Role of Numerator - Number of Parts We Have.

Table of Contents

Differentiate and Assess

Not every student will be ready to investigate this concept at this Level and so we will need to differentiate to ensure every student is learning at their leading edge.

Integrate

Every mathematical concept is integrally related to other mathematical concepts. Teaching and learning related concepts simultaneously develops deep relational understanding.

Intervene

Some students may not yet be ready to investigate this concept at any Level, and so we will need to provide some intervention.

ROLE OF NUMERATOR - NUMBER OF PARTS WE HAVE.

EXPLICIT TEACHING PLAN OVERVIEW PAGE

THIS PAGE IS A SUMMARY OF THE EXPLICIT TEACHING PLAN, INCLUDING STRATEGIC QUESTIONS, AND DESRIBING THE SEQUENCE WHICH WILL OCCUR OVER MULTIPLE LESSONS.

RESOURCES: FRACTION WALL (THESE CAN BE PURCHASED OR THE ONE ATTACHED HERE MAY BE USED), PENCIL, PAPER

WHAT COULD WE DO?	WHAT LANGUAGE COULD WE USE TO EXPLAIN AND ASK QUESTIONS?

Children:

- select the quarters from the fraction wall they are creating to investigate multiplicative relationships between fractions (Fractions and Decimals 8), for example,

- select 1 quarter, explaining that they have 1 part and the numerator 1 is telling them that they have 1 part, for example,
- explain $\frac{1}{4}$ is a unit fraction because the numerator is 1 numerator → $\frac{1}{4}$
- select 2 quarters, explaining that they have 2 parts and the numerator 2 is telling them that they have 2 parts, for example,
- explain $\frac{2}{4}$ is a non-unit fraction because the numerator is 2 numerator → $\frac{2}{4}$
- select 3 quarters, explaining that they have 1 parts and the numerator 3 is telling them that they have 3 parts, for example,
- explain $\frac{3}{4}$ is a non-unit fraction because the numerator is 3 numerator → $\frac{3}{4}$
- select 4 quarters, explaining that they have 4 parts and the numerator 4 is telling them that they have 4 parts, for example,
- explain $\frac{4}{4}$ is a non-unit fraction because the numerator is 4 numerator → $\frac{4}{4}$
- explain when the numerator and the denominator are the same number, the fraction equals 1

Children:

- ask one another questions about the meaning of the numerator, for example:
  - What fraction do we have?
  - How many parts do we have?
  - Does the numerator tell us how many parts we have?
  - Is the numerator 1?
  - Is this a unit fraction?
  - Is the numerator a number other than 1?
  - Is this fraction a non-unit fraction?
  - When the numerator and the denominator are the same number, what does the fraction equal?

ROLE OF NUMERATOR - NUMBER OF PARTS WE HAVE.

EXPLICIT TEACHING PLAN

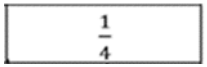
FULL EXPLICIT TEACHING PLAN, EMBEDDING DEEP RELATIONAL UNDERSTANDING, METALANGUAGE, AND QUESTIONS THAT MAY BE USED OVER MULTIPLE LESSONS.

WHAT COULD WE DO?	WHAT LANGUAGE COULD WE USE TO EXPLAIN AND ASK QUESTIONS?
Children think about, talk and listen to a friend about, then have the opportunity to share what they already know.	► Today brings an investigation about fractions. ► What do you know about fractions? ► Talk about fractions with a friend. ► Is anyone ready to share what they are thinking about fractions?
Record, for example, 'A fraction is a part'	► We've investigated fractions. ► And we found that when we have a fraction of something, we don't have the whole thing. We just have part of it. ► So we found that a fraction is a part. ► In Mathematics, we love to measure things! ► So when we measure the part, we call it a fraction!
Display, for example, numerator, for example, → 1 vinculum, for example, → — denominator, for example, → 2	► We've investigated the fraction symbol. ► And we found there is a numerator, a vinculum and a denominator. ► We found that the denominator tells us the number we have divided by. ► We're also investigated multiplicative relationships between fractions, using a fraction wall. ► Today we're going to investigate what the numerator is telling us, again using the fraction wall.

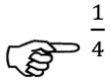
Display the fraction wall (could be in progress) that children are building as they investigate multiplicative relationships between fractions.

> Children could investigate Multiplicative Relationships between fractions and the Meaning of the Numerator simultaneously.

Select the quarters, for example,

Pick up one of the quarters, for example, 

Record a unit fraction, for example, $\frac{1}{4}$

Point to the denominator, for example, 

Point to the numerator, for example, 

Record, for example, the numerator tells us the number of parts that we have.

Record, for example, $\frac{1}{4}$ ← denominator 4 tells us we divided into 4 equal parts

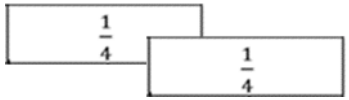
Record, for example, numerator 1 tells us we have 1 of the 4 equal parts → $\frac{1}{4}$

- Let's select our quarters.
- What fraction is this?
- Is this fraction a quarter?
- What is the denominator?
- Is the denominator 4?
- What does the denominator 4 tell us?
- Does the denominator 4 tell us we divided by 4?
- What is the numerator?
- Is the numerator 1?
- How many quarters do we have?
- Do we have 1 quarter?
- If the numerator in 1 quarter is 1, and we have 1 of the quarters, what do you think the numerator is telling us?
- Do you think the numerator is telling us how many of the parts we have?
- What is the denominator 4 telling us?
- Is the denominator 4 telling us we have divided into 4 equal parts?
- What is the numerator 1 telling us?
- Is the numerator 1 telling us we have 1 of the parts?
- When we have just one of the parts, we say we have a unit fraction.
- We know a quarter is a unit fraction because we just have 1 quarter.

Record, for example,

$\frac{1}{4}$ is a unit fraction

- The numerator in a unit fraction is 1 because the numerator tells us how many parts we have.
- So 1 quarter is a unit fraction.

Pick up 2 of the quarters, for example, 

- Let's pick up 2 of our parts.
- What fraction have we picked up?
- Have we picked up 2 quarters?
- We recorded 1 quarter with 1 as the numerator.
- And we know the numerator tells us the number of parts we have.
- So if we have 2 parts, what will the numerator be?
- Will the numerator be 2?
- Will the fraction symbol have 2 as the numerator and 4 as the denominator?

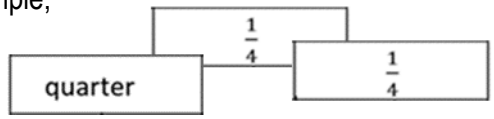
> Prior to Year 3, if children had more than 1 quarter, they recorded it as, for example, 2 quarters. The symbol for non-unit fractions are not introduced till Year 3.

Record, for example, $\frac{2}{4}$

- What does this fraction say?
- Does this fraction say 2 quarters?
- We know a unit fraction is when we have just one of the parts.
- So 1 quarter is a unit fraction.
- When we have 2 of the parts, do we have a unit fraction?
- Is 2 quarters a unit fraction?
- How many quarters do we have?
- Do we have 2 quarters?
- If we have 2 of the parts, do we have a non-unit fraction?

Record, for example, $\frac{2}{4}$ is a non-unit fraction

- What is the denominator 4 telling us?
- Is the denominator 4 telling us we have divided into 4 equal parts?
- What is the numerator 2 telling us?

