## Lesson 2: Representations of Equal Groups of Fractions

* Let’s look at diagrams and expressions that can help us multiply a whole number and a fraction.

### Warm-up: Number Talk: Three, Six, Nine, Twelve

Find the value of each expression mentally.

* $3×6$
* $3×9$
* $6×9$
* $12×9$

### 2.1: Card Sort: Expressions and Diagrams

Your teacher will give you a set of cards with expressions and diagrams.

1. Match each expression with a diagram that represents the same quantity.
2. Record each expression without a match.
3. Han started drawing a diagram to represent $7×\frac{1}{8}$ and did not finish. Complete his diagram. Be prepared to explain your reasoning.
* 
1. Choose one expression that you recorded earlier that didn't have a match.
* Draw a diagram that can be represented by the expression. What value do the shaded parts of your diagram represent?

### 2.2: Different Representations

* 1. Write a multiplication expression that represents the shaded parts of the diagram. Then, find the value of the expression.
	+ Diagram:
	+ 
	+ Expression:
	+ Value:
	1. Draw a diagram that the expression $6×\frac{1}{3}$ could represent. Then, find the value of the expression.
	+ Diagram:
	+ Expression: $6×\frac{1}{3}$
	+ Value:
	1. Draw a diagram and write an expression that gives the value $\frac{7}{2}$.
	+ Diagram:
	+ Expression:
	+ Value: $\frac{7}{2}$
1. To represent $4×\frac{1}{3}$, Diego drew this diagram:
* 
* Elena drew this diagram:
* 
* Are they representing the same expression and value? Explain or show how you know.



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