MA.3.FR.2.2

Overarching Standard: MA.3.FR.2 *Order and compare fractions and identify equivalent fractions.*

Benchmark of Focus

MA.3.FR.2.2: Identify equivalent fractions and explain why they are equivalent.

Example: The fractions $\frac{1}{1}$ and $\frac{3}{3}$ can be identified as equivalent using number lines.

Example: The fractions $\frac{2}{4}$ and $\frac{2}{6}$ can be identified as not equivalent using a visual model.

Benchmark Clarifications:

Clarification 1: Instruction includes identifying equivalent fractions and explaining why they are equivalent using manipulatives, drawings, and number lines.

Clarification 2: Within this benchmark, the expectation is not to generate equivalent fractions.

Clarification 3: Fractions are limited to fractions less than or equal to one with denominators of 2, 3, 4, 5, 6, 8, 10 and 12. Number lines must be given and scaled appropriately.

Related Benchmark/Horizontal Alignment

- MA.3.FR.2.1

Vertical Alignment

Previous Benchmarks	Next Benchmarks
MA.2.NSO.1.2	MA.4.FR.1.3 MA.4.FR.1.4

Terms from the K-12 Glossary

- Number line

Purpose and Instructional Strategies

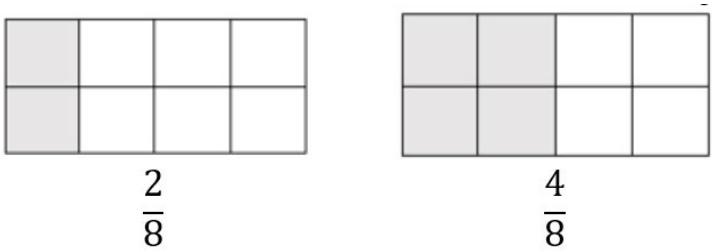
- The purpose of this benchmark is for students to identify equivalent fractions both on appropriately scaled number lines and on area models, and to justify how they know (MTR.2.1, MTR.4.1).
- Instruction should prioritize tasks that allow for students to reason why fractions are equivalent using the models instead of the algorithm. Students are not expected to generate equivalent fractions until Grade 4 (MTR.2.1).

Common Misconceptions or Errors

- Students can confuse that when numerators are the same in fractions, larger denominators represent smaller pieces, and smaller denominators represent larger pieces.

Strategies to Support Tiered Instruction

- Instruction includes opportunities to use concrete models and drawings to solidify understanding of fraction equivalence. Students use models to describe why fractions are equivalent or not equivalent when referring to the same size whole.
    - For example, when looking at $\frac{2}{8}$ and $\frac{4}{8}$, conversations includes that both fraction models are the same size, so when comparing them we are comparing the same size whole. Students can see that 2 out of the 8 are shaded in the first model and 4 out of the 8 are shaded in the second model, making $\frac{4}{8}$ greater than $\frac{2}{8}$.

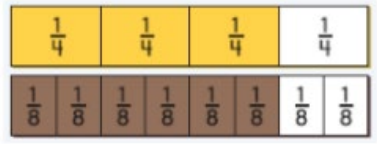


- Instruction includes opportunities to use concrete models and drawings to solidify understanding of fraction equivalence. Students use models to describe why fractions are equivalent or not equivalent when referring to the same size whole. Instruction includes partitioning shapes with halves, thirds and fourths and then comparing the pieces used.
    - For example, students partition a shape into halves.

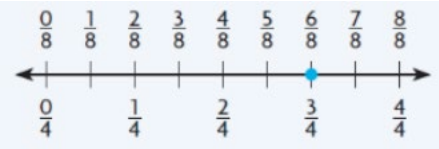
Conversation includes observations about the shape partitioned into two equal pieces. The teacher models writing the fractional parts of $\frac{1}{2}$ so that students can make the connection of the denominator representing the number of pieces. Students then practice partitioning shapes into thirds and fourths for this same understanding.

Questions to ask students:

Ask students to explain how they know the fractions $\frac{3}{4}$ and $\frac{6}{8}$ are equivalent using visual fraction models?

- *Sample answer that indicates understanding:* $\frac{3}{4}$ and $\frac{6}{8}$ are equivalent because they take up the same amount of  space.

