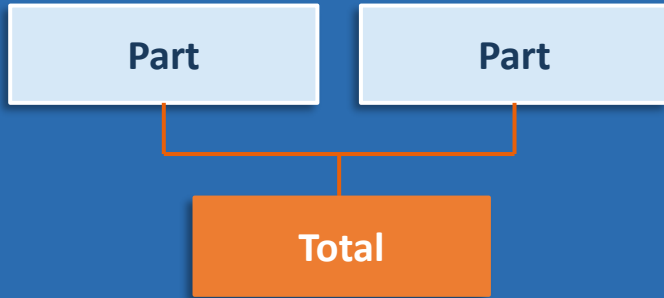
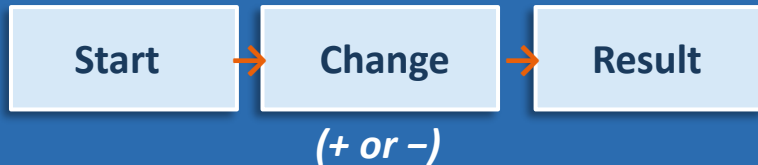




TOTAL Schema



CHANGE Schema



COMPARE Schema



Numