4th Grade

Bead Worker

Information for Teachers

Suggested grade level: 4th

Suggested materials: Grid paper

Skills addressed: Fractions

- Identifies the fraction with a numerator greater than 1 represented by a given model or diagram.
- Rewrites fractions as equivalent fractions.
- Adds fractions with like denominators.
- Uses benchmark fractions (½ and ¼).

Math in Action: Bead Worker

Act 1

Noticings and Wonderings

Math in Action:

Sonja, Bead Worker

Video Link:

https://msubillings.app.box.com/s/5v1149wmljqrr436047t498w7mqygl32

What do you notice?

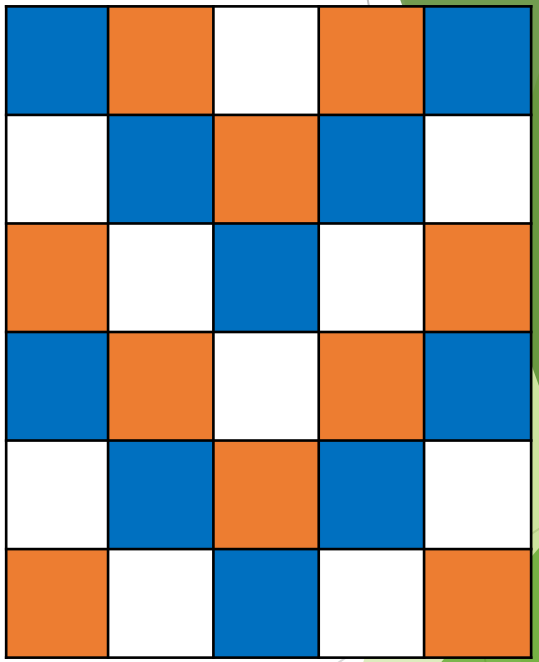
Add your thoughts here:

What do you wonder?

Add your thoughts here:

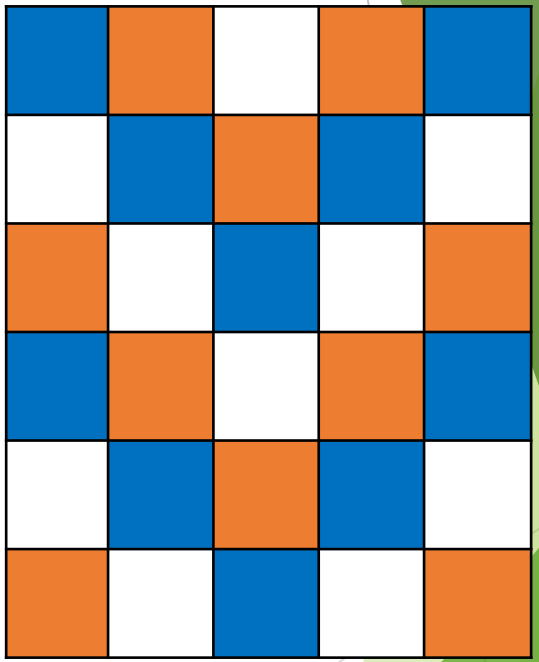
Example Design

- What pattern is this? Can you recall from the video?
- What type of jewelry is this pattern used for?



Example Design

- This pattern is a chevron type because of the V shape made with the different color of the beads
  - Common for fringe earrings

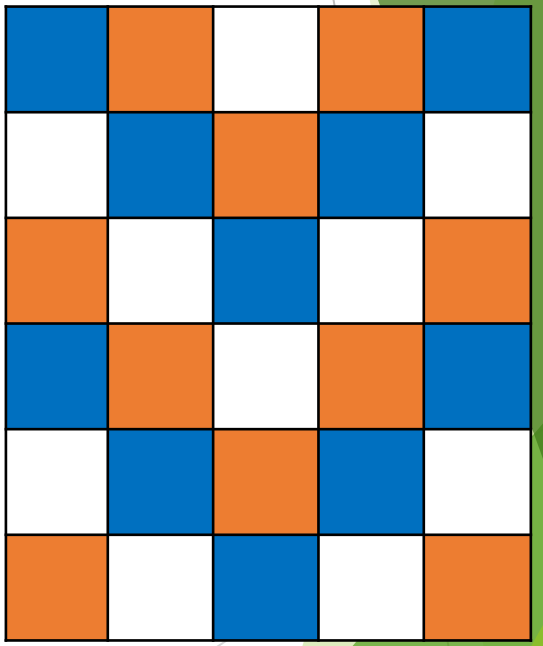


Act 2

Estimating and Solving

Which color comprises a greater fraction of the whole design?

- What do you predict?
- Is your prediction correct? How do you know?
- What do you notice about your findings?



Act 3

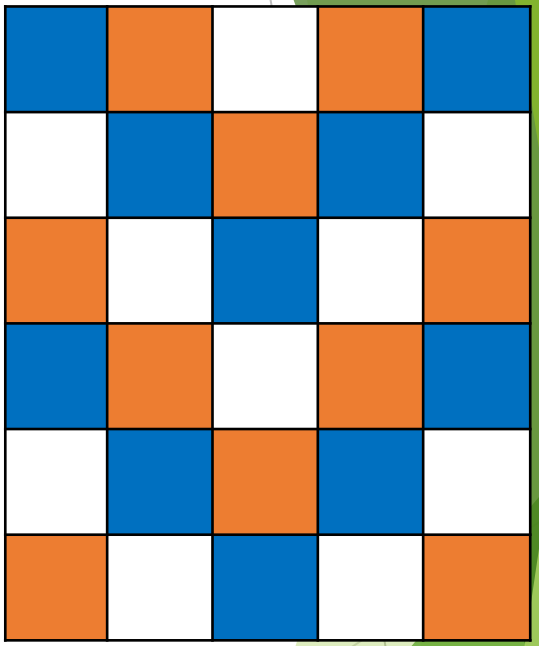
Discuss, Reveal, and Extend

Reveal and Discuss!

There is the same fraction of each color!

How can you represent each fraction in another way using equivalent fractions?

What happens when you add the fractions for each color together?



Extend

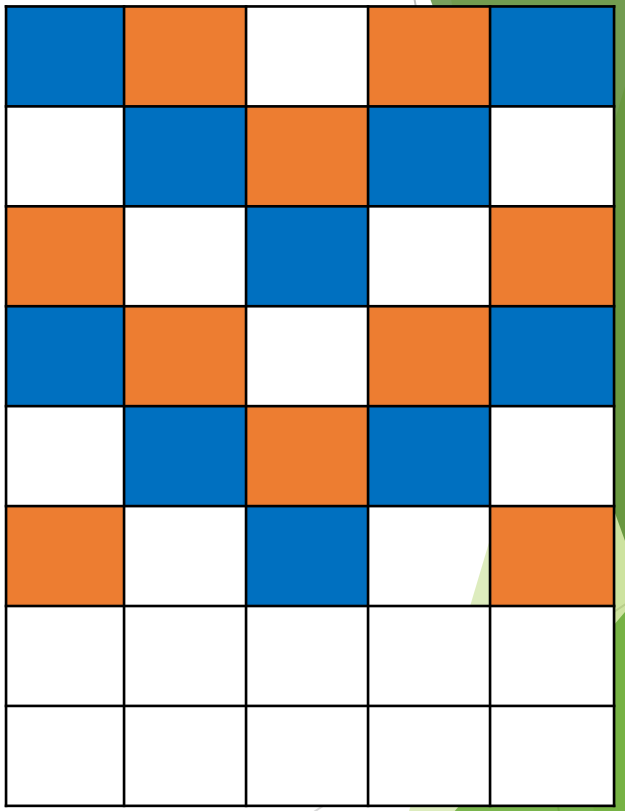
Will extending the pattern by two rows result in the same fraction for each color?

What do you predict?

What did you find?

Do you still get 1 whole when you add up all of the fractions?

How many rows do you need to extend the pattern by in order to keep the fractional amounts for each color identical? How do you know?



Extend Further

Make your own pattern!

How can you make a pattern in which one color is *more than half* of the whole design and two other colors are each *less than one quarter* of the design?

Skills you practiced:

Fractions

- Identifies the fraction with a numerator greater than 1 represented by a given model or diagram.
- Rewrites fractions as equivalent fractions.
- Adds fractions with like denominators.
- Uses benchmark fractions (½ and ¼).