

Share Shape Detectives

Equal shares can look different.

GRADE 2 • 2.GSR.7.4

2.GSR.7.4 "Recognize that equal shares of identical wholes may be different shapes within the same whole."

NAME _____

DATE _____

Count small squares to compare amounts. Shade with a pencil. Tell or write your reasons.

Compare the amounts

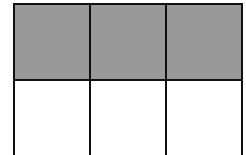
Equal shares cover the same amount of a whole. Their outlines do not have to match. In these grids, each small square has the same size.

Try it together

Do the shaded and unshaded parts share this whole equally?

Count the shaded squares. Count the unshaded squares. Yes. Each share has 3 small squares. These two shares also have matching shapes.

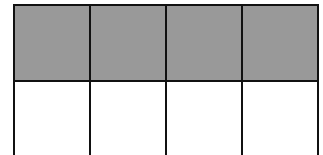
One whole, two shares



1. Count both shares

How many shaded squares are there? How many are unshaded? Are the shares equal?

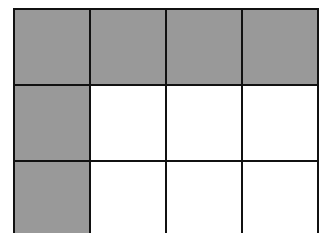
Whole A



2. Different outlines

Count the squares in each share. One share is L-shaped and the other is a rectangle. Are the shares equal? Explain.

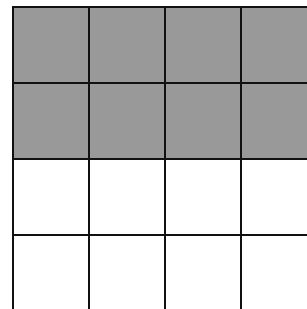
Whole B



3. Matching outlines

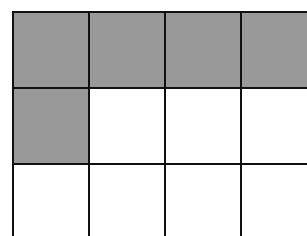
Compare the shares in Whole C. Are they equal? Must equal shares always have different shapes?

Whole C

**4. Check a claim**

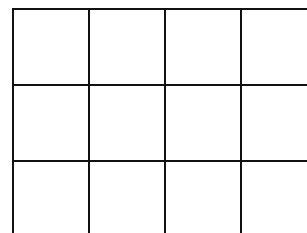
Sam says these shares are equal because they are in one whole. Count the squares. Do you agree?

Whole D

**5. Make your own**

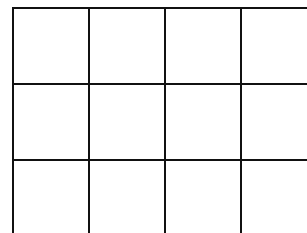
Shade this whole into two equal shares with different shapes. Keep each share connected. Count both shares.

Your whole

**6. Try another arrangement**

On this identical whole, make two equal shares with matching rectangular shapes. Compare their amounts with your shares in Task 5.

Identical whole



7. Explain the rule

A friend says equal shares must have matching outlines. Use Whole B and Whole C to explain why that is not always true.

Teacher notes

Count equal-area unit squares, not perimeter or outline length. Whole B and Task 5 use connected, equal-area, noncongruent shares: a six-square L and a six-square rectangle. In Task 6 both wholes match in size and each share has 6 squares. Whole C is a larger whole; do not claim its shares have the same area as Whole B. Accept accurate oral explanations and alternative valid Task 5 patterns.

Task 1

There are 4 shaded and 4 unshaded squares. The shares are equal.

Task 2

Yes. Each share covers 6 equal squares, although one is L-shaped and the other is rectangular.

Task 3

Each share covers 8 squares. They are equal and both rectangular. Equal shares can have the same shape or different shapes.

Task 4

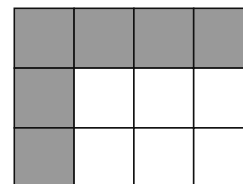
No. There are 5 shaded and 7 unshaded squares. Being parts of one whole does not make their amounts equal.

Task 5

One possible answer shades the top row and the remaining two squares in the left column. This makes a six-square L and a six-square rectangle.

Check for 6 squares in each connected share and outlines that cannot match by turning or flipping.

One possible answer

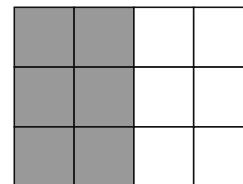


Task 6

Shade the left 2 columns. The two 3-by-2 rectangles each have 6 squares, just like the equal shares in Task 5. The wholes are identical.

Both wholes have 3 rows of 4 equal squares; each share covers 6 of those squares.

One possible answer



Task 7

Whole B has equal six-square shares with different shapes. Whole C has equal eight-square shares with matching shapes. Equal shares must have equal amounts within their own whole, but their outlines do not have to match.