convert Between Improper Fractions and Mixed Numbers - Sort 2	Match each improper fraction card (blue) with it's whole number conversion (yellow), equivalent addition sentence (pink) and mixed number (green).

Fraction Concepts

(Continued)

<u>Add and Subtract Mixed Numbers with Like Denominators - Sort 1</u>	Match each problem card (blue) with the equivalent visual problem (yellow), visual solution (pink) and answer card (green).
<u>Add and Subtract Mixed Numbers with Like Denominators - Sort 2</u>	Match each problem card (blue) with the three other color cards that have, or show, the same values.
<u>Add and Subtract Mixed Numbers with Different Denominators - Sort 1</u>	Match each problem card (blue) with the equivalent visual problem (yellow), visual solution (pink) and answer card (green).
<u>Add and Subtract Mixed Numbers with Different Denominators - Sort 2</u>	Match each problem card (blue) with the equivalent problem using common denominators (yellow), visual solution (pink) and answer card (green).
<u>Multiply a Whole Number by a Fraction - Sort 1</u>	Match each problem card (blue) with the equivalent visual problem (yellow), visual solution (pink) and answer card (green).
<u>Multiply a Whole Number by a Fraction - Sort 2</u>	Match each problem card (blue) with the three other color cards that have, or show, the same values.
<u>Multiply a Fraction by a Fraction - Sort 1</u>	Match each problem card (blue) with the equivalent verbal description, area model, and answer card (green).
<u>Multiply a Fraction by a Fraction - Sort 2</u>	Match each problem card (blue) with the equivalent verbal description, area model, and answer card (green).
<u>Divide a Unit Fraction by a Whole Number - Sort 1</u>	Match each problem card (blue) with the equivalent verbal description, area model, and answer card (green).
<u>Divide a Unit Fraction by a Whole Number - Sort 2</u>	Match each problem card (blue) with the equivalent verbal description, area model, and "think multiply to divide" strategy and answer card (green).
<u>Divide a Whole Number by a Unit Fraction - Sort 1</u>	Match each problem card (blue) with the equivalent verbal description, area model, and answer card (green).
<u>Divide a Whole Number by a Unit Fraction - Sort 2</u>	Match each problem card (blue) with the equivalent verbal description, area model, and "think multiply to divide" strategy and answer card (green).
<u>Multiply and Divide Fractions – Sort 1</u>	Match each problem card (blue) with the equivalent verbal description, area model, and answer card (green).
<u>Multiply and Divide Fractions – Sort 2</u>	Match each problem card (blue) with the equivalent verbal description, written as a single fraction, and answer card (green).