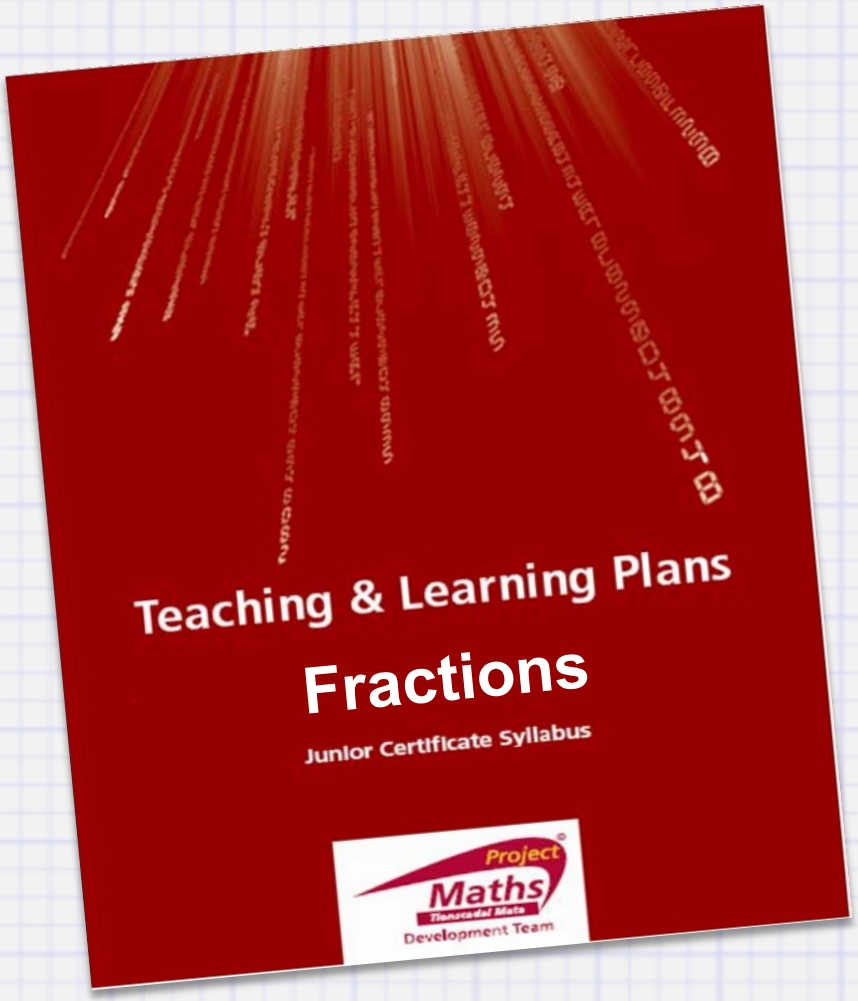
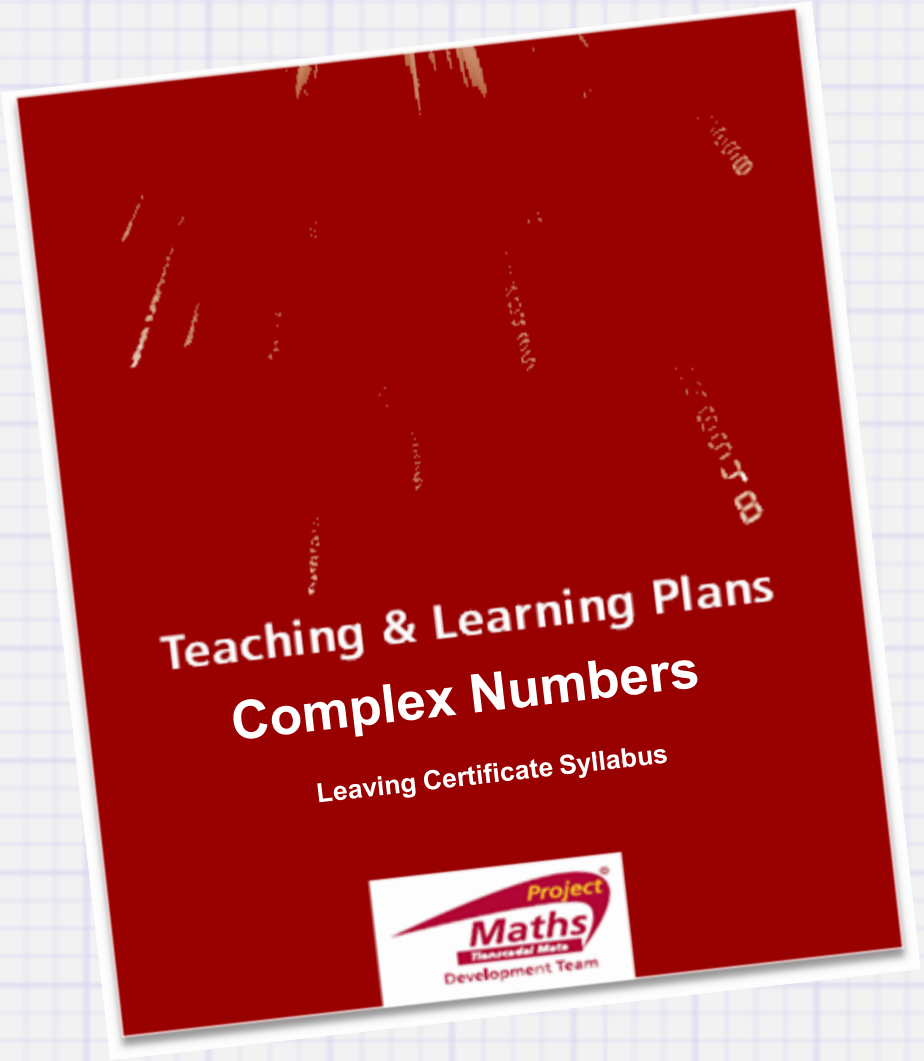
Strand 3: Number





Fractions are Easy!

- Half a cup of tea
- Quarter of an hour
- Three quarters full

Point to Ponder!

$$\frac{2}{3} \text{ of } \frac{4}{5} = ?$$

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"Candidates answering showed weaknesses in the following specific areas: **handling fractions**"

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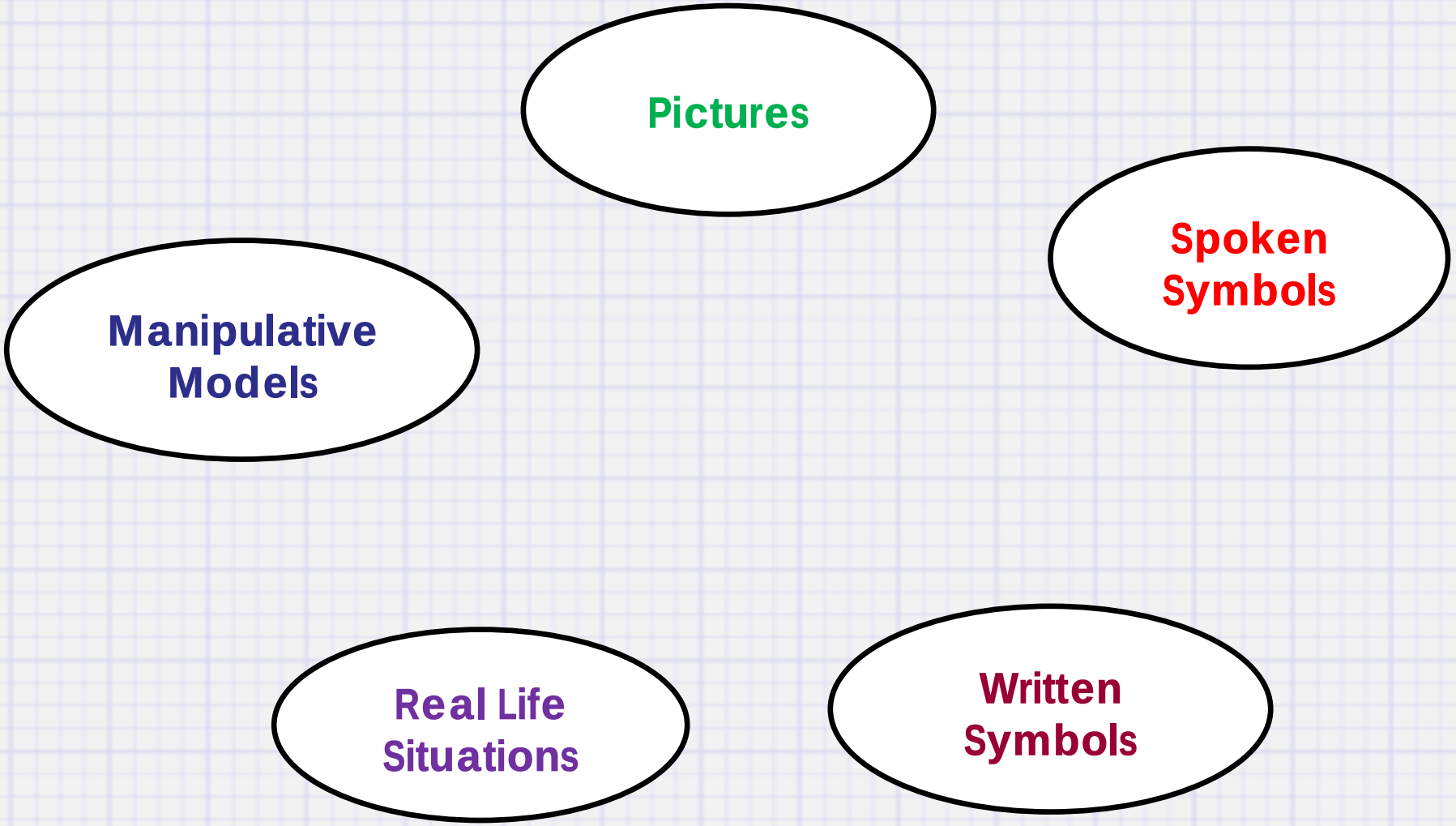

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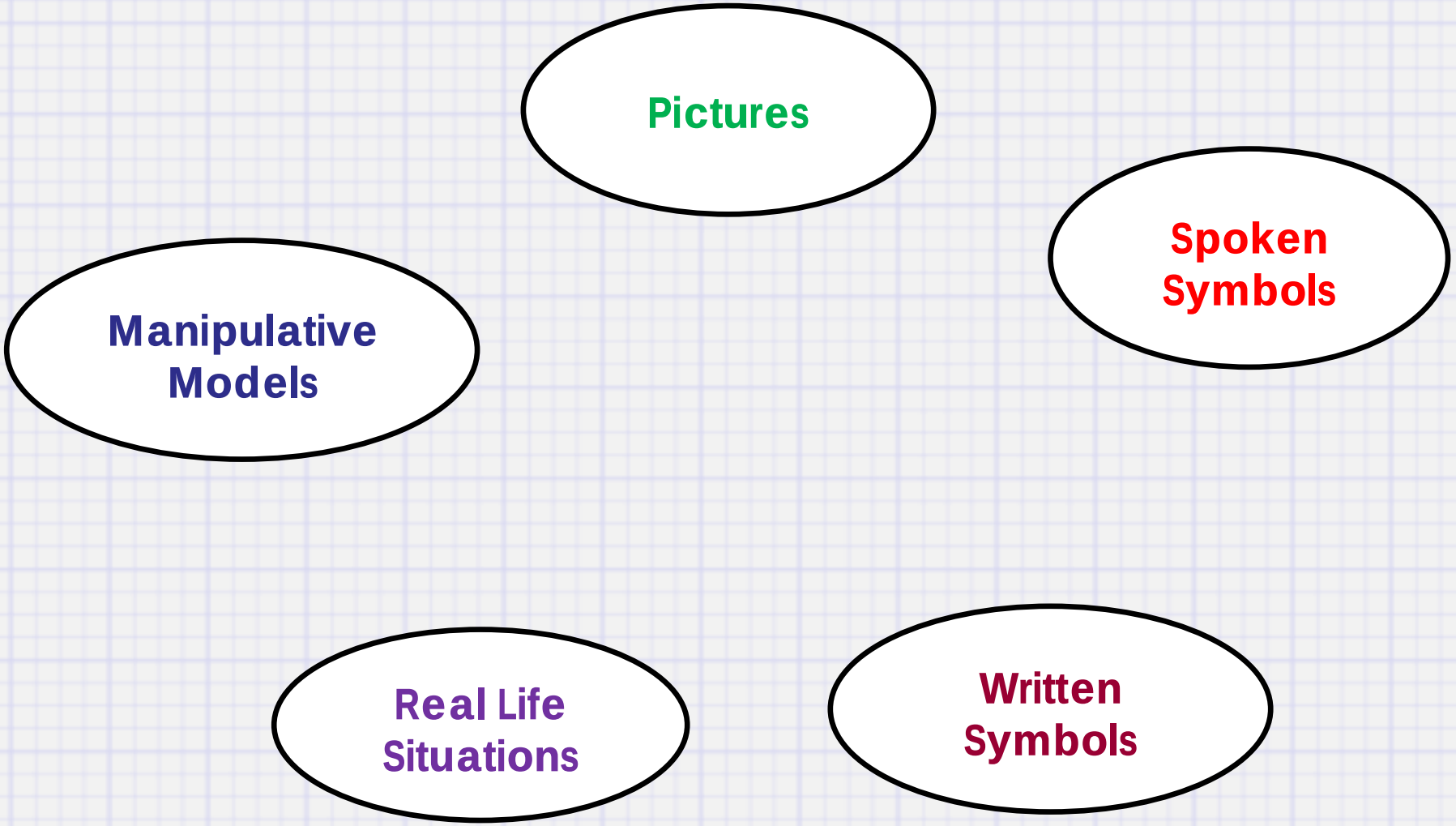

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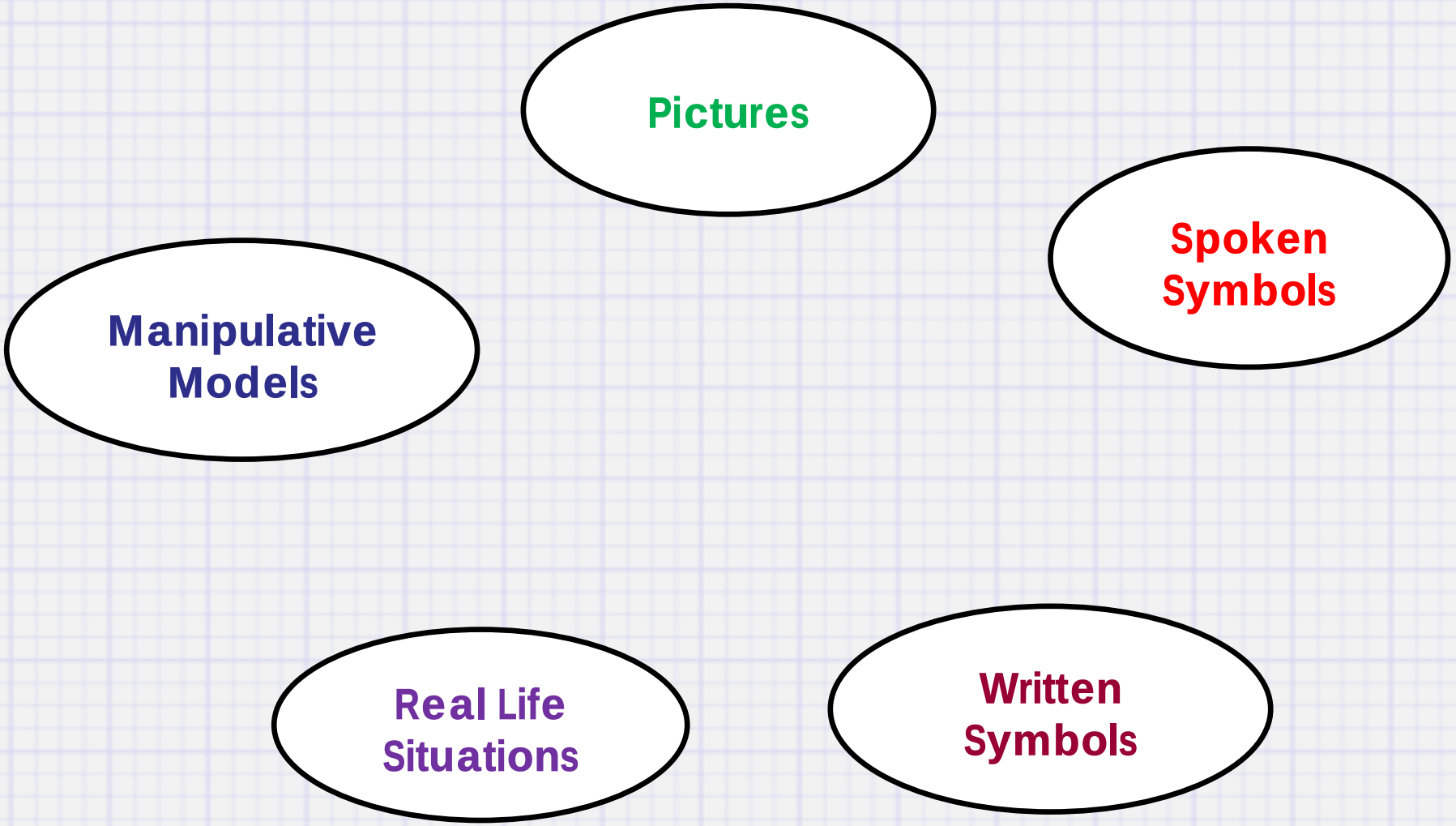

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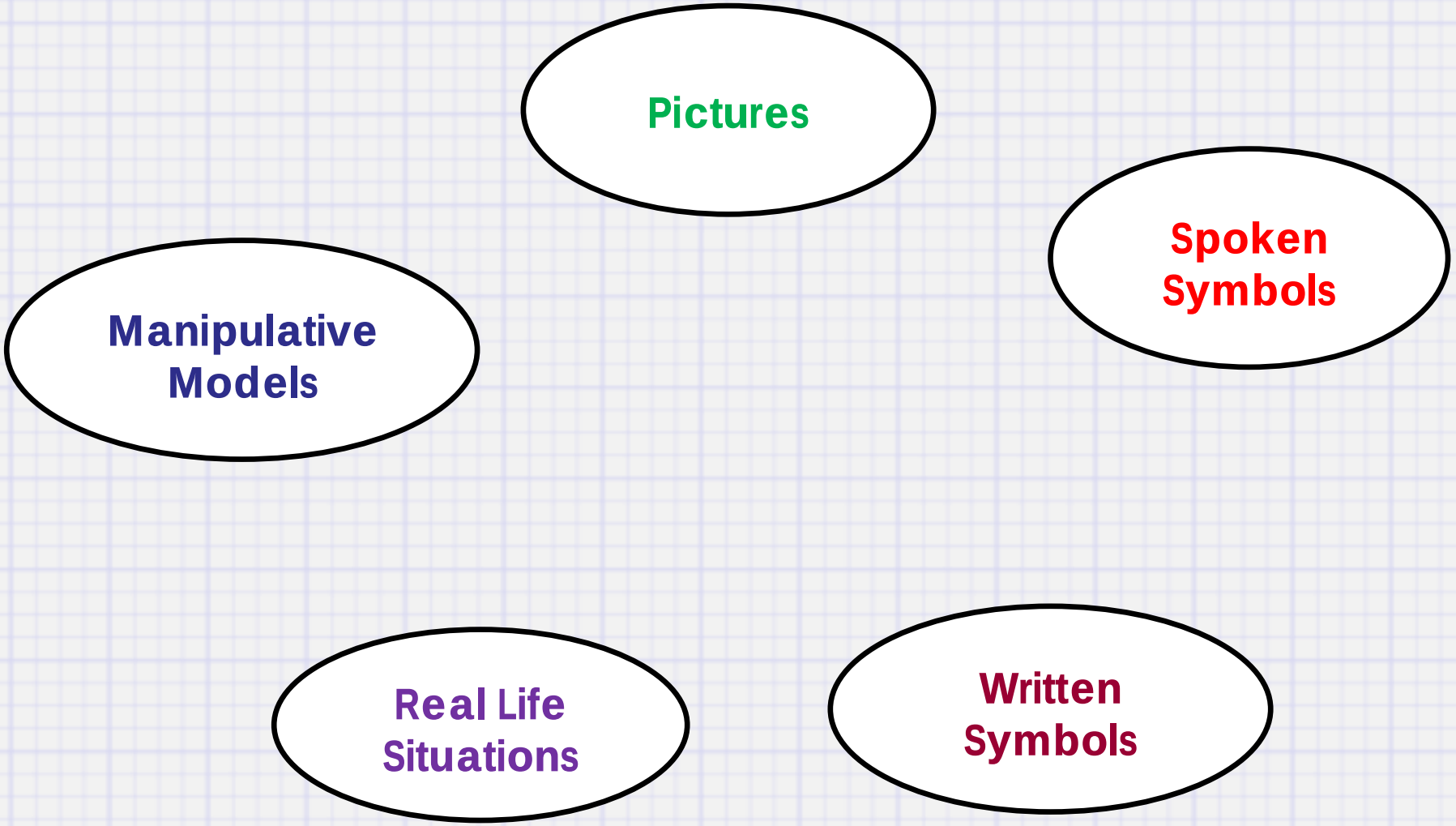

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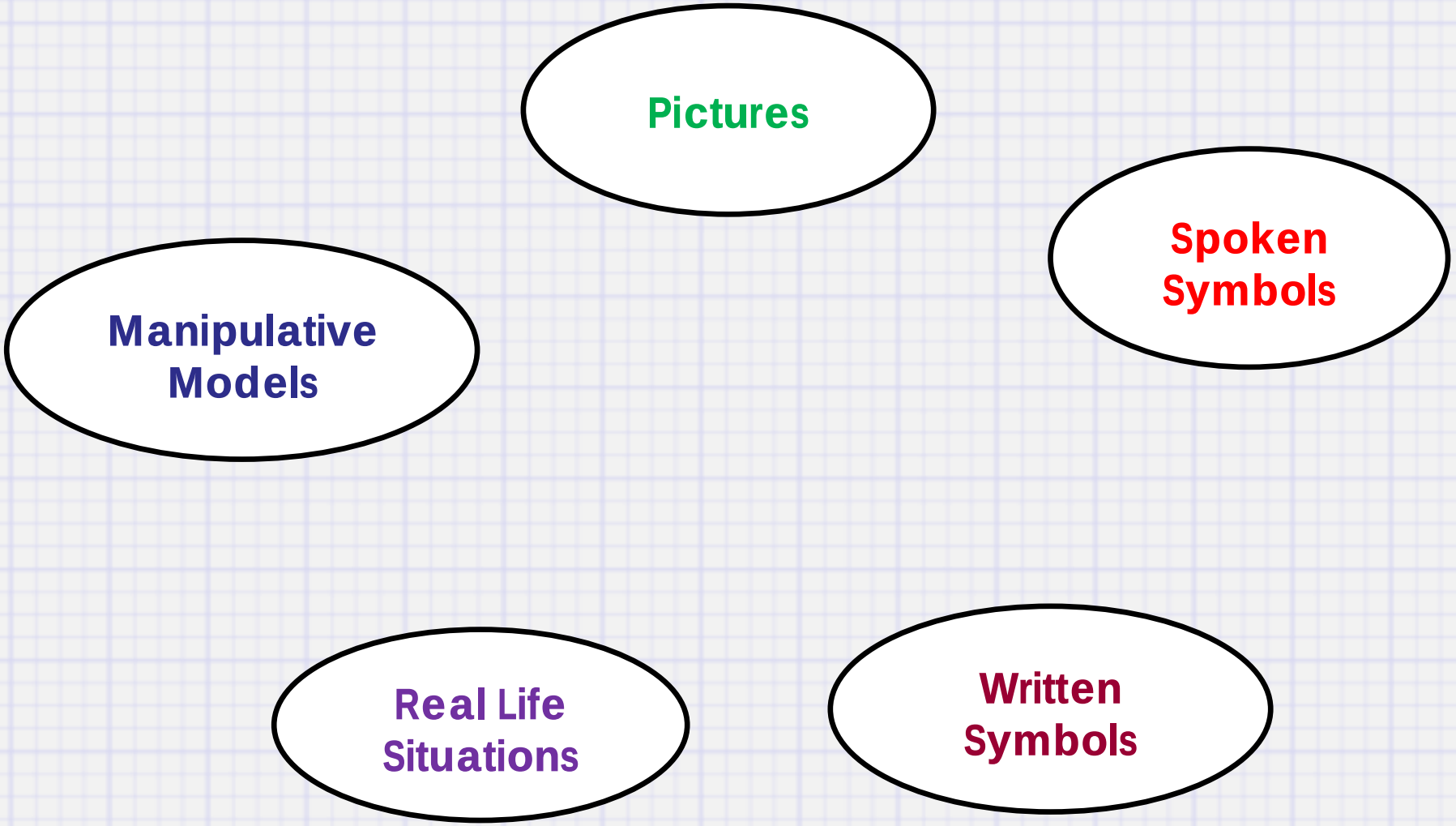

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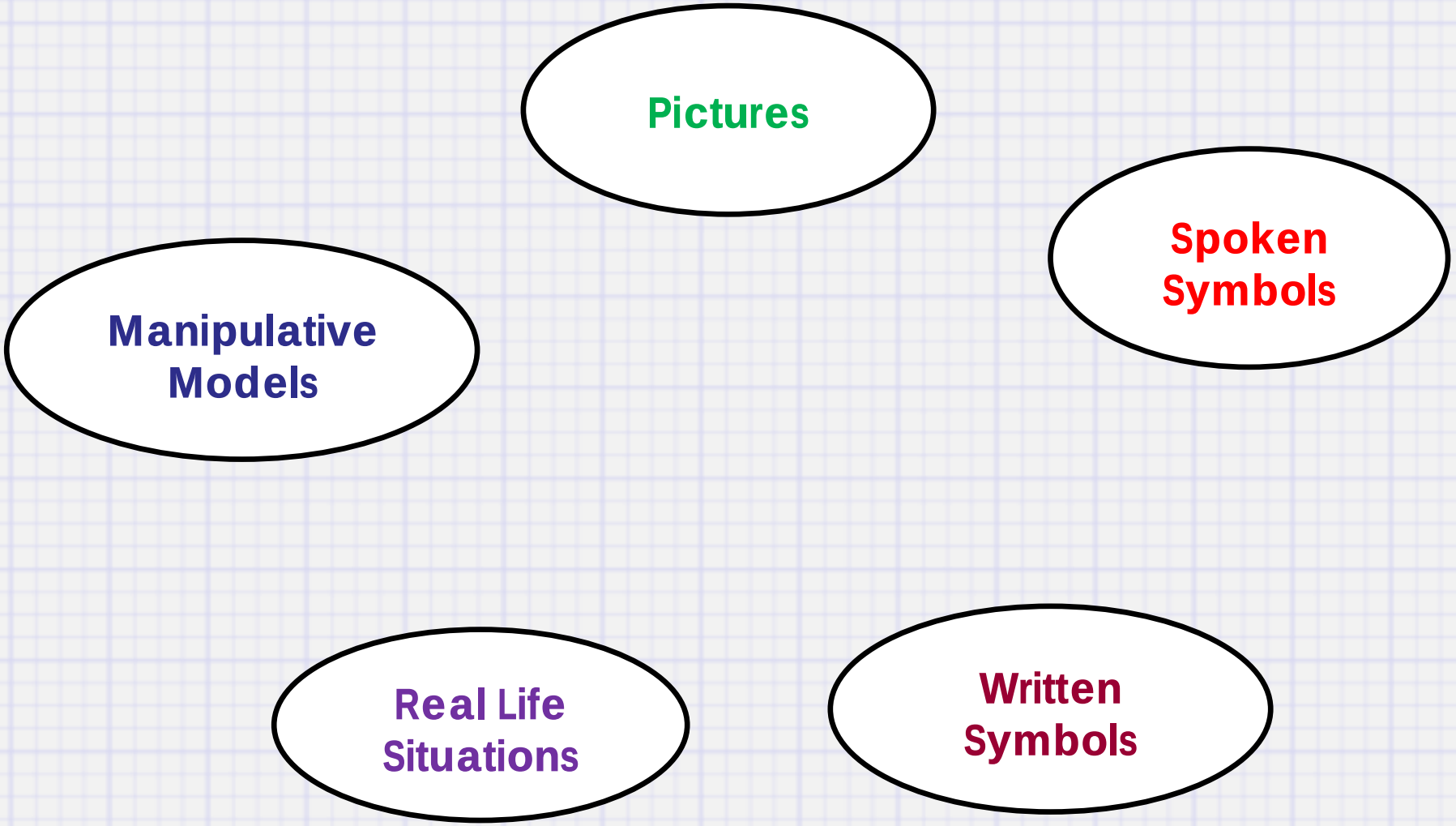

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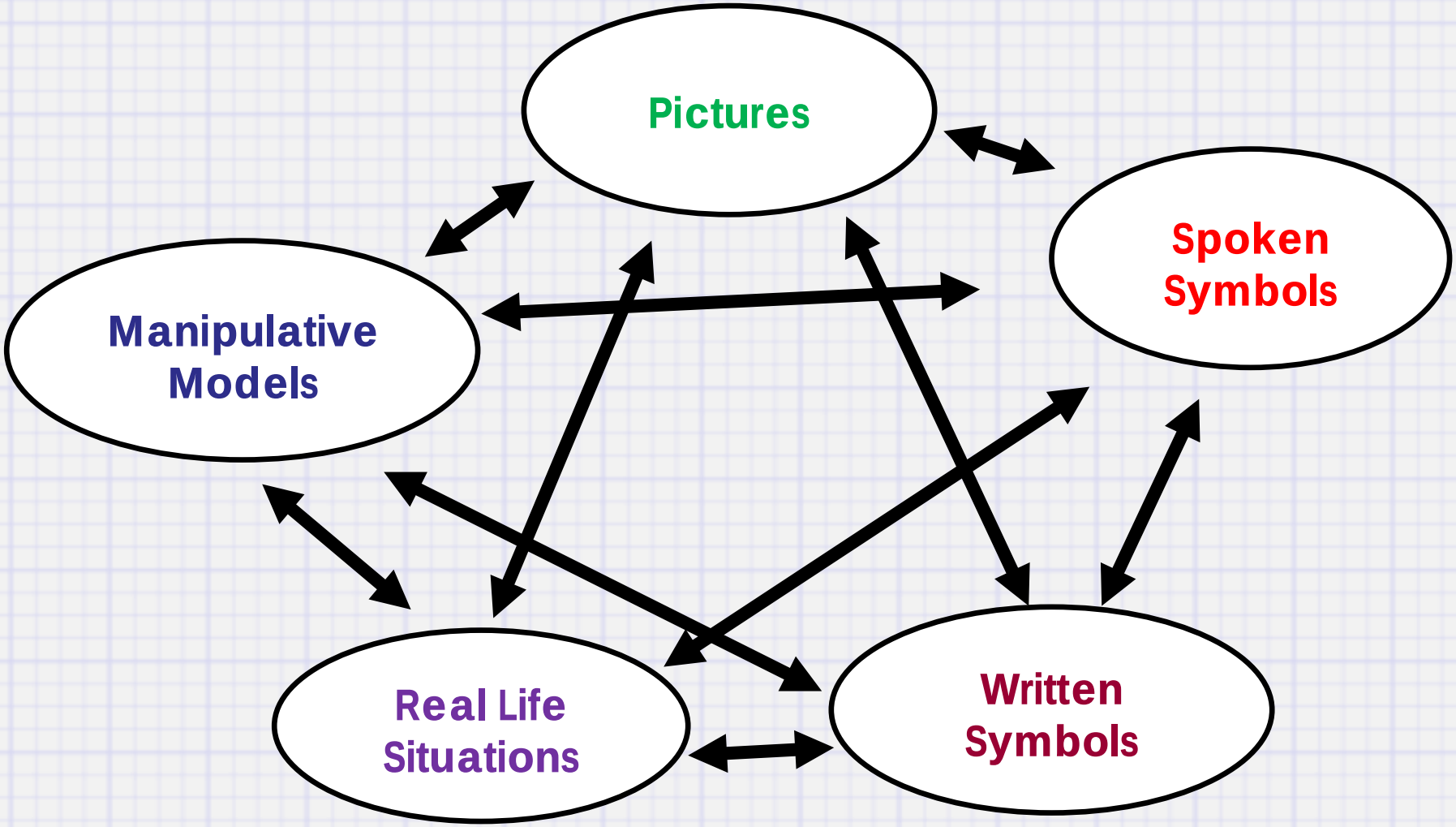


Lesh's Translation Model

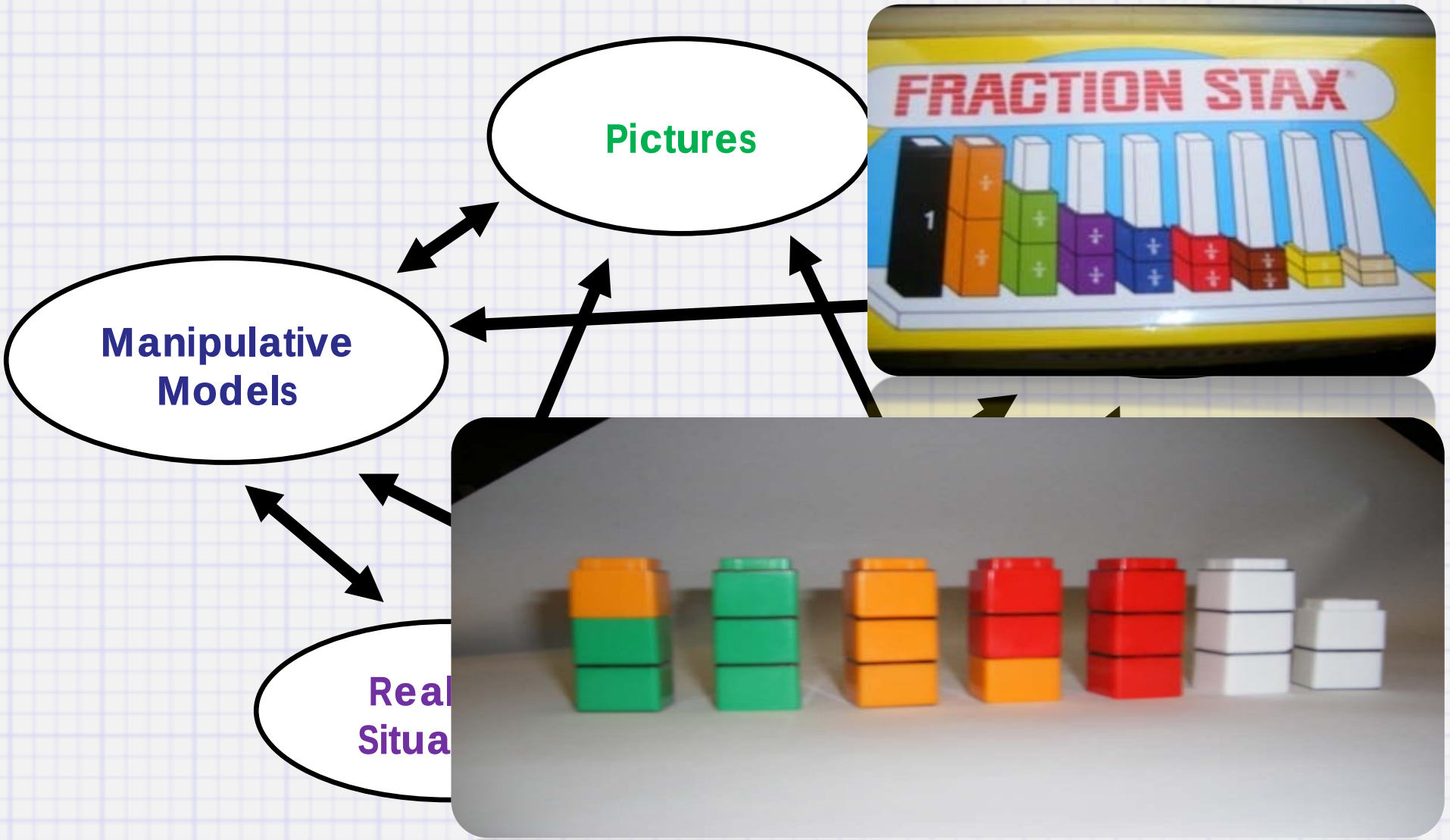
Pictures

Manipulative Models

Real Life Situations

Written Symbols

Lesh's Translation Model



Unifix Cubes

Cara has 4 pizzas for her party.

She decides that a serving will be $\frac{3}{5}$ of a pizza.

Will she get $6\frac{2}{3}$ or $6\frac{2}{5}$ servings from the 4 pizzas?

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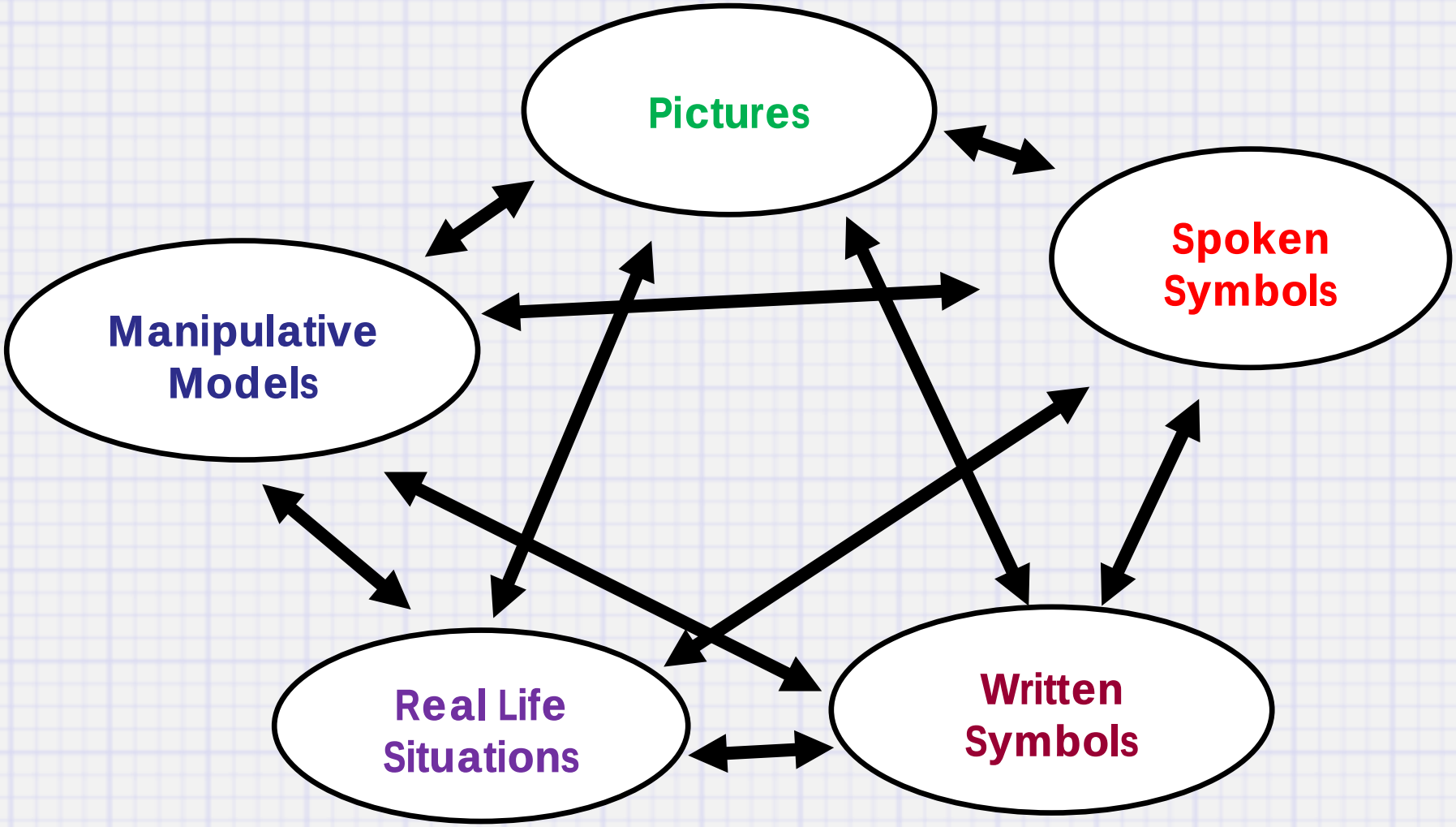
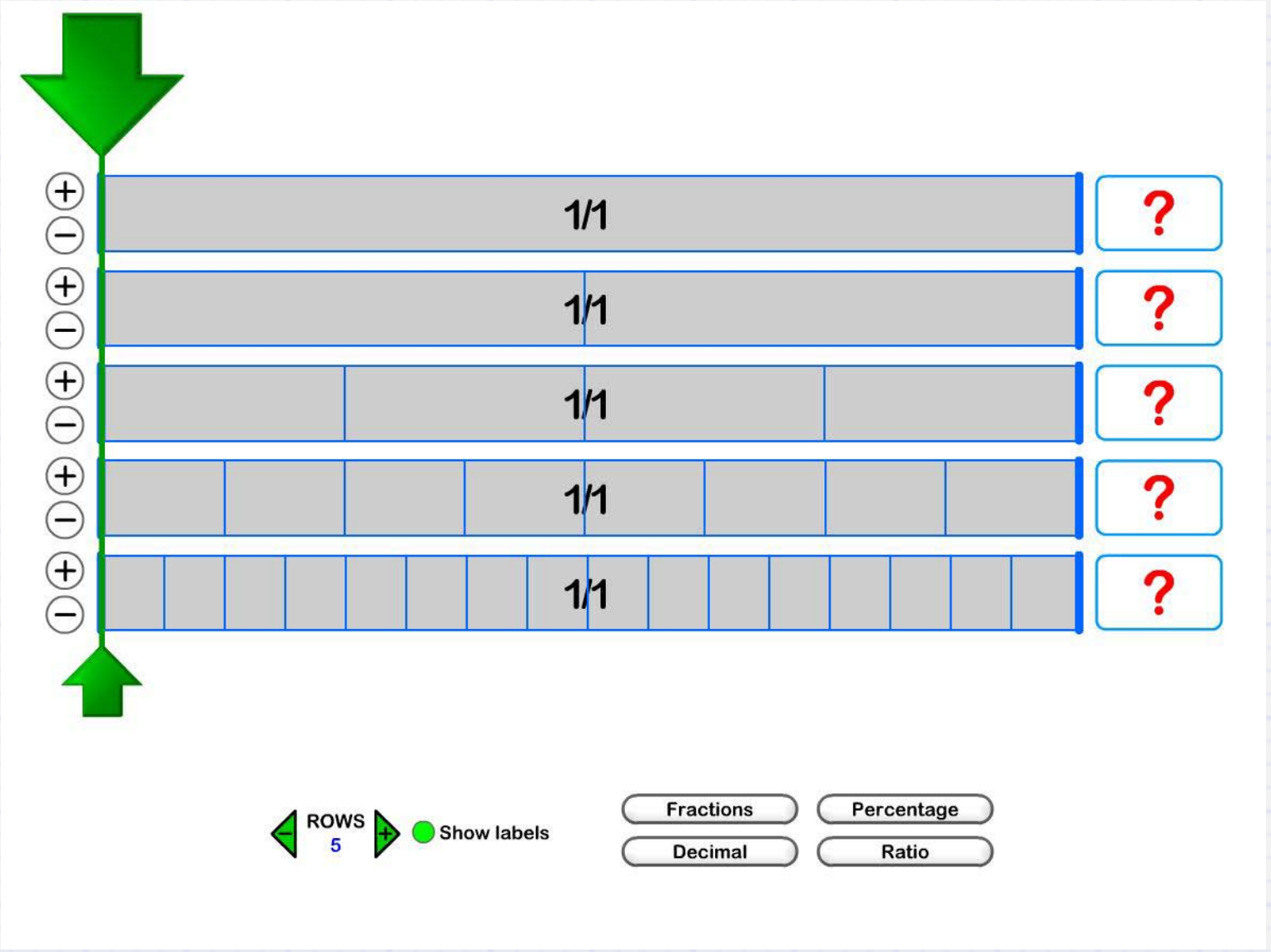
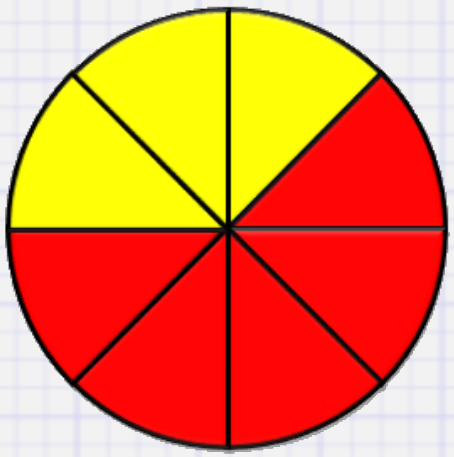
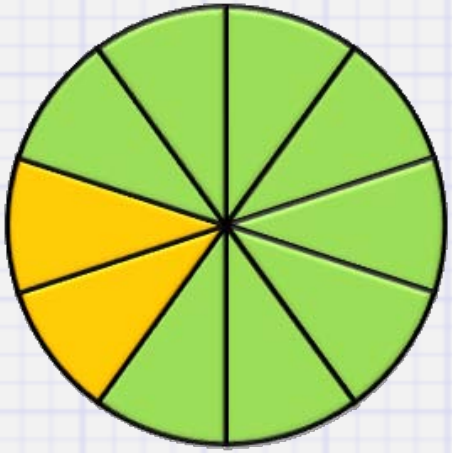


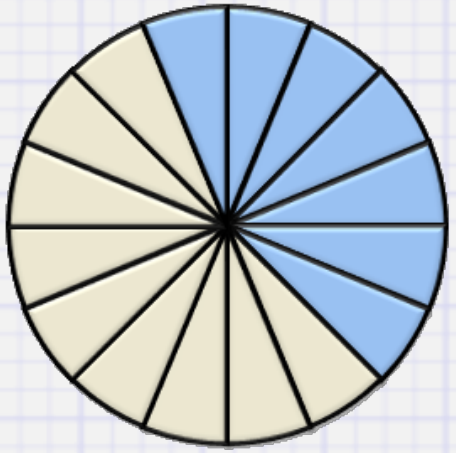
Fraction Wall

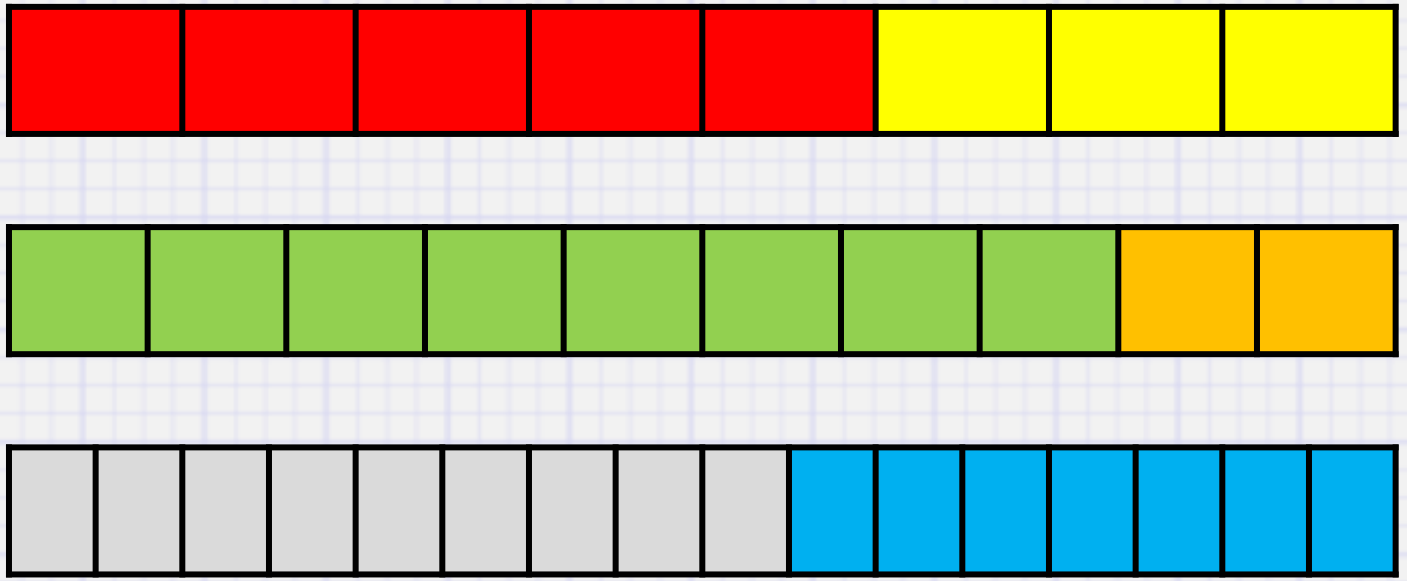


Fraction Strips & Fraction Circles









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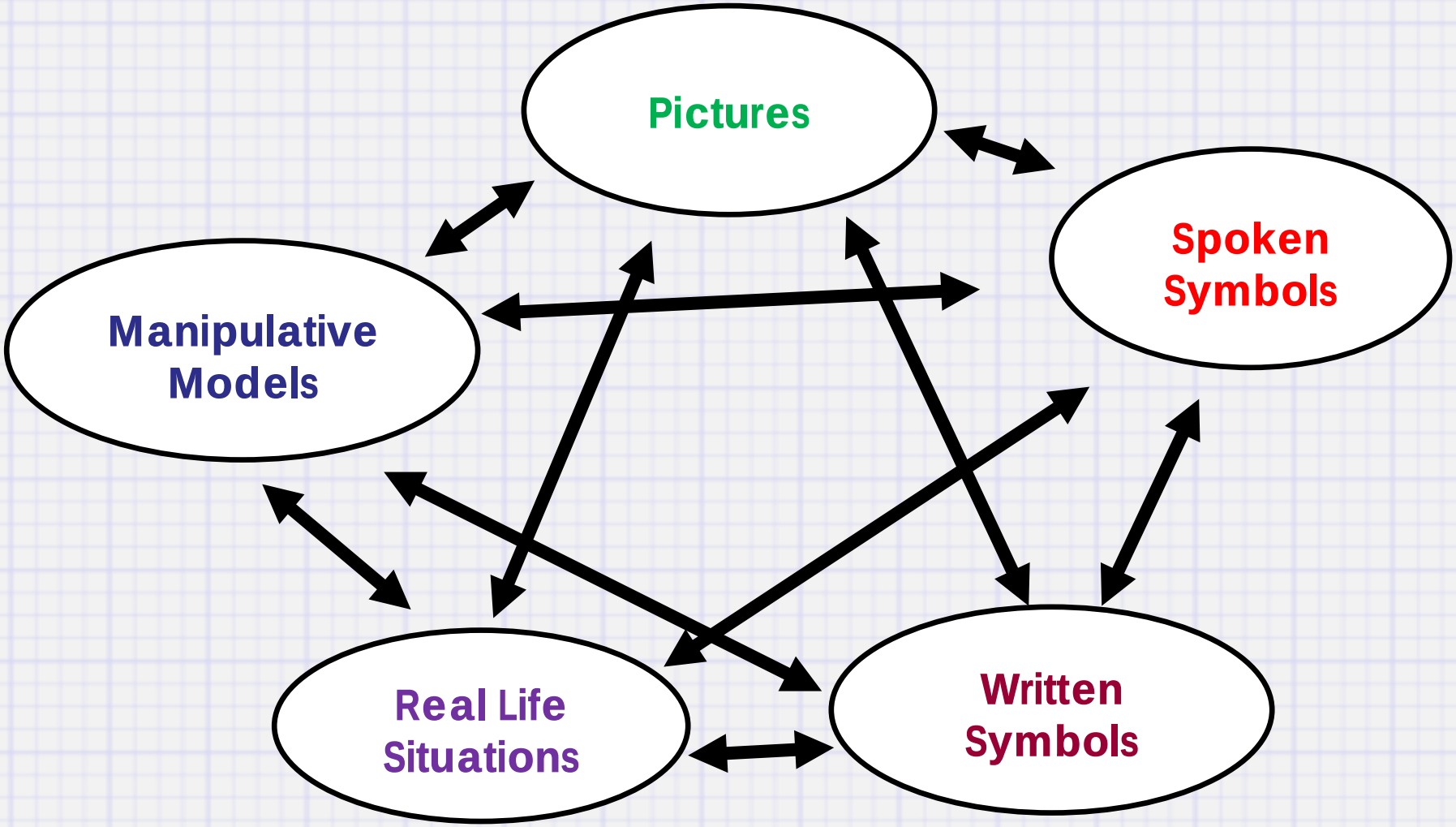
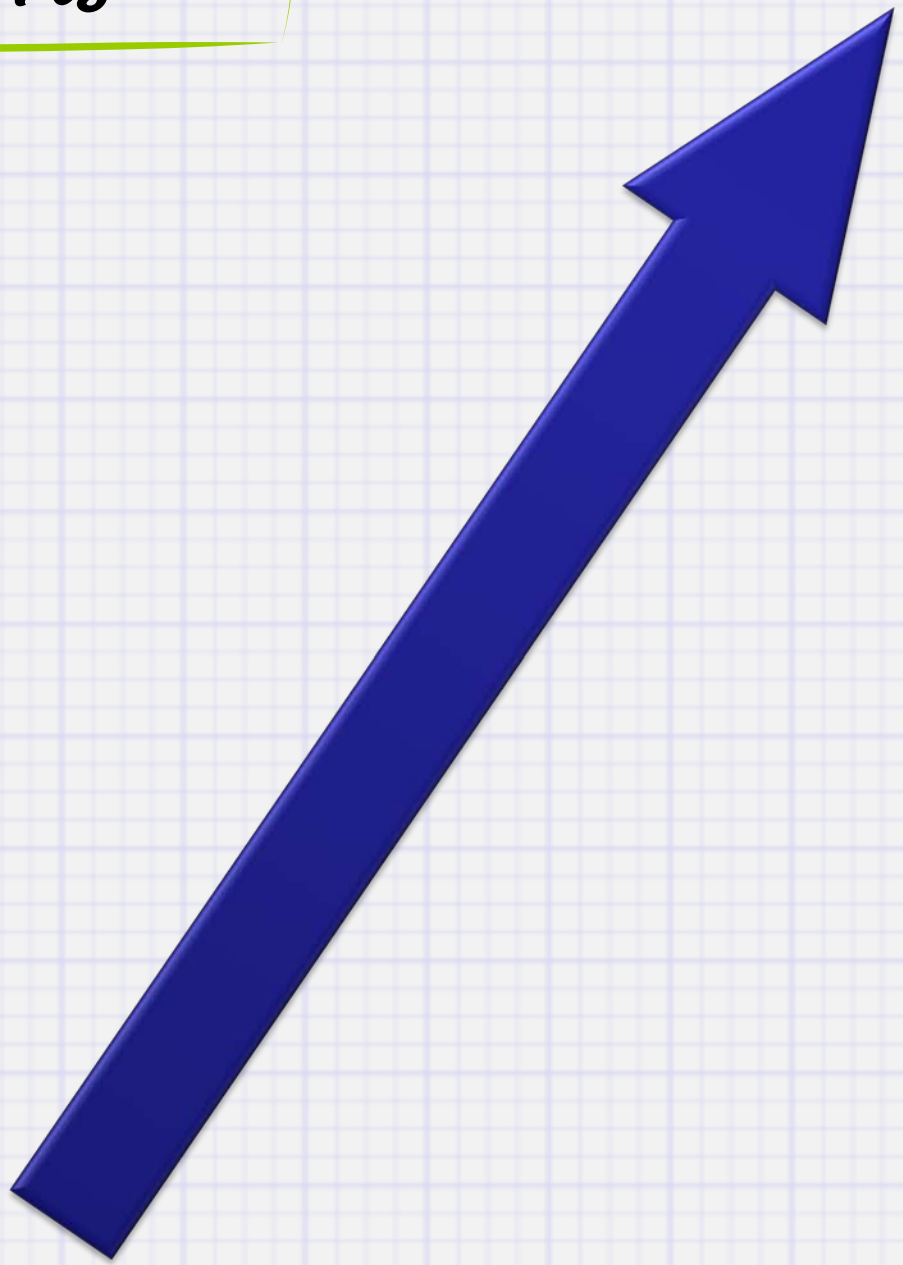


Overview of Fractions

Prior knowledge



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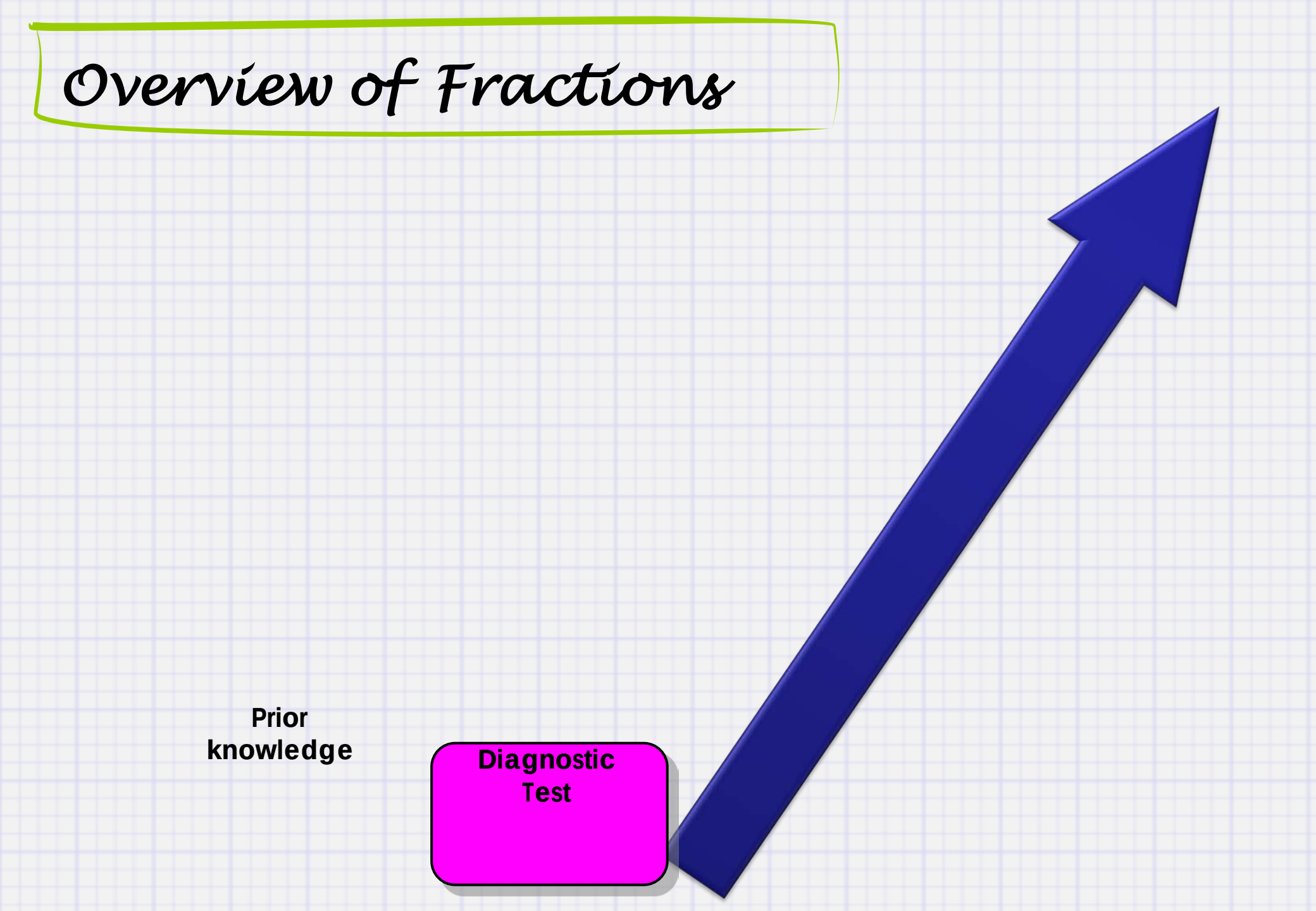
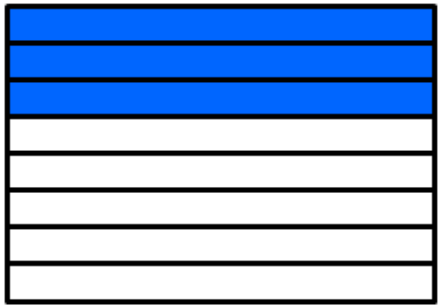


Diagnostic Test

Which of these rectangles has $\frac{3}{4}$ shaded in?

Is it more than one rectangle?

A.



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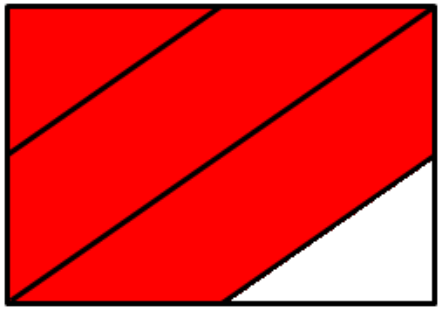

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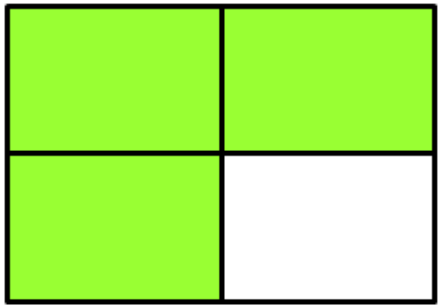
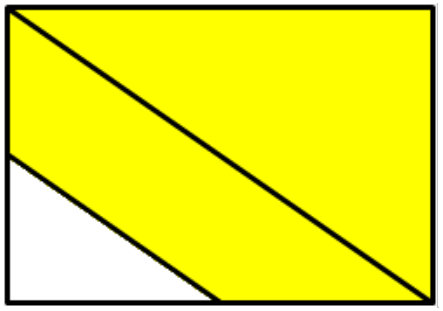


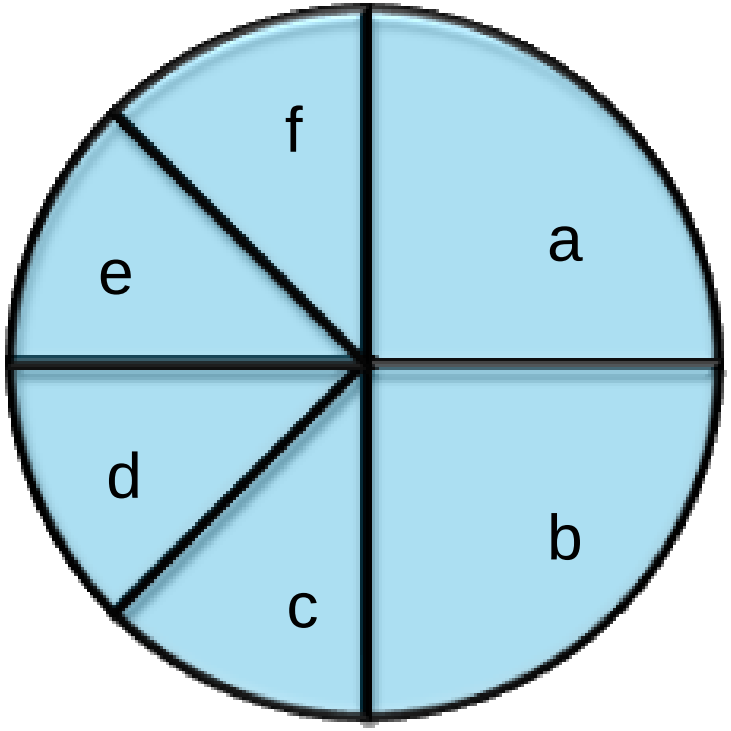
D.



Answer:

Diagnostic Test

What fraction of the fraction circle is marked ‘f’?



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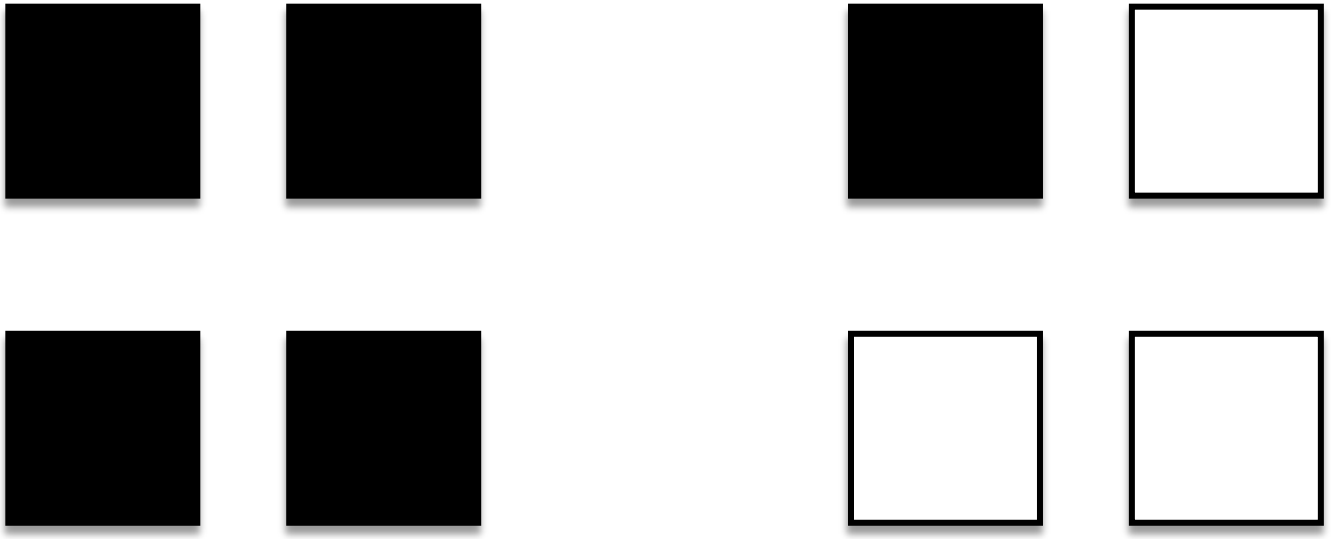
Diagnostic Test



The shaded part of this diagram could represent the numbers:

(a) 5 **(b)** $2\frac{1}{2}$ **(c)** $\frac{5}{8}$ **(d)** $1\frac{1}{4}$

Identify the unit in each case by drawing:

(a) **(b)** **(c)** **(d)**

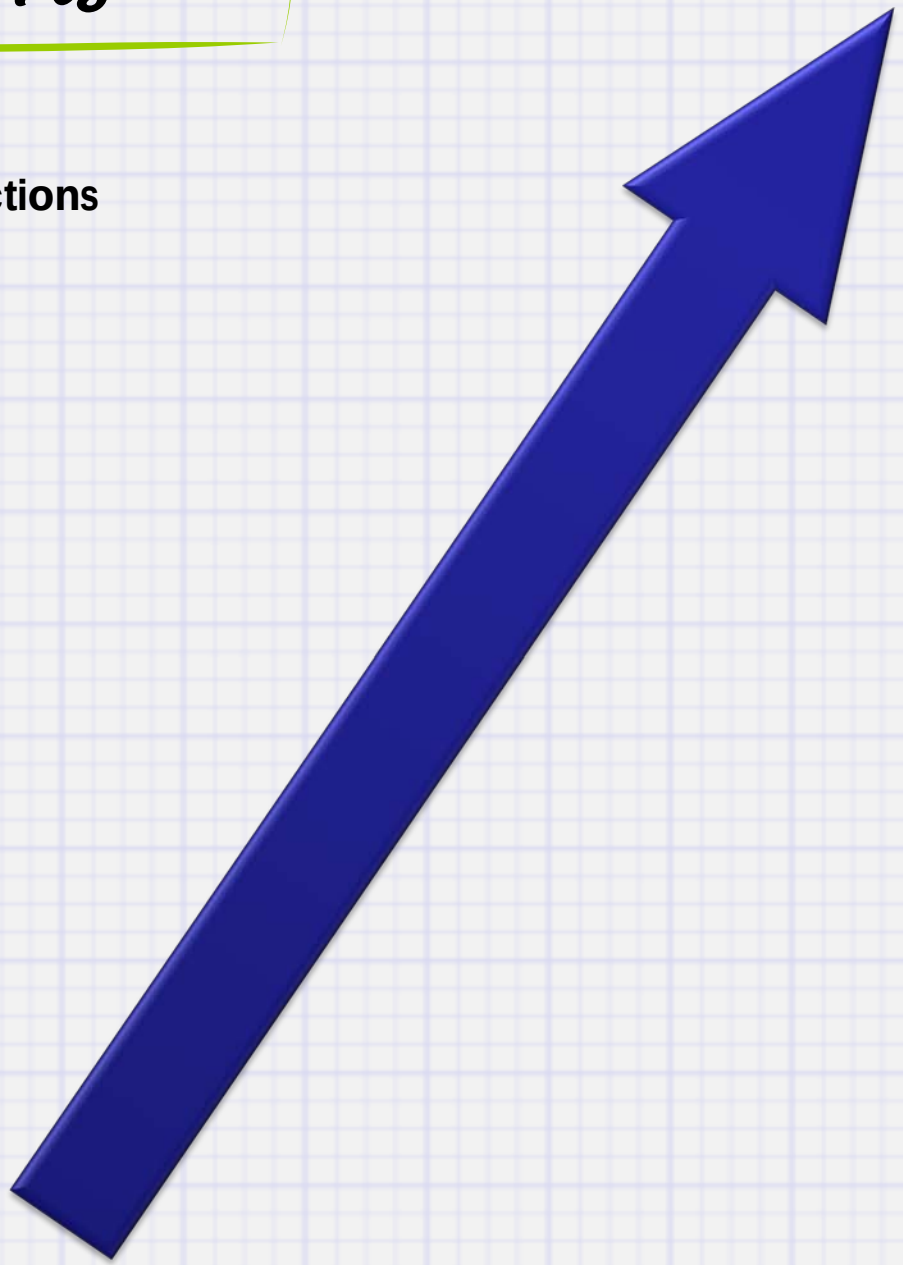
Overview of Fractions

Connections

Operations

Concepts

Prior knowledge



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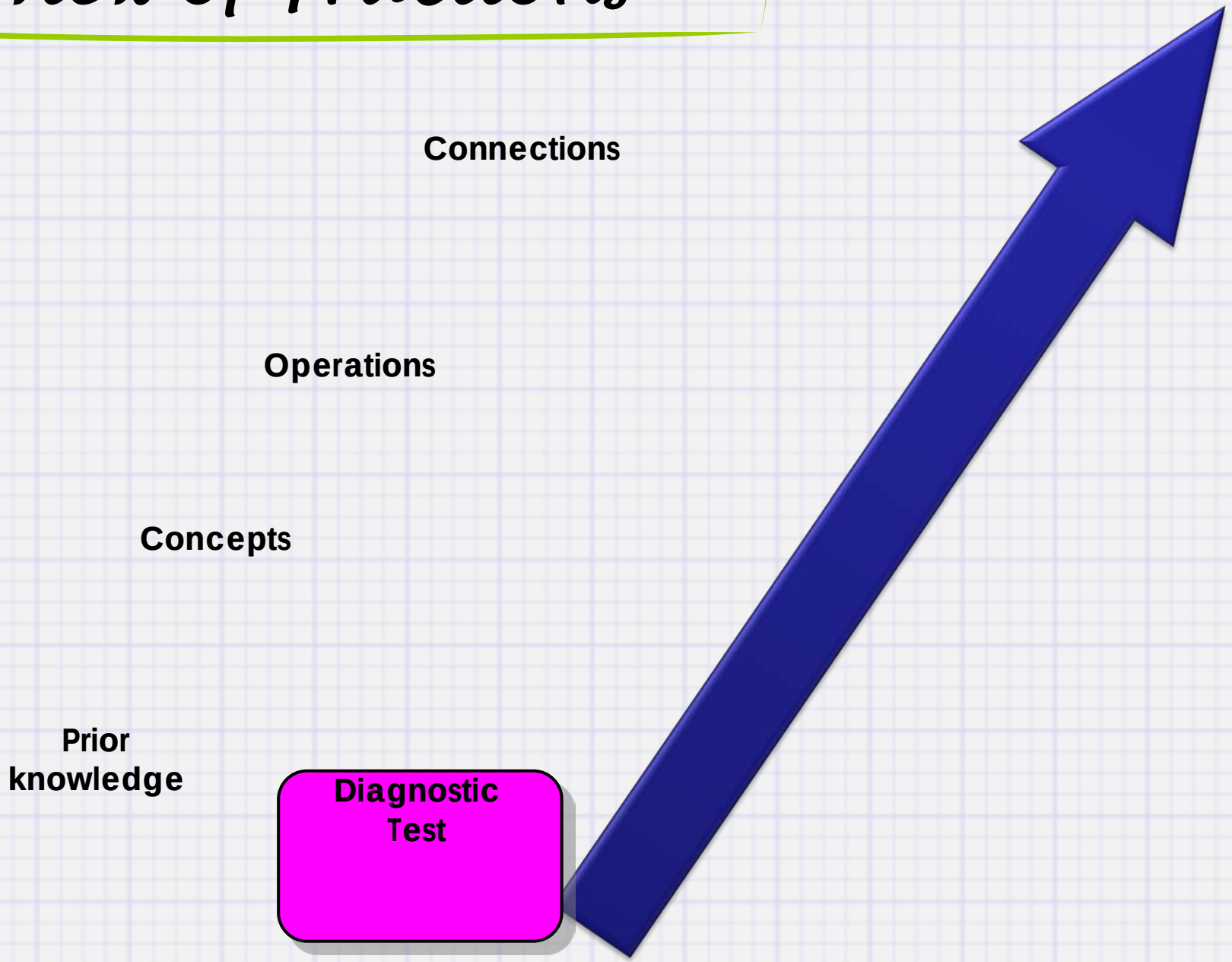

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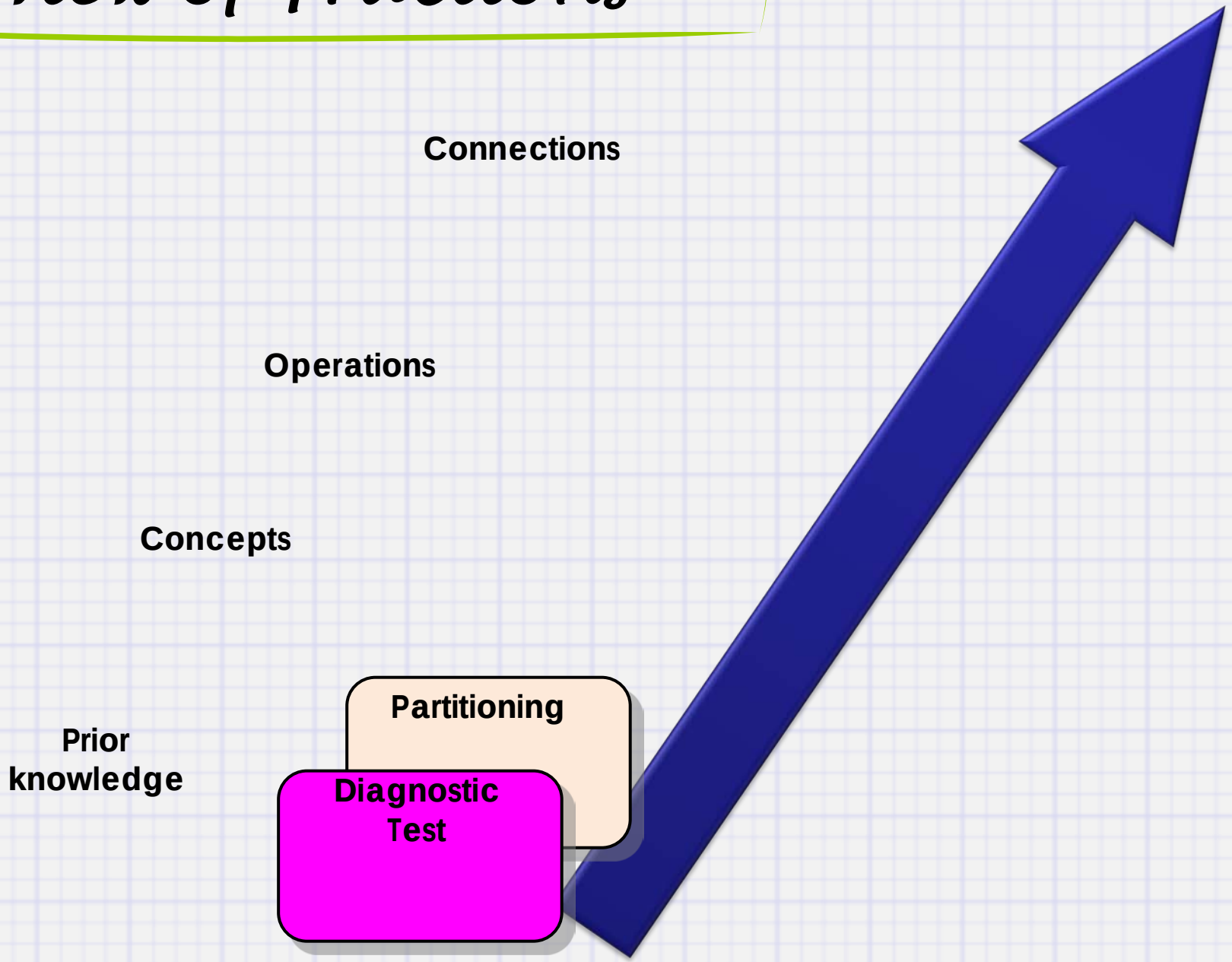

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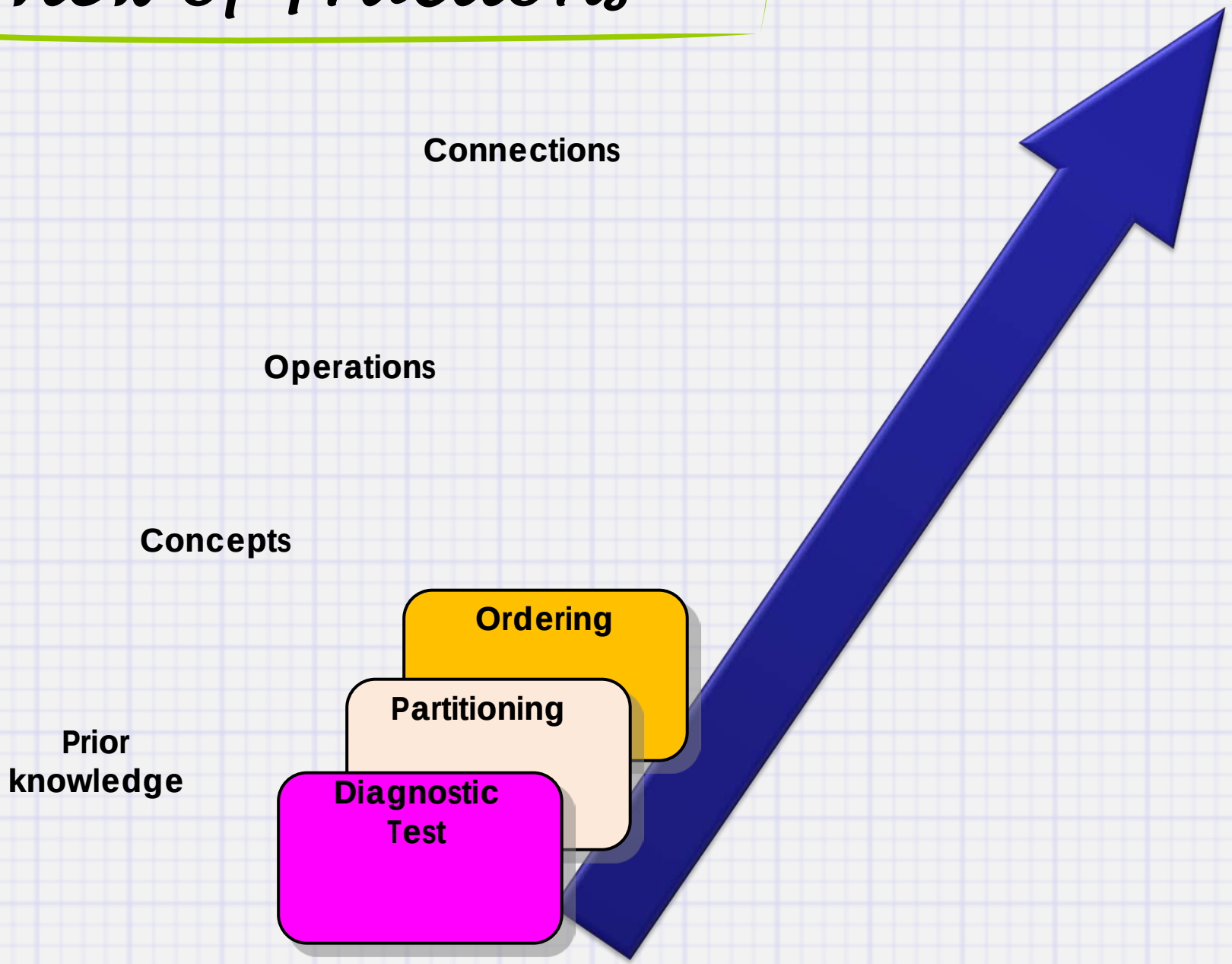

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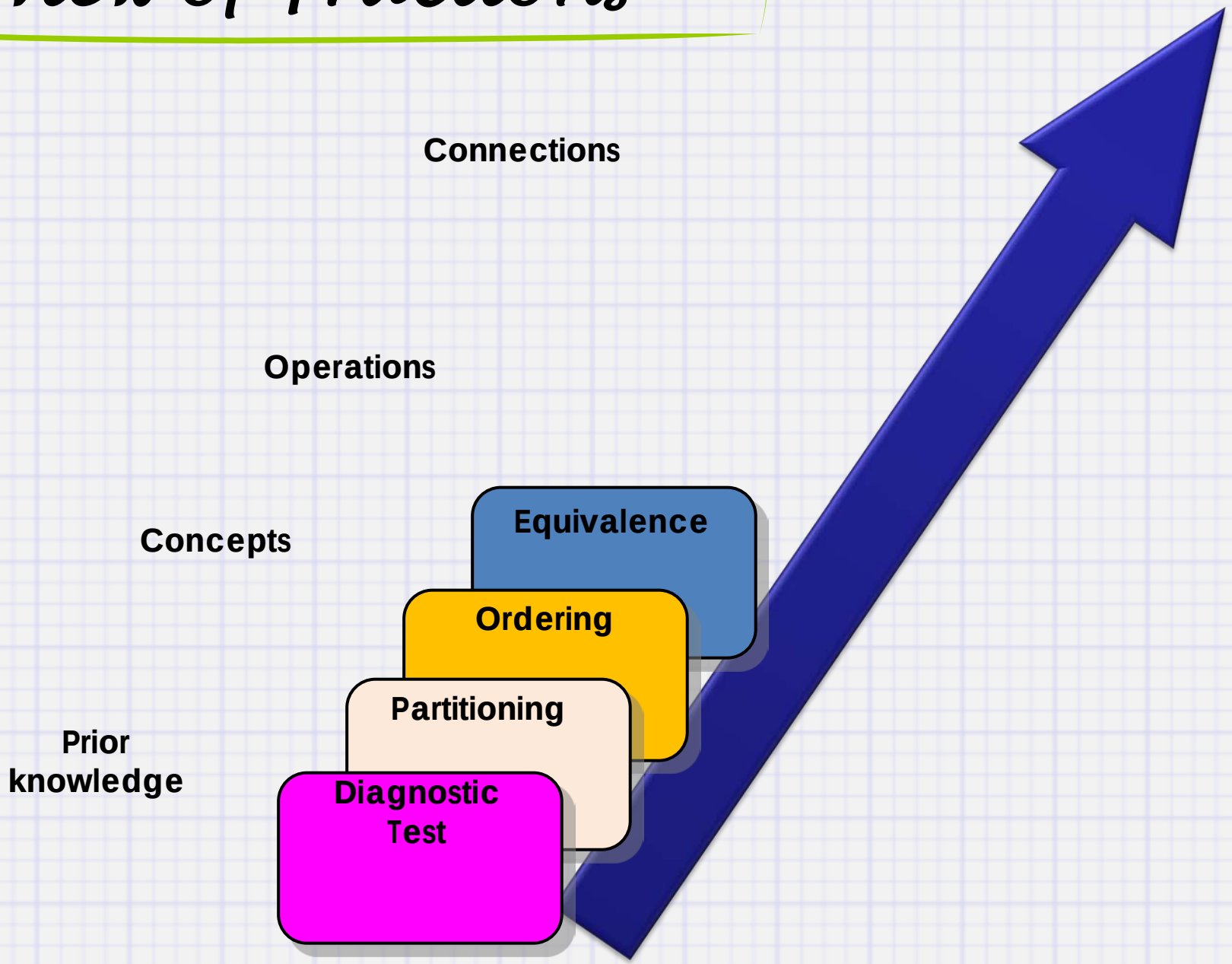

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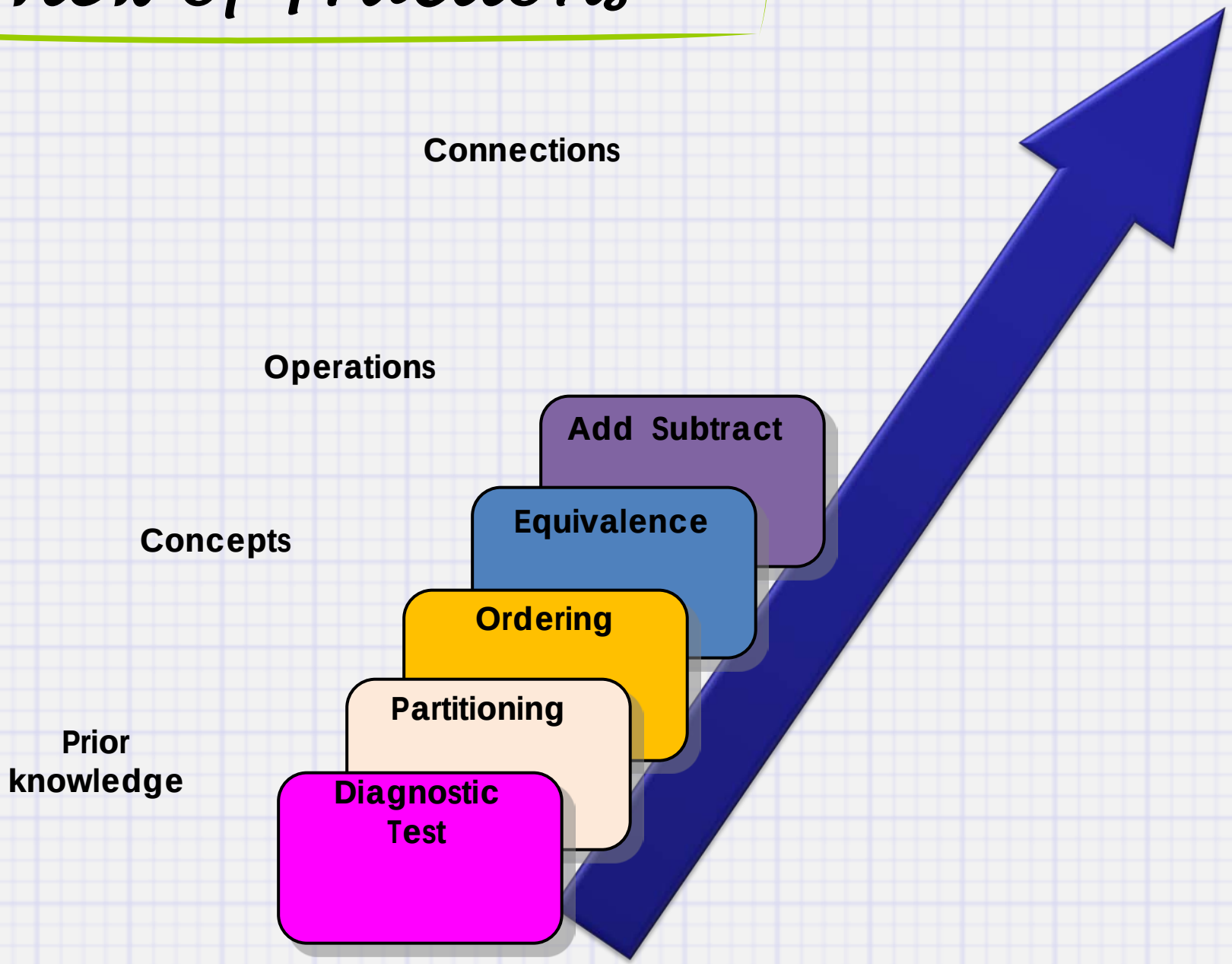

