Fraction notation activities and cards: 3 activities to illustrate fraction notation and concepts

Goal: Understanding fraction notation, being able to estimate which of two fractions is larger, adding and subtracting like fractions, changing an improper fraction into a mixed number and reverse, starting to multiply and divide with fractions

Materials: Fraction notation cards without numerators and numerator tiles to put on the fraction cards: see next pages, print two of each

Various fraction models: start asking student to fold and cut square papers in half, again and again, label them 1/2, 1/4, and 1/8, use actual fraction circles and strips, or print some like the Color Fraction Strips at http://www.math-drills.com, and fraction circles at etc.usf.edu/clipart/galleries/726-fractions, www.cehd.umn.edu/ci/rationalnumberproject/RNP1-09/CirclesOutlines.pdf

Rationale: Fractions are difficult for students with dyscalculia because they do not automatically see the similarity between different models (such as folded squares, fraction strips, fraction circles, or pizza pies) and because they need to work with two numbers at the same time. Students often get confused because they do not remember that these numbers have different meanings, depending on the place they are written. The fraction notation cards and symbol and number tiles are designed to show the different meanings of the top and bottom numbers. The words numerator and denominator are unfamiliar vocabulary and do not add to understanding, so they are not used in this lesson.

Explain: The **bottom number** shows **what type of parts** you count. A **larger bottom number** makes **smaller parts, a smaller unit fraction**. The **top number** shows **how many equal parts** you count. A **larger top number** makes the **amount of the fraction larger**.

Activity 1: Show cards with printed top and bottom (pg 7). Tell **look at the bottom first** to know **what** it is. **Now look at the top** for **how many**. Tell the different ways to call fractions. Ask student to find the halves, quarts, or eighths cards and count one, so put a 1 number tile in the top place. This is called a unit fraction: one half is written as 1/2 , one fourth as 1/4, and one eighth as 1/8. Compare with the strip, square, and circle fraction models. Ask: what is larger 1/2 or 1/4? Compare the other unit fractions. Repeat comparing unit fractions with cards and models often.

Activity 2: Ask student to find two halves using the cards and various models. Does she see that two halves are a whole? Put two unit halves together 1/2 + 1/2 = 2/2 = a whole and have the models next to it. Do the same with four fourths and eight eights, showing that the bottom number tells the fraction name, so how many pieces you need to make a whole. Continue to show the various models next to the fraction cards.

Activity 3: Make a proper fraction, say 1/4, and ask student to make a larger and a smaller fraction, ask to explain why it is larger or smaller. Make an improper fraction, say 5/4, ask if this is more or less than 1 (a whole) and to show this as a whole number plus a fraction. Reverse.

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Number and symbol tiles to go on the Fraction Notation cards (see next pages, laminate two of each)

Number tiles can go on the top or the bottom, but symbols, like x for **multiply** and) for **divide** are color coded and have their own place

1	1	1	1	1	1	2
2	2	2	2	3	3	3
4	4	4	5	5	6	6
7	7	8	8	8	x	)
		+	-	+		

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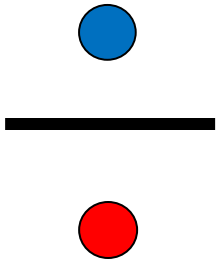

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x

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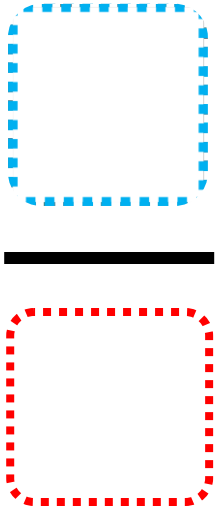

how many parts you count

what type of parts you count

the type of pieces is the name of the fraction, it tells how many pieces make a whole

