

Shade and Share

Read area models as fractions and mixed numbers.

GRADE 3 • 3.NS.3.a.i

3.NS.3.a.i "Represent, name, and write a given fraction (proper or improper) or mixed number with denominators of 2, 3, 4, 5, 6, 8, and 10 using: region/area models (e.g., pie pieces, pattern blocks, geoboards);"

NAME _____

DATE _____

COUNT EQUAL PARTS

A fraction tells how many equal parts are shaded in one whole. If more than one whole is shaded, count the full wholes first, then write the shaded parts of the next whole.

WORKED EXAMPLE

A rectangle is split into 8 equal parts. 7 parts are shaded. Write the fraction.

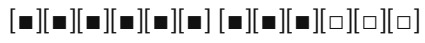
1. Count the equal parts in one whole: 8.
2. Count the shaded parts: 7.
3. Write shaded parts over equal parts: $7/8$.

Answer: $7/8$

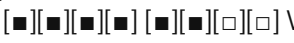
PRACTICE 6 problems

- 1** Look at the area model:  Write the fraction that names the shaded part.

ANSWER _____

- 2** Each bar is one whole. Look at the area model:  Write a mixed number for the shaded parts.

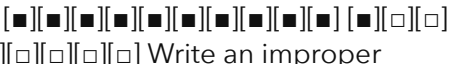
ANSWER _____

- 3** Each square is one whole. Look at the area model:  Write a mixed number for the shaded parts.

ANSWER _____

- 4** One strip is one whole. Look at the area model:  Write the shaded amount as a fraction and as a whole number.

ANSWER _____

- 5** Each strip is one whole. Look at the area model:  Write an improper fraction and a mixed number for the shaded parts.

ANSWER _____

- 6** Each bar is one whole. Look at the area model:  Write an improper fraction and a mixed number for the shaded parts.

ANSWER _____

APPLY IT Show your work

- 1** Ava paints one whole banner. She also paints 4 of the 10 equal sections on another banner. Each banner is one whole. What mixed number names the amount Ava painted?

WORK SPACE

ANSWER _____

- 2** Leo colors one whole game-board panel and 2 of the 3 equal sections on a second panel. Each panel is one whole. What mixed number names the amount Leo colored?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A mural has 3 panels. Each panel is one whole. Each panel is split into 6 equal sections. Two panels are completely shaded, and 4 sections of the last panel are shaded. Write the shaded amount as an improper fraction and as a mixed number.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Look at the area model: $\left[\begin{array}{ c c c } \hline \blacksquare & \blacksquare & \blacksquare \\ \hline \end{array}\right] \left[\begin{array}{ c } \hline \square \\ \hline \end{array}\right]$ Write the fraction that names the shaded part.	$\frac{3}{5}$
2	Each bar is one whole. Look at the area model: $\left[\begin{array}{ c c c c c } \hline \blacksquare & \blacksquare & \blacksquare & \blacksquare & \blacksquare \\ \hline \end{array}\right] \left[\begin{array}{ c c } \hline \square & \square \\ \hline \end{array}\right]$ Write a mixed number for the shaded parts.	$1 \frac{3}{6}$
3	Each square is one whole. Look at the area model: $\left[\begin{array}{ c c c } \hline \blacksquare & \blacksquare & \blacksquare \\ \hline \end{array}\right] \left[\begin{array}{ c c } \hline \blacksquare & \blacksquare \\ \hline \end{array}\right] \left[\begin{array}{ c } \hline \square \\ \hline \end{array}\right]$ Write a mixed number for the shaded parts.	$1 \frac{2}{4}$
4	One strip is one whole. Look at the area model: $\left[\begin{array}{ c c c c c } \hline \blacksquare & \blacksquare & \blacksquare & \blacksquare & \blacksquare \\ \hline \end{array}\right] \left[\begin{array}{ c c } \hline \blacksquare & \blacksquare \\ \hline \end{array}\right]$ Write the shaded amount as a fraction and as a whole number.	$\frac{10}{10} = 1$
5	Each strip is one whole. Look at the area model: $\left[\begin{array}{ c c c c c } \hline \blacksquare & \blacksquare & \blacksquare & \blacksquare & \blacksquare \\ \hline \end{array}\right] \left[\begin{array}{ c c c c c } \hline \blacksquare & \blacksquare & \blacksquare & \square & \square \\ \hline \end{array}\right] \left[\begin{array}{ c c c c c } \hline \square & \square & \square & \square & \square \\ \hline \end{array}\right]$ Write an improper fraction and a mixed number for the shaded parts.	$\frac{11}{10} = 1 \frac{1}{10}$
6	Each bar is one whole. Look at the area model: $\left[\begin{array}{ c c } \hline \blacksquare & \blacksquare \\ \hline \end{array}\right] \left[\begin{array}{ c c } \hline \blacksquare & \blacksquare \\ \hline \end{array}\right] \left[\begin{array}{ c } \hline \square \\ \hline \end{array}\right]$ Write an improper fraction and a mixed number for the shaded parts.	$\frac{5}{2} = 2 \frac{1}{2}$

PART 2 • APPLY IT

- $1 \frac{4}{10}$ One complete banner is 1 whole. The second banner has 4 shaded sections out of 10, so the amount is $1 \frac{4}{10}$.
- $1 \frac{2}{3}$ The first panel is 1 whole. Add 2 of the 3 equal sections from the second panel to get $1 \frac{2}{3}$.

CHALLENGE

$$\frac{16}{6} = 2 \frac{4}{6}$$

Accept equivalent fraction names when they correctly match the shaded area, such as $2 \frac{2}{3}$ for $2 \frac{4}{6}$. For mixed numbers, the whole-number part must match the number of fully shaded wholes.