LESSON MAKER PRO

Set Fraction Detectives

Read and write fractions with groups of counters.

GRADE 3 · 3.NS.3.a.iii

3.NS.3.a.iii "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: set models (e.g., chips, counters, cubes)."

NAME _____ DATE _____

FRACTIONS IN SETS

The denominator tells how many objects are in one whole set. The numerator tells how many designated objects there are, so it can be greater than the denominator when more than one set is used.

WORKED EXAMPLE

What fraction of one set is shaded?

one whole set ●●●●●●●○

1. One whole set has 8 counters.
2. There are 7 shaded counters.
3. Write shaded counters over counters in one whole: 7/8.

Answer: 7/8

PRACTICE 6 problems

1 What fraction of the set is shaded?

one whole set ●●● / ●○○

ANSWER _____

2 What fraction of the set is shaded? Write the fraction name in words.

one whole set ●●●○○

ANSWER _____

3 One whole set has 4 cubes. A student marks 6 cubes using two equal sets. Write the amount as an improper fraction and as a mixed number.

ANSWER _____

4 One whole set has 3 counters. There are 5 star counters. Write the amount as an improper fraction and as a mixed number.

ANSWER _____

5 One whole set has 10 counters. How many counters should be shaded to show 9/10?

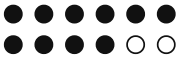
ANSWER _____

6 One whole set has 5 cubes. A builder uses 12 cubes. Write the amount as an improper fraction and as a mixed number.

ANSWER _____

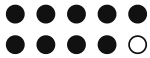
APPLY IT Show your work

1 At game club, Kai earns 10 blue tokens. One full game set has 6 tokens. Write Kai's tokens as an improper fraction of a set and as a mixed number.

one set = 6 tokens 

ANSWER _____

2 Mia puts 9 stickers in her collection. One full sticker set has 5 stickers. Write Mia's stickers as an improper fraction of a set and as a mixed number.

one set = 5 stickers 

ANSWER _____

CHALLENGE One step up

One whole set has 6 counters. A player has 17 counters. Write the amount as an improper fraction and as a mixed number. Explain how you found the mixed number.

WORK SPACE AND ANSWER

ANSWER KEY

Set Fraction Detectives

GRADE 3 · 3.NS.3.a.iii

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	What fraction of the set is shaded?	**4/6**
2	What fraction of the set is shaded? Write the fraction name in words.	**3/5, three fifths**
3	One whole set has 4 cubes. A student marks 6 cubes using two equal sets. Write the amount as an improper fraction and as a mixed number.	**6/4 = 1 1/2**
4	One whole set has 3 counters. There are 5 star counters. Write the amount as an improper fraction and as a mixed number.	**5/3 = 1 2/3**
5	One whole set has 10 counters. How many counters should be shaded to show 9/10?	**9 counters**
6	One whole set has 5 cubes. A builder uses 12 cubes. Write the amount as an improper fraction and as a mixed number.	**12/5 = 2 2/5**

PART 2 · APPLY IT

1. **10/6 = 1 2/3** Use 6 tokens for one whole set. Ten tokens make one full set and 4 more tokens, which is 1 4/6, or 1 2/3.
2. **9/5 = 1 4/5** One full set uses 5 stickers. Nine stickers make one full set and 4 more stickers, or 1 4/5.

CHALLENGE

17/6 = 2 5/6. Two full sets use 12 counters, leaving 5 counters.

Accept equivalent mixed numbers, such as 1 4/6 for 10/6, when the value is correct. For fraction names, accept correct spelling that clearly names the numerator and denominator.