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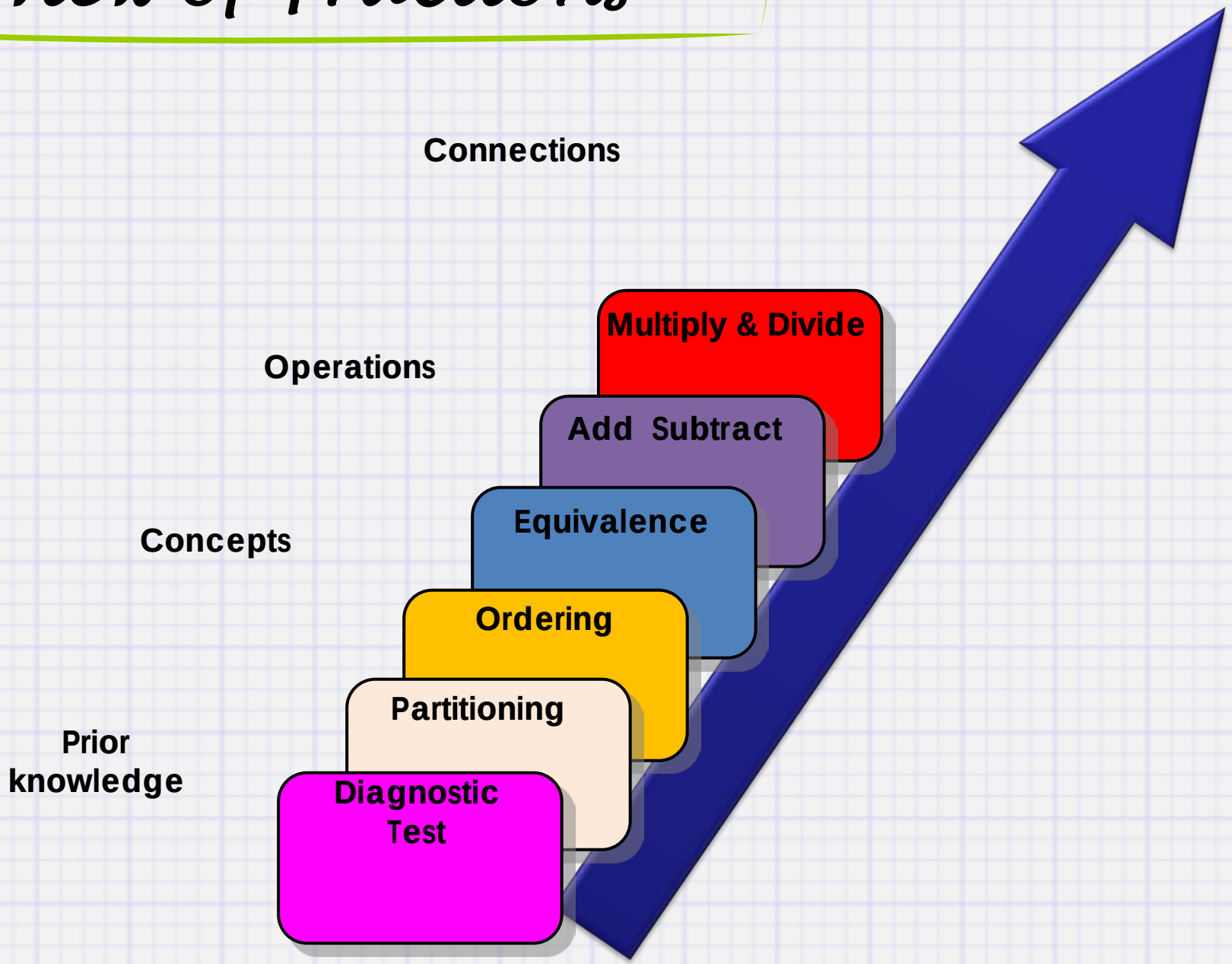

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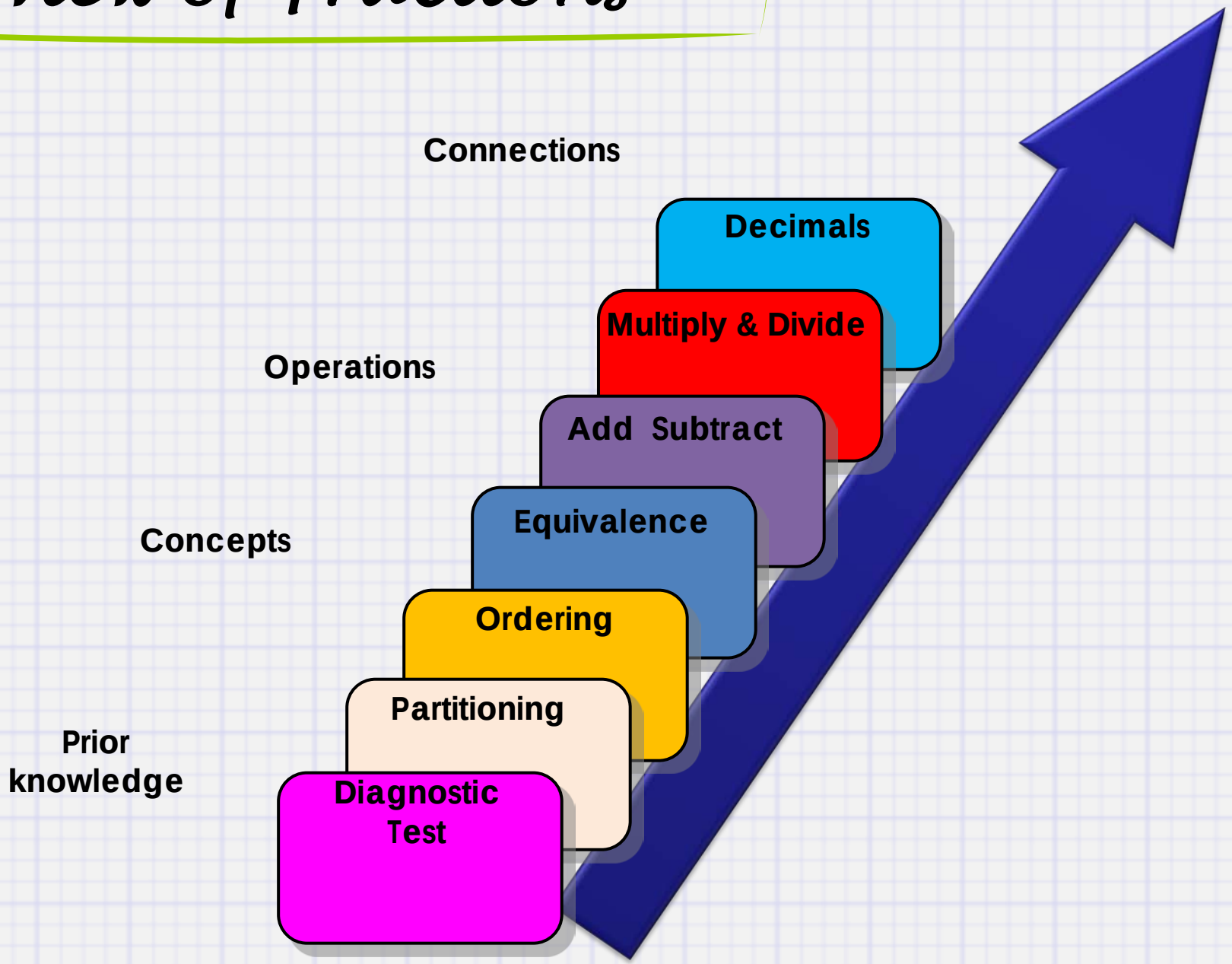

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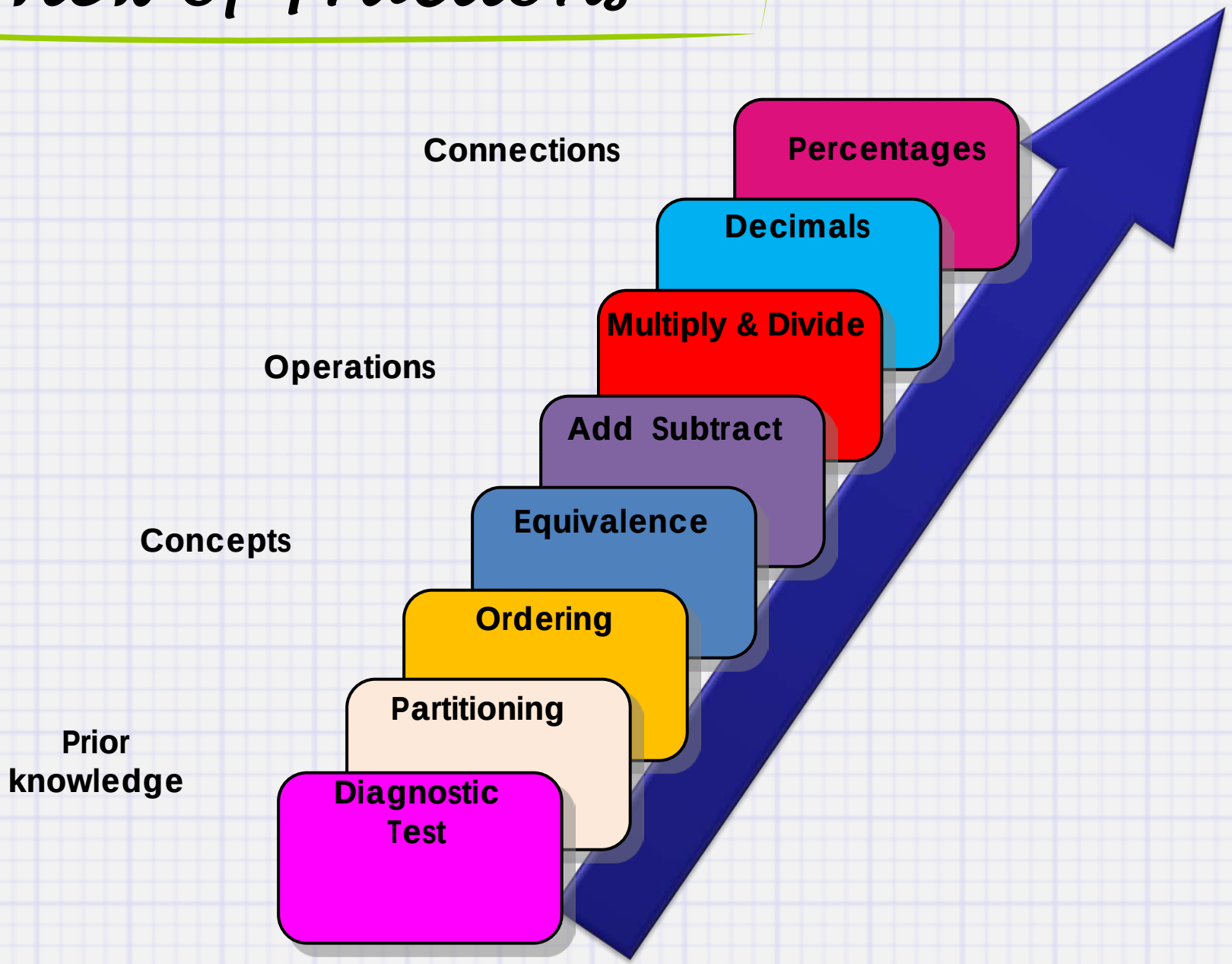