the name of the fraction shows with how many people you are sharing the whole

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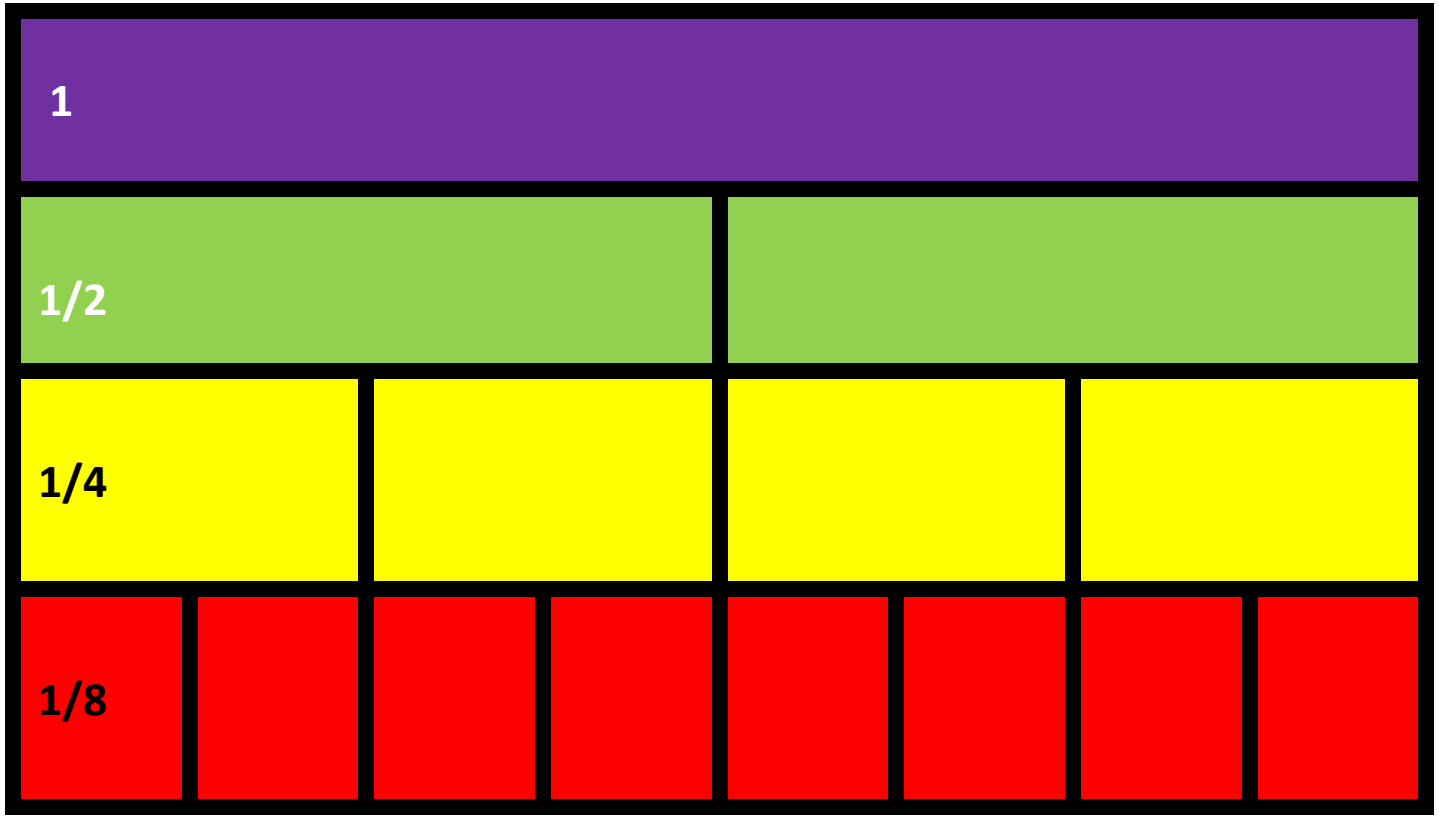

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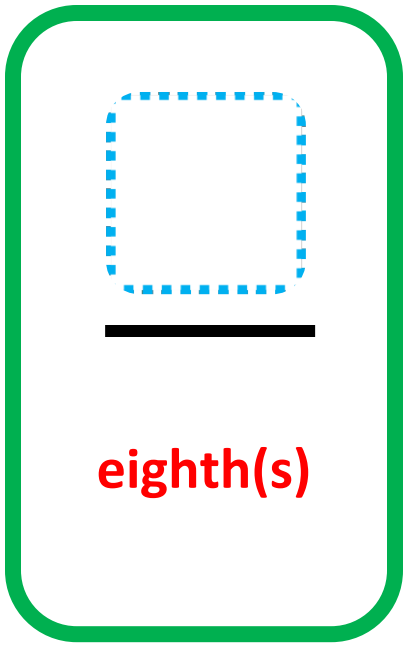

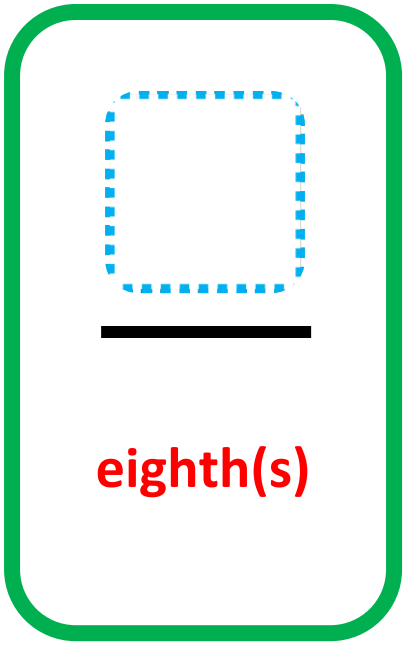

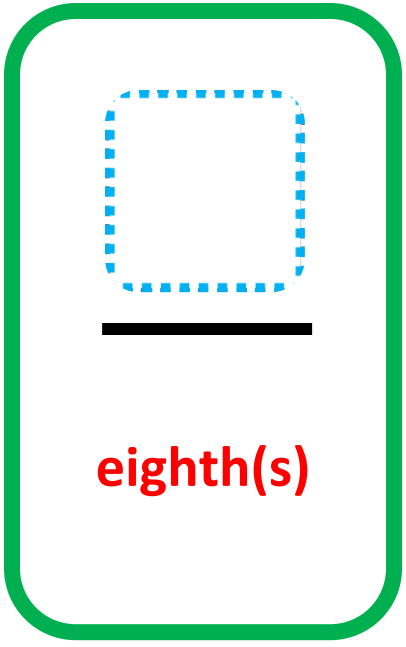

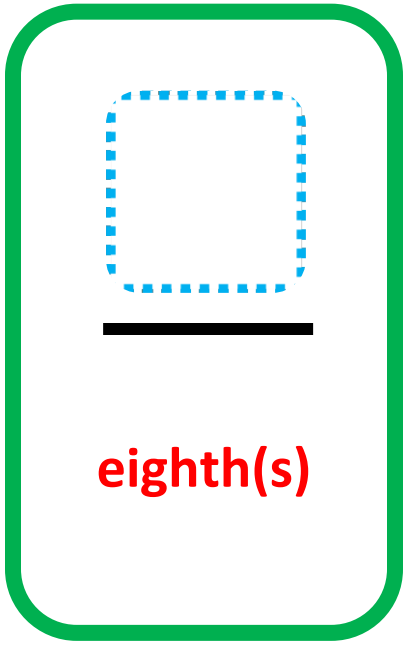

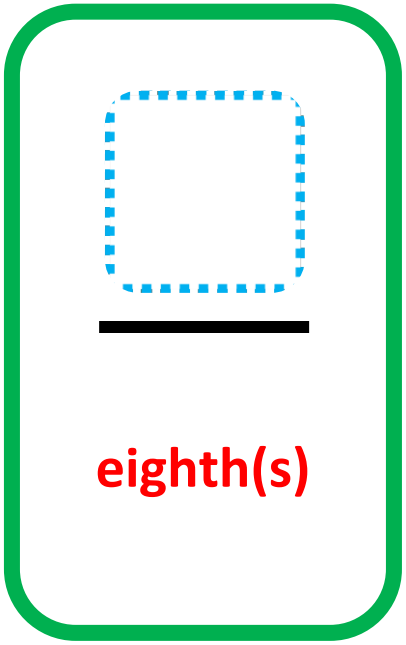

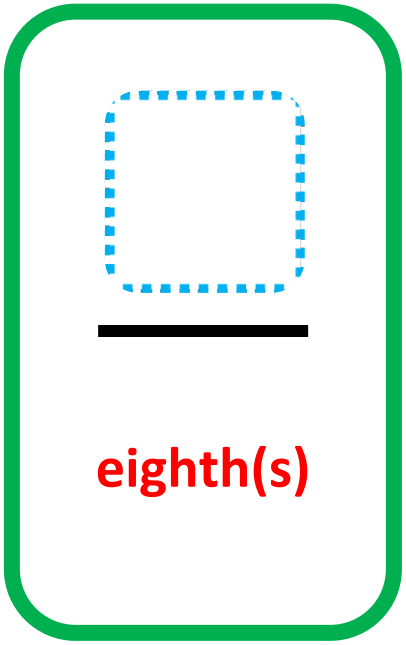

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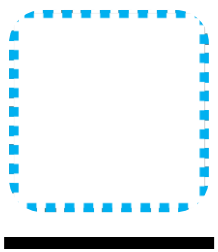
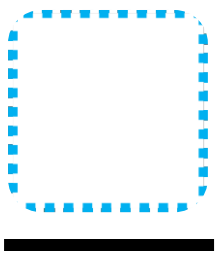
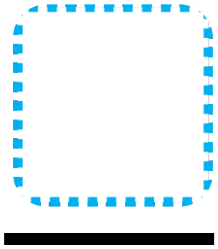


half/halves

half/halves

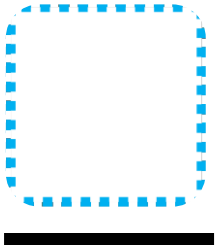


half/halves



fourth(s)

fourth(s)



fourth(s)

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how many

you count

what

you count

multiplier

divisor

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multiply

with this

number

divide

with this

number

how many?

half/halves

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how many?

fourth(s)

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how many?

eighth(s)

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