Record, for example, $\frac{2}{4}$ ← denominator 4 tells us we divided into 4 equal parts	► Is the numerator 2 telling us we have 2 of the parts?
Record, for example, numerator 2 tells us we have 2 of the 4 equal parts → $\frac{2}{4}$	► What does the fraction 2 quarters mean? ► Does the fraction 2 quarters tell us we divided into 4 equal parts and we have 2 of the parts?
Record, for example, $\frac{2}{4}$ tells us we divided into 4 equal parts and we have 2 of the equal parts.	► Let's pick up 3 of our parts. ► What fraction have we picked up? ► Have we picked up 3 quarters?
Pick up 3 of the quarters, for example, 	► We recorded 1 quarter with 1 as the numerator. ► We recorded 2 quarters with 2 as the numerator. ► And we know the numerator tells us the number of parts we have. ► So if we have 3 parts, what will the numerator be? ► Will the numerator be 3? ► Will the fraction symbol have 3 as the numerator and 4 as the denominator? ► What does this fraction say? ► Does this fraction say 3 quarters?
Record, for example, $\frac{3}{4}$	► We know a unit fraction is when we have just one of the parts. ► So 1 quarter is a unit fraction. ► When we have 3 of the parts, do we have a unit fraction? ► Is 3 quarters a unit fraction? ► How many quarters do we have? ► Do we have 3 quarters? ► If we have 3 of the parts, do we have a non-unit fraction?
Record, for example, $\frac{3}{4}$ is a non-unit fraction	► What is the denominator 4 telling us?

Record, for example, $\frac{3}{4}$ ← denominator 4 tells us we divided into 4 equal parts

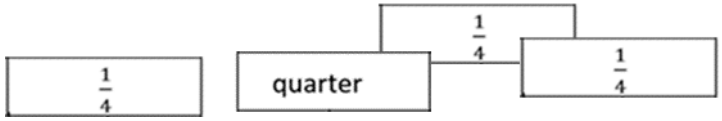
Record, for example, numerator 3 tells us we have 3 of the 4 equal parts → $\frac{3}{4}$

Record, for example, $\frac{3}{4}$ tells us we divided into 4 equal parts and we have 3 of the equal parts.

- Is the denominator 4 telling us we have divided into 4 equal parts?
- What is the numerator 3 telling us?
- Is the numerator telling us we have 3 of the parts?

- What does the fraction 3 quarters mean?
- Does the fraction 3 quarters tell us we divided into 4 equal parts and we have 3 of the parts?

Pick up 4 of the quarters, for example,



- Let's pick up 4 of our parts.
- What fraction have we picked up?
- Have we picked up 4 quarters?

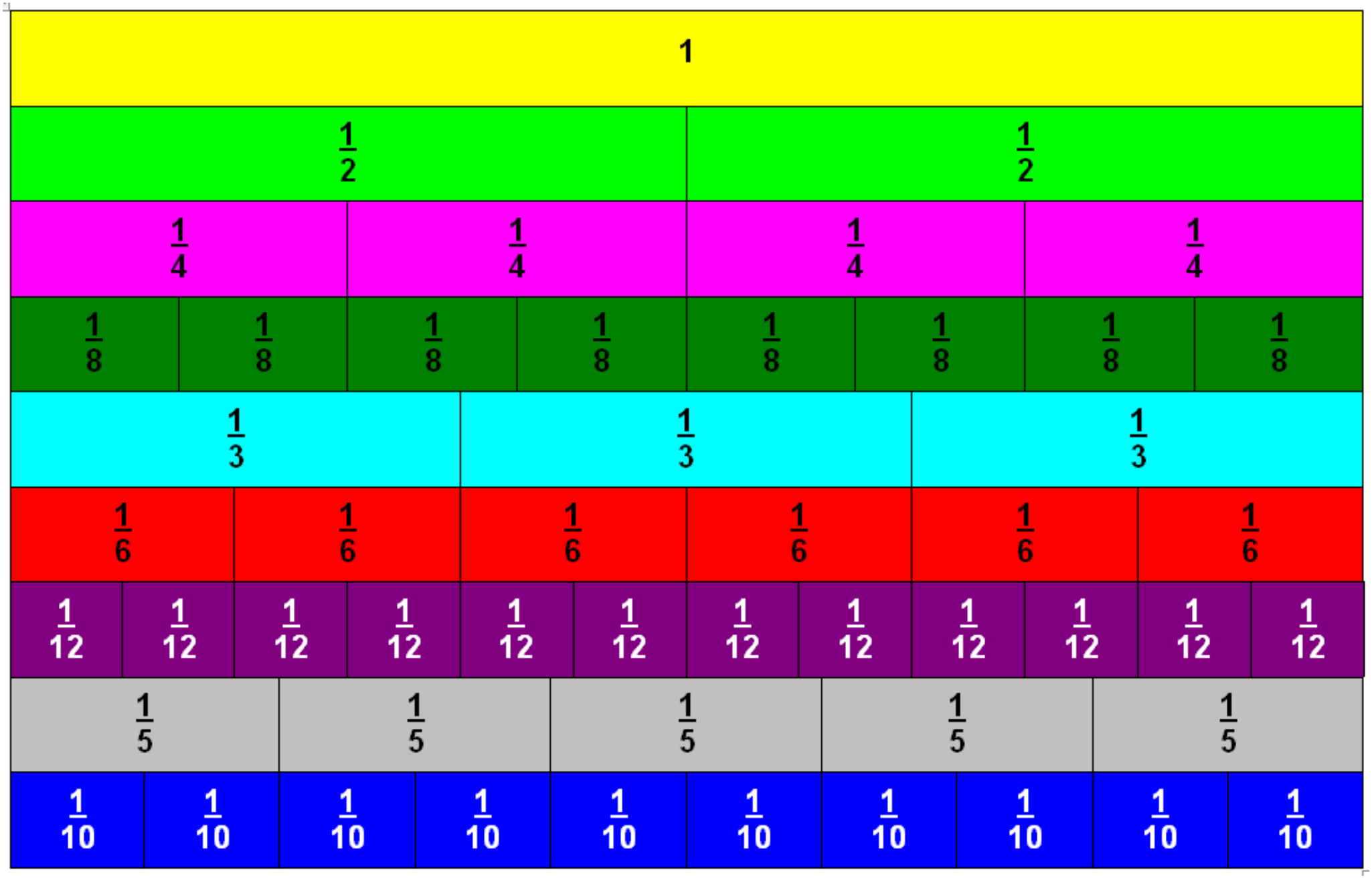
- We recorded 1 quarter with 1 as the numerator.
- We recorded 2 quarters with 2 as the numerator.
- We recorded 3 quarters with 3 as the numerator.
- And we know the numerator tells us the number of parts we have.
- So if we have 4 parts, what will the numerator be?
- Will the numerator be 4?
- Will the fraction symbol have 4 as the numerator and 4 as the denominator?

Record, for example, $\frac{4}{4}$

- What does this fraction say?
- Does this fraction say 4 quarters?
- We know a unit fraction is when we have just one of the parts.
- So 1 quarter is a unit fraction.
- When we have 4 of the parts, do we have a unit fraction?
- Is 4 quarters a unit fraction?

	► How many quarters do we have? ► Do we have 4 quarters? ► If we have 4 of the parts, do we have a non-unit fraction?
Record, for example, $\frac{4}{4}$ is a non-unit fraction	► What is the denominator 4 telling us? ► Is the denominator 4 telling us we have divided into 4 equal parts? ► What is the numerator 4 telling us? ► Is the numerator telling us we have 4 of the parts?
Record, for example, $\frac{4}{4}$ ← denominator 4 tells us we divided into 4 equal parts	
Record, for example, numerator 4 tells us we have 4 of the 4 equal parts → $\frac{4}{4}$	► What does the fraction 4 quarters mean? ► Does the fraction 4 quarters tell us we divided into 4 equal parts and we have all 4 of the parts?
Record, for example, $\frac{4}{4}$ tells us we divided into 4 equal parts and we have 4 of the equal parts.	► If we divided into 4 equal parts and we have 4 of the parts, do we have 1 whole shape? ► If we divided into 4 equal parts and we have 4 of the parts, do we have 1? ► If we have 4 quarters, do we have 1? ► Is 4 quarters equal to 1?
Record, for example, 4 quarters = 1 Record, for example, $\frac{4}{4}$ = 1	► What do you notice about the numerator and denominator in 4 quarters? ► Are the numerator and denominator the same? ► Are the numerator and denominator both 4? ► When the numerator is the same as the denominator, do we have 1? ► Does that make sense? ► The denominator is telling us we divided by 4.

Record, for example, when the numerator is the same as the denominator, we have 1.	► And the numerator is telling us we have 4 of the parts. ► So do we have all of the parts? ► Do we have 1?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