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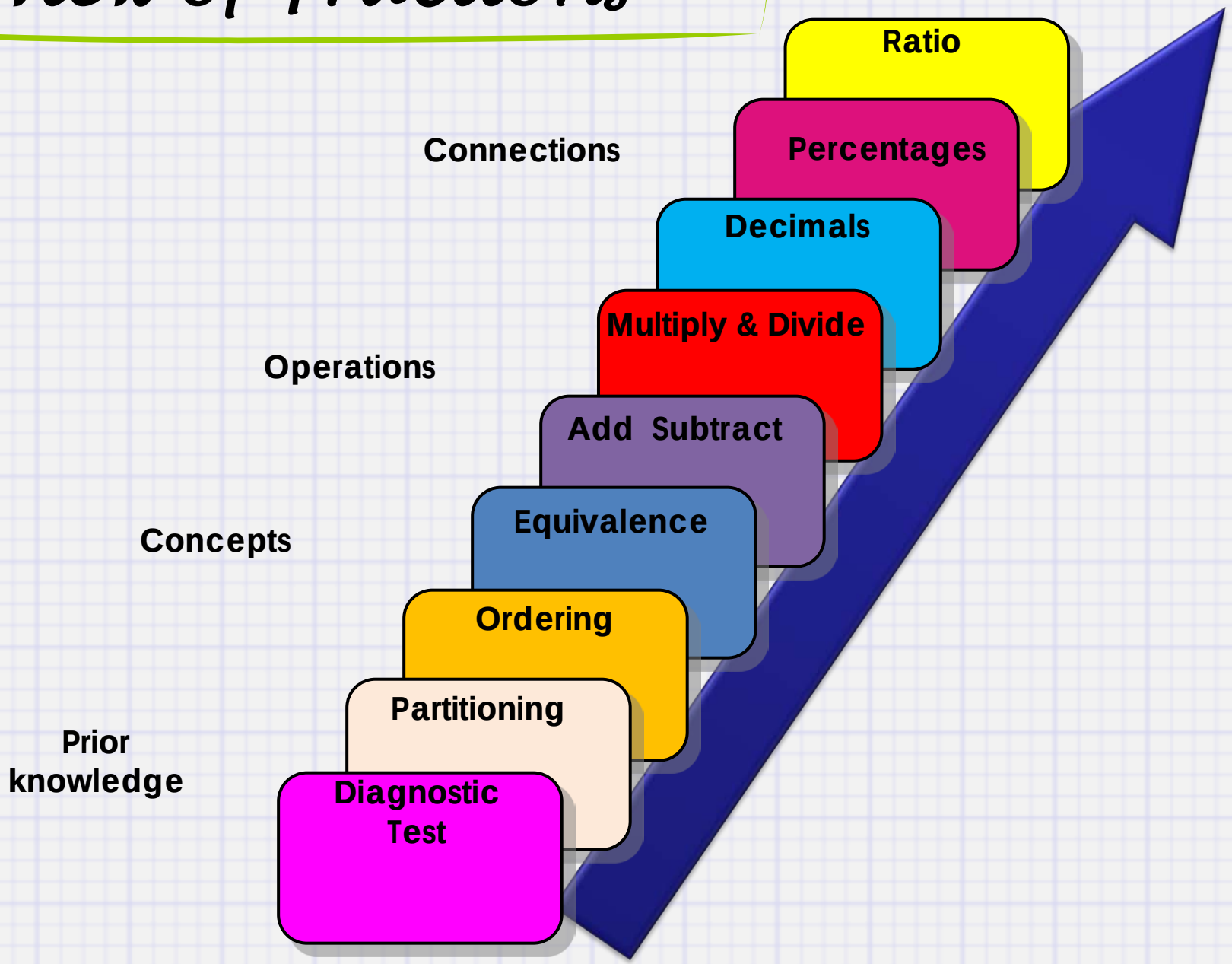

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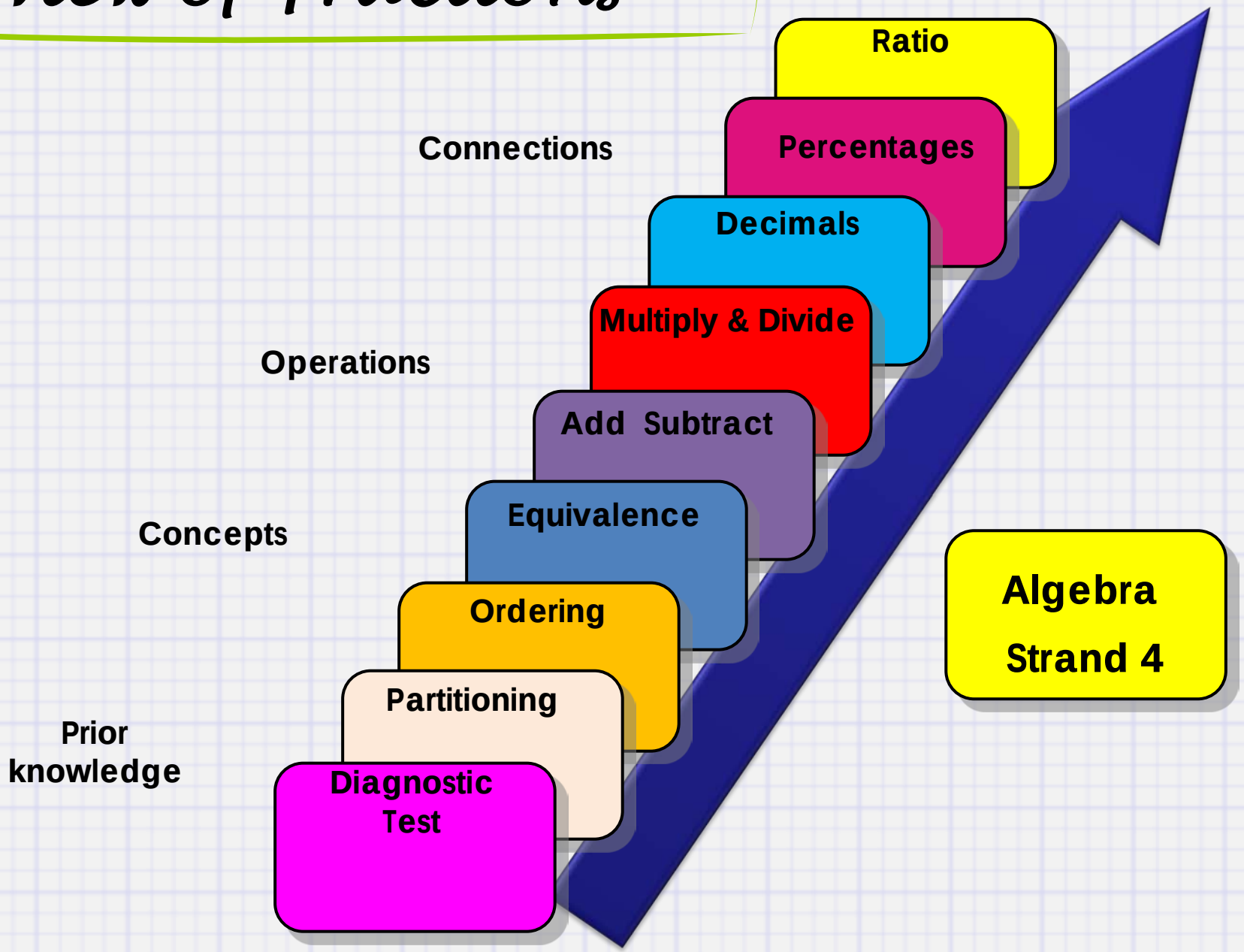

Concepts

- Partitioning
- Ordering
- Equivalence

Reasons for rules ~ Checking tools

Concepts

Is $\frac{3}{4}$ always the same?

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Is $\frac{3}{4}$ always the same? *Only if the **unit** is the same.*

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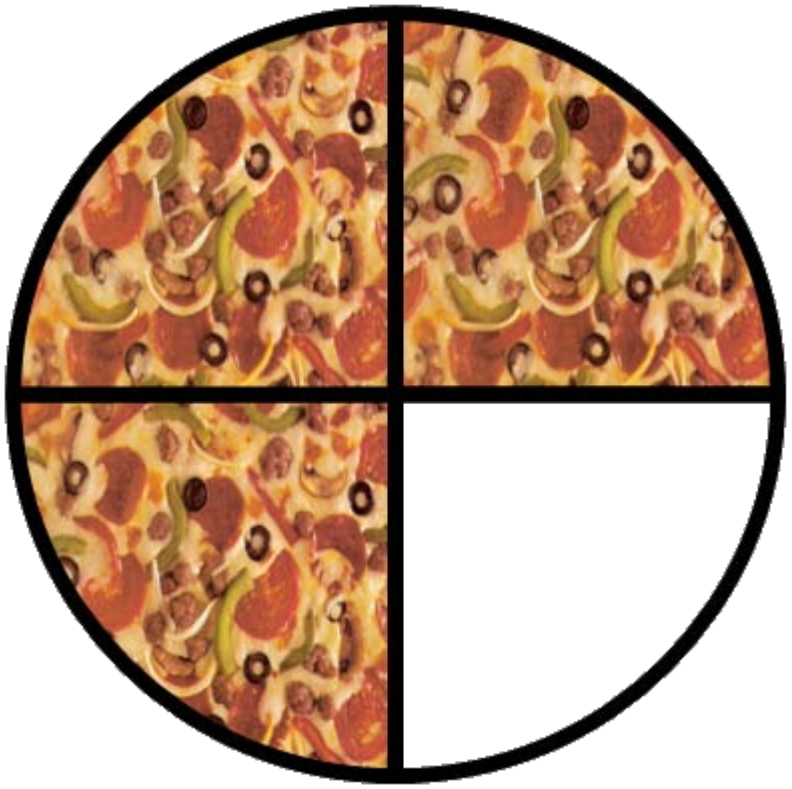

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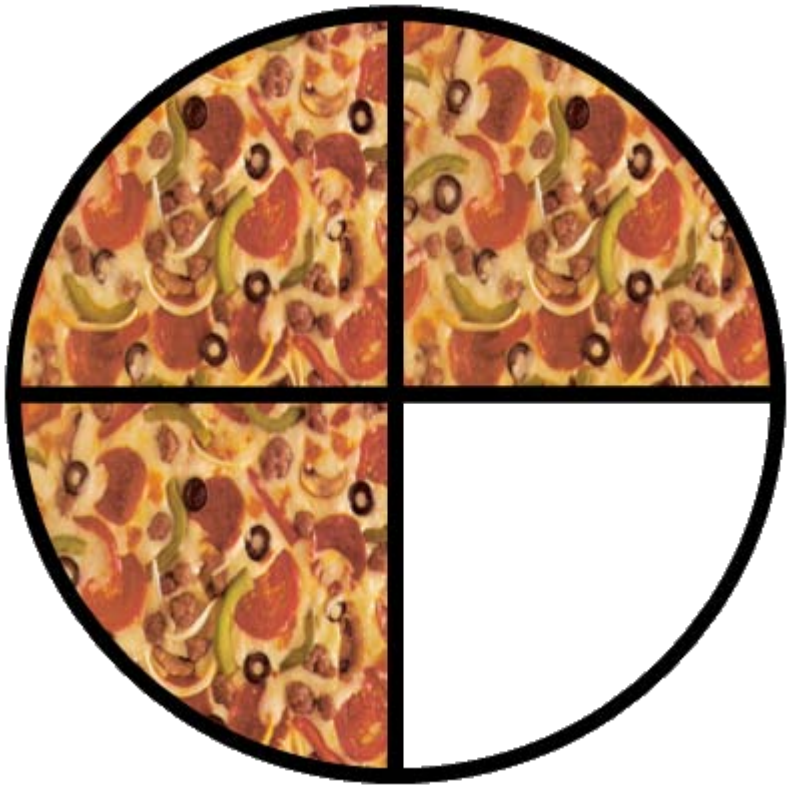

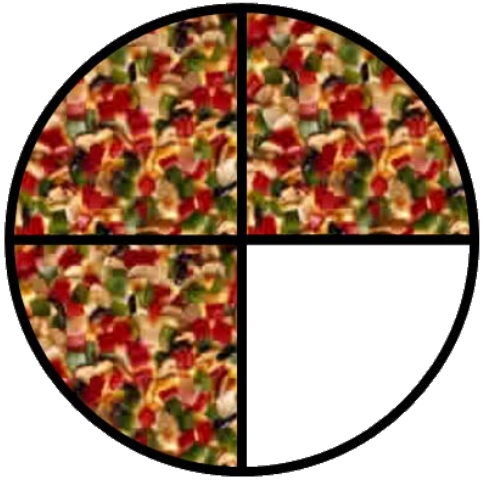

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Which is bigger: $\frac{5}{9}$ or $\frac{3}{7}$? $\frac{5}{9} > \frac{1}{2}$ and $\frac{3}{7} < \frac{1}{2} \Rightarrow \frac{5}{9} > \frac{3}{7}$

Concepts

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Multiplying a Whole Number by a Fraction

Barry is having 4 of his friends over to his house for pizza.

He is going to give them $\frac{2}{3}$ of a pizza each.

(a) How is this like the last problem?

(b) Draw a picture to model this situation.

(c) If you have "4 groups of $\frac{2}{3}$", how many 'one thirds' do you have?

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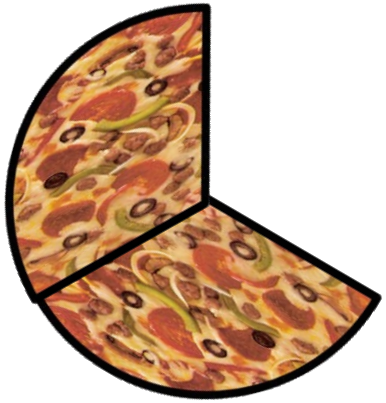

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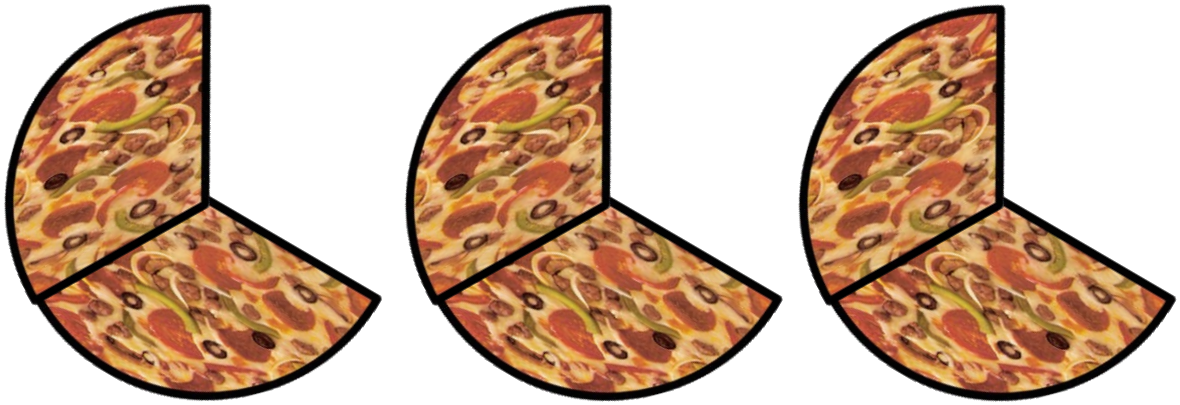

Multiplying a Whole Number by a Fraction

Barry is having 4 of his friends over to his house for pizza.

He is going to give them $\frac{2}{3}$ of a pizza each.

(a) How is this like the last problem?

(b) Draw a picture to model this situation.

(c) If you have "4 groups of $\frac{2}{3}$", how many 'one thirds' do you have?

Poster/ White Boards

- Picture/Words
- Multiplication sentence
- ...groups of...
- Repeated addition

Pair Work

If I multiply $4 \times \frac{2}{3}$ what incorrect answer do you think I might get?

Pair Work

How come $\begin{cases} \frac{4}{1} \times \frac{2}{3} = \frac{8}{3} \text{ and} \\ \frac{4}{1} + \frac{2}{3} = 4\frac{2}{3} ? \end{cases}$

Fraction x Fraction

Cara has $\frac{2}{5}$ of her rectangular birthday cake left over from her party.

She ate $\frac{3}{4}$ of the leftover cake.

How much of the full cake was this?