

DIG INTO INTERVENTION: A FRACTION ARRAY

Presented by MathLinks Author
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In this session, you will learn:

- How to create and use a fraction array to explore fraction concepts, including ordering and equivalence
- How to use sense-making strategies to compare and order fractions



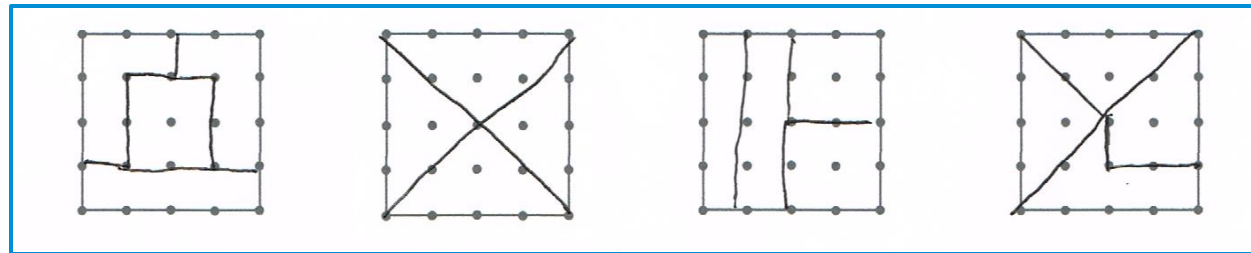
Philosophy

Concept lessons allow students to fill “holes” in their background. Research on effective intervention for middle school students suggests:

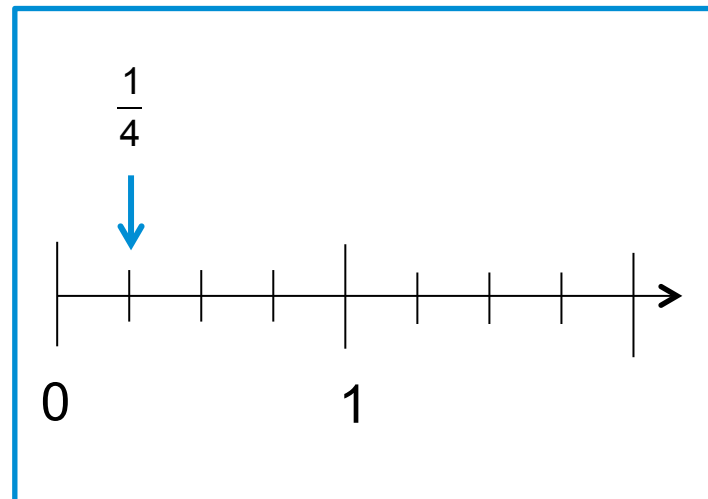
- Focus on whole numbers and fractions
- Use of visual representations of mathematical ideas
- Explicit and systematic instruction

Two Models for Fourths

Area model

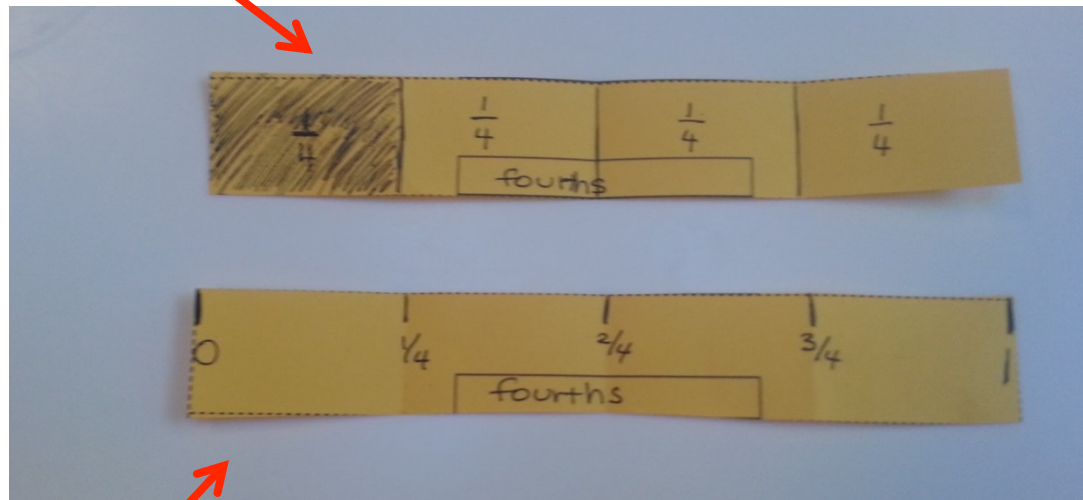


Linear Model



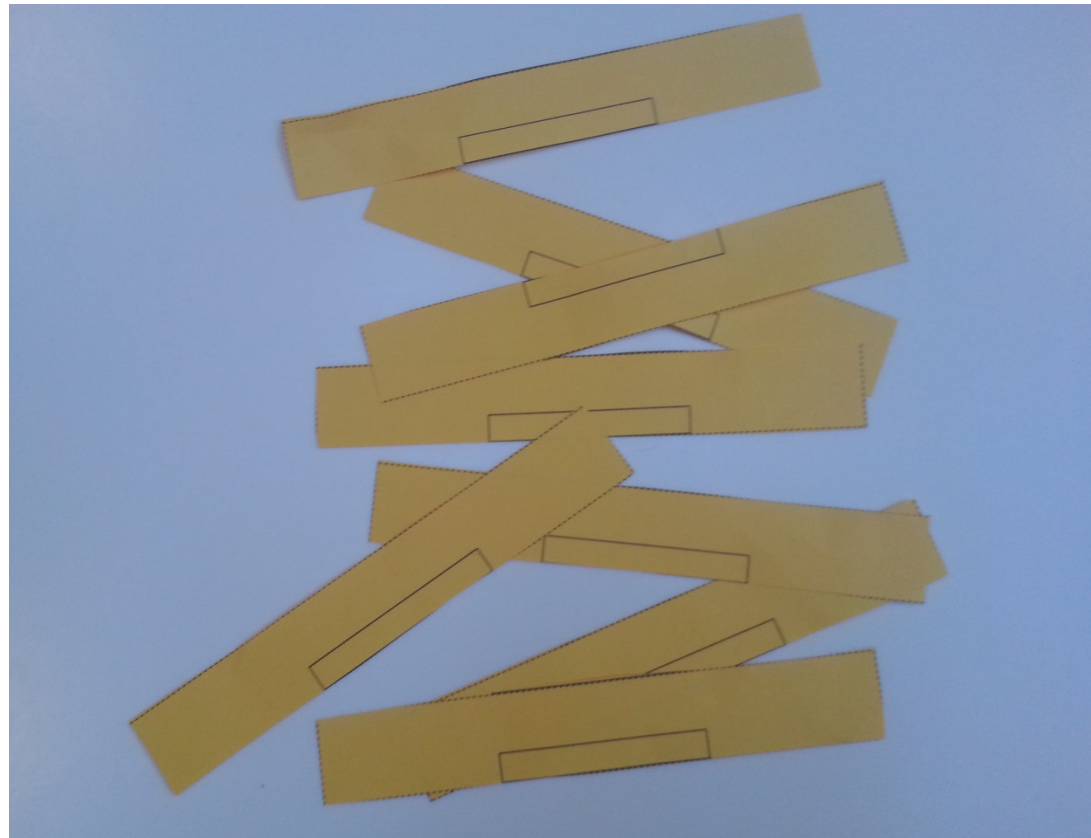
Fraction Strip Fourths

Area model



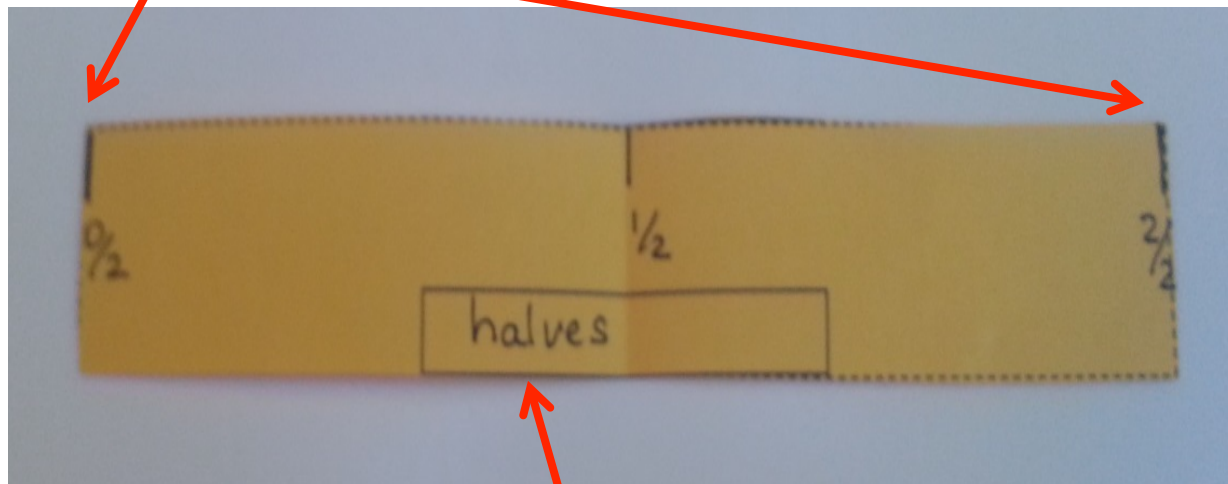
Linear model

Creating a Fraction Array



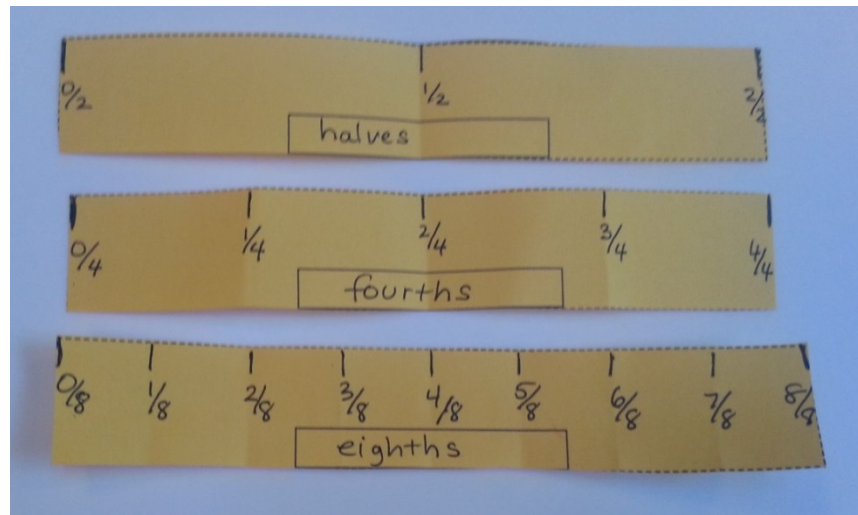
Creating a Fraction Array

0 and 1 at the edges



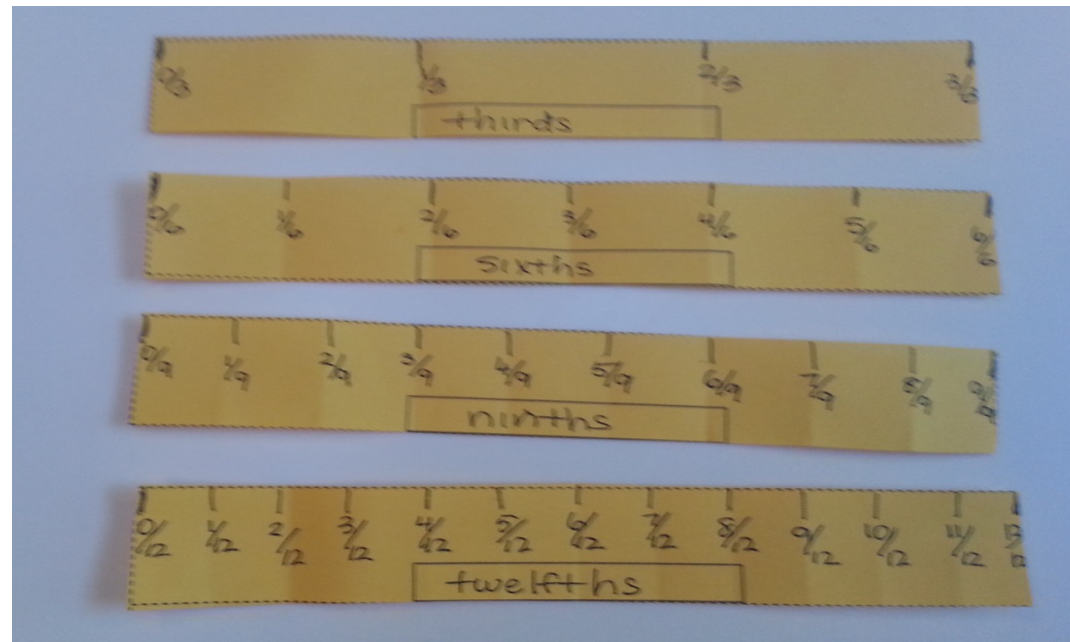
Label each strip

Creating a Fraction Array



- What are different names for zero and 1?
- What fractions are equivalent to $1/2$ and how do you know?
- What is a unit fraction?
- How can you tell which unit fraction pictured is the greatest...or the least?

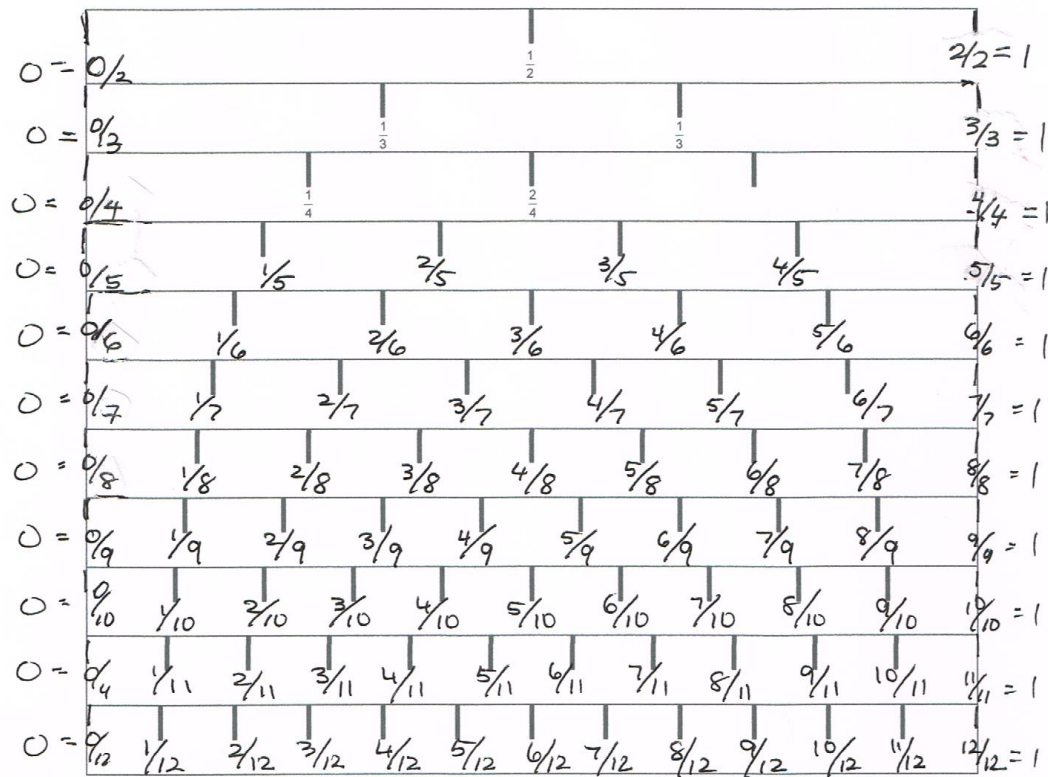
Creating a Fraction Array



A Fraction Array

FRACTION ARRAY

1. Write in fractions to make a fraction array.





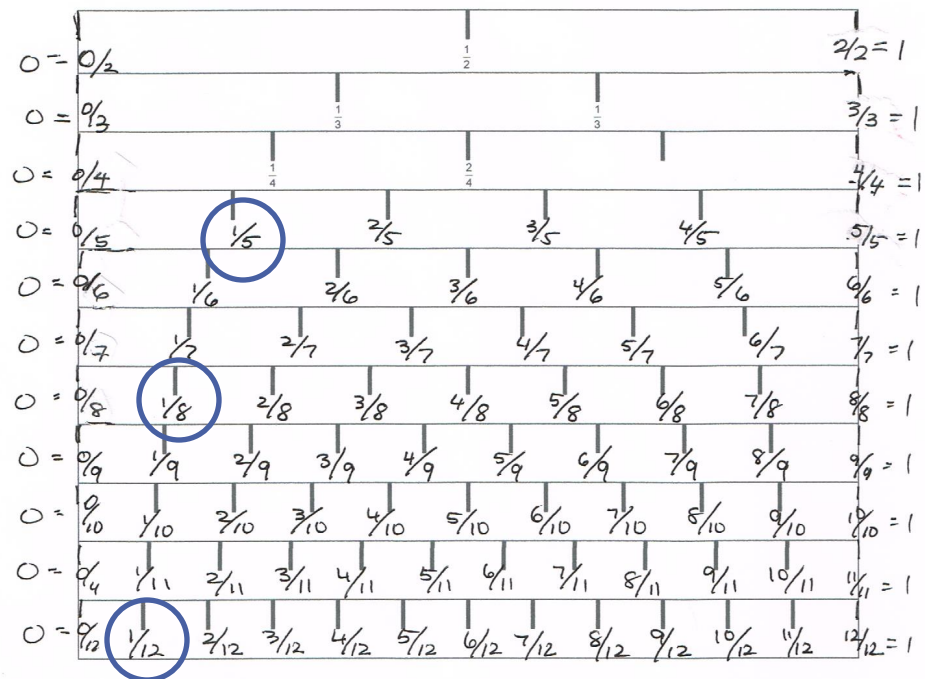
Ordering Fraction Strategies

- Compare unit fractions
- Compare fractions with common numerators
- Compare fractions with common denominators
- Compare to a benchmark fraction
- Compare fractions close to one

Compare Unit Fractions

FRACTION ARRAY

1. Write in fractions to make a fraction array.



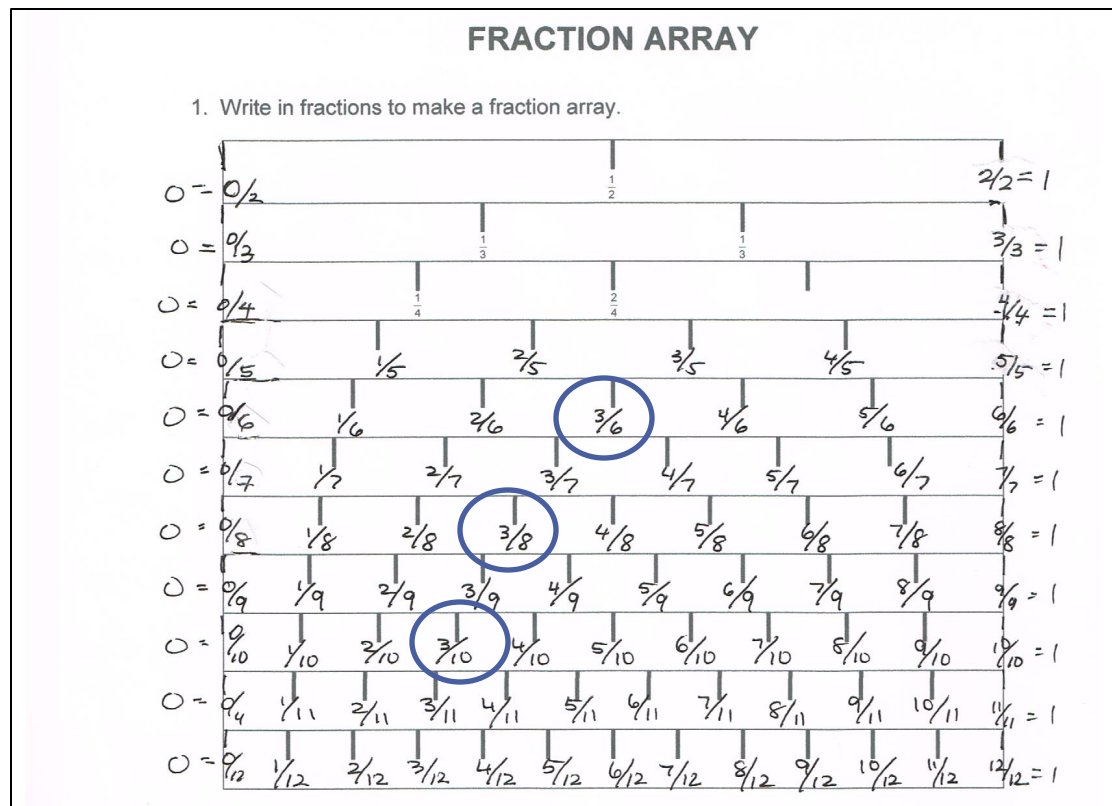
Which is greater:

$$\frac{1}{5} \text{ or } \frac{1}{8} ?$$

Compare Fractions with Common Numerators



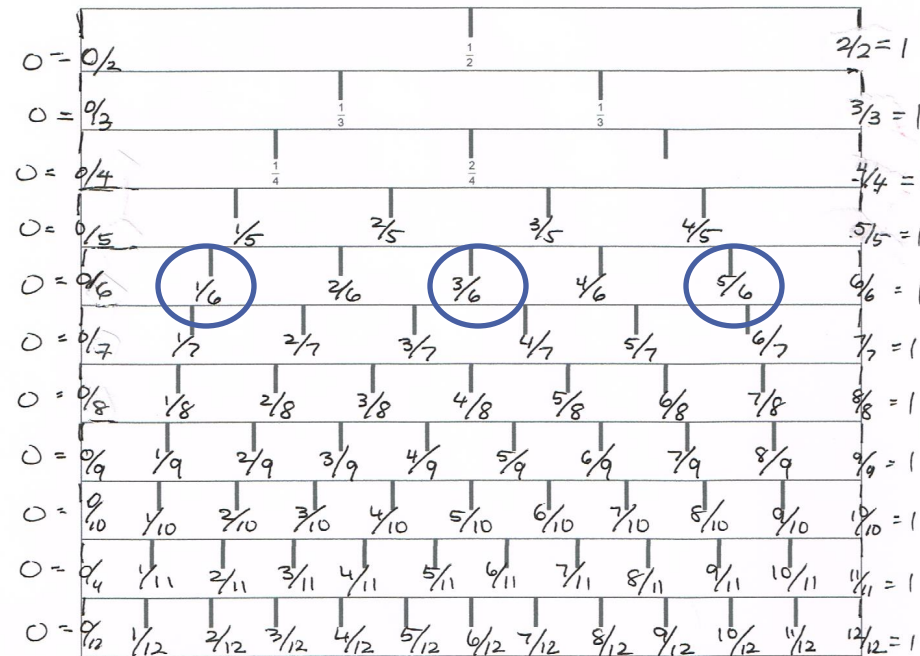
Can you generalize a relationship about the relative sizes of fractions with a common numerator?



Compare Fractions with Common Denominators

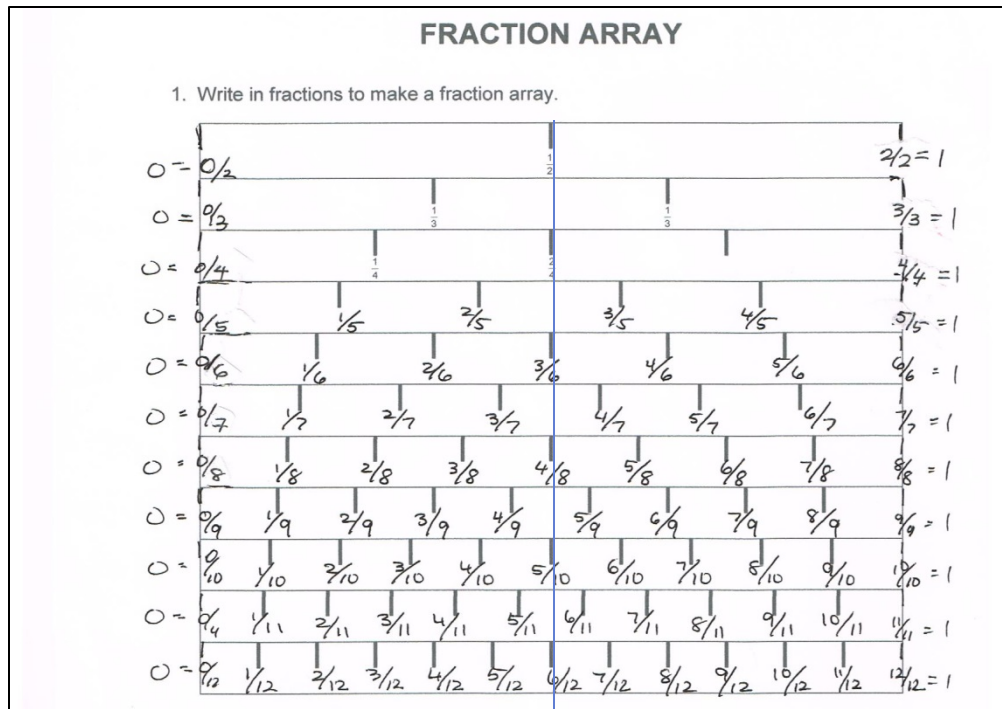
FRACTION ARRAY

1. Write in fractions to make a fraction array.



Can you generalize a relationship about the relative sizes of fractions with a common denominators?

Compare to a “Benchmark” Fraction



Less than $\frac{1}{2}$

Greater than $\frac{1}{2}$



Is $\frac{5}{8}$ less than or greater
than $\frac{1}{2}$?

Compare Fractions Close to 1

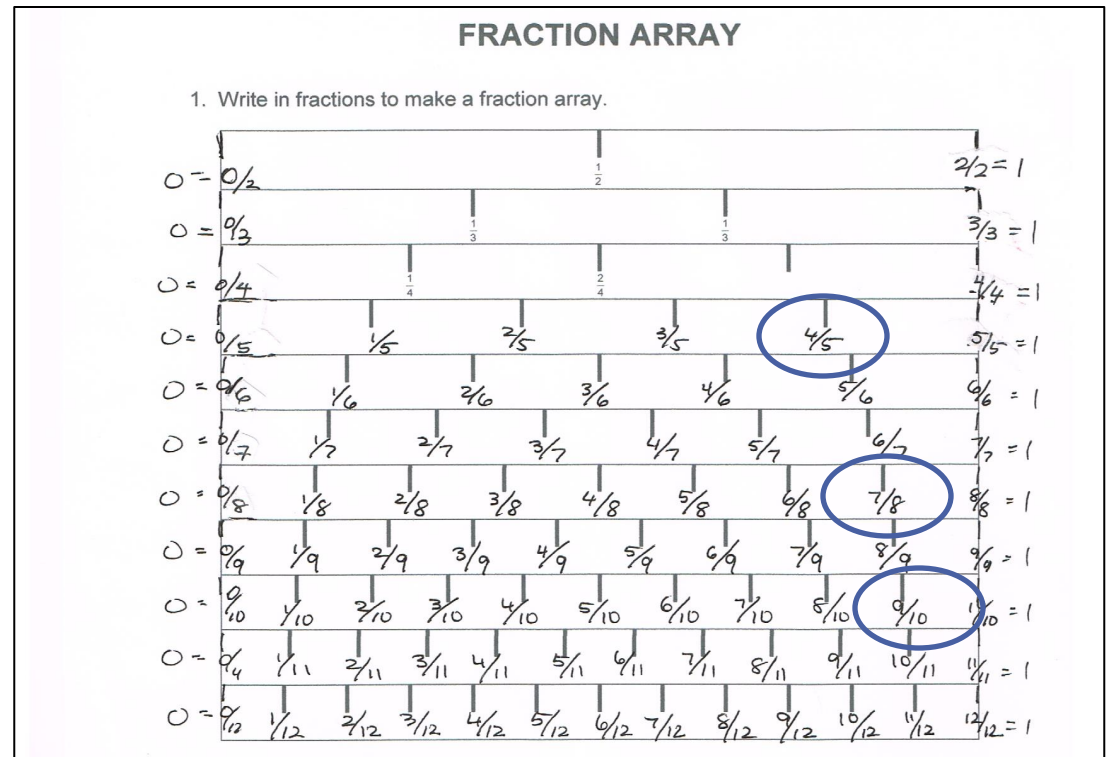


Which is greater:

$$\frac{7}{8} \quad \text{or} \quad \frac{4}{5} \quad ?$$

Which is greater:

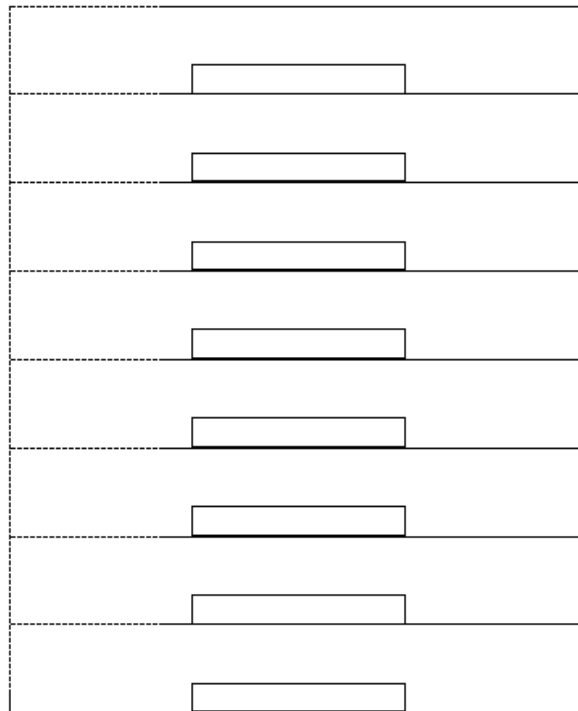
$$\frac{8}{11} \quad \text{or} \quad \frac{14}{17} \quad ?$$



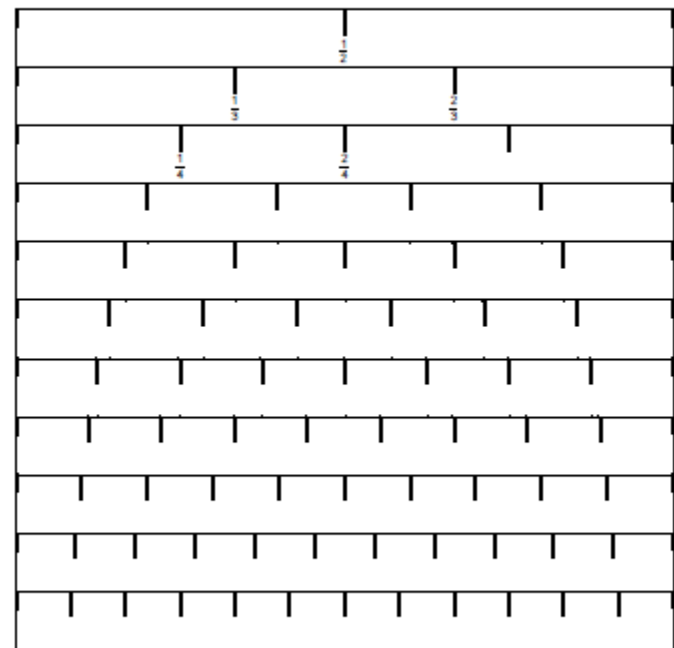
Handout

FRACTION STRIPS

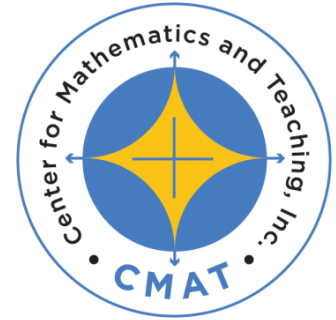
Cut on the dotted lines.



A FRACTION ARRAY



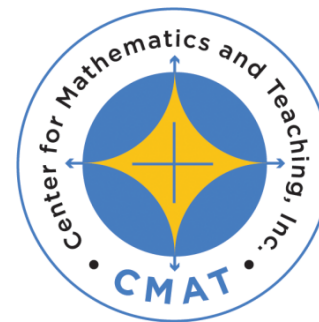
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THANK YOU!

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