Ask students to use the number line to find equivalent fractions.

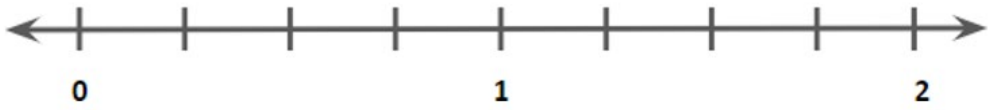


- *Sample answer that indicates understanding:* $\frac{3}{4}$ and $\frac{6}{8}$ are equivalent because they are the same distance on the number line, or they represent the same location on the number line.

Instructional Tasks

Instructional Task 1

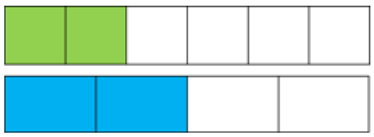
Plot the fractions $\frac{6}{4}$ and $\frac{3}{2}$. Use your number line to determine whether the fractions are equivalent. Justify your argument in words.



Instructional Items

Instructional Item 1

Use the area models below to determine whether the fractions they represent are equivalent.



a. The model shows that 2 sixths and 2 fourths are equivalent because the area models each have 2 shaded parts.
b. The model show that 2 sixths and 2 fourths are equivalent because the area models show the size of the shaded parts are equal when the size of each whole is the same.
c. The model shows that 2 sixths and 2 fourths are not equivalent because 2 sixths is greater than fourths when the size of each whole is the same.
d. The model show that 2 sixths and 2 fourths are not equivalent because the area models show the size of the shaded parts are not equal when the size of each whole is the same.

Instructional Item 2

Select all the fractions that are equivalent to a whole number.

a. $\frac{3}{3}$
b. $\frac{5}{10}$
c. $\frac{8}{2}$
d. $\frac{15}{7}$
e. $\frac{1}{6}$

Achievement Level Descriptors

Benchmark	Context	Assessment Limits
MA.3.FR.2.2 Identify equivalent fractions and explain why they are equivalent. Example: The fractions $\frac{1}{1}$ and $\frac{3}{3}$ can be identified as equivalent using number lines. Example: The fractions $\frac{2}{4}$ and $\frac{2}{6}$ can be identified as not equivalent using a visual model. Clarification 1: Instruction includes identifying equivalent fractions and explaining why they are equivalent using manipulatives, drawings, and number lines. Clarification 2: Within this benchmark, the expectation is not to generate equivalent fractions. Clarification 3: Fractions are limited to fractions less than or equal to one with denominators of 2, 3, 4, 5, 6, 8, 10 and 12. Number lines must be given and scaled appropriately.	Both	Fractions must reference the same whole. Items with given number lines will include only whole number marks labeled on the number lines. Number lines in the answer options may include fractional marks labeled on the number line.

ALD 2	ALD 3	ALD 4	ALD 5
identifies equivalent fractions that equal 1 or 1/2 (e.g., 2/2 and 3/3 or 1/2 and 2/4).	identifies equivalent fractions that include wholes, halves, quarters, thirds, and sixths	identifies equivalent fractions and explains why they are equivalent.	N/A

Additional Resources:

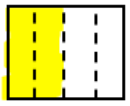
CPALMS Resources

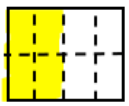
Video: Introducing Equivalent Fractions

Resources/Tasks to Support Your Child at Home:

Folding paper task:

- Step 1 - Ask your child to fold one sheet of paper into two equal parts. Using a pencil or marker, shade one part. Ask your child to name the fraction of the paper that is shaded. [$\frac{1}{2}$]
- Step 2 - Next, refold the paper as before, and then fold it in half once more to make four equal parts. Ask your child to name the fraction of the part that is shaded now. [$\frac{2}{4}$]
- Step 3 - Finally, refold the paper as before, and then fold it in half one more time to make eight equal parts. Ask your child to name the fraction of the paper that is shaded now. [$\frac{4}{8}$]





Khan Academy: Equivalent fractions with visuals

Khan Academy: Equivalent fraction models

Khan Academy: Equivalent fractions on a number line

LearnZillion Video: Identify equivalent fractions using fraction strips

LearnZillion Video: Identify equivalent fractions using fraction models

LearnZillion Video: Identify equivalent fractions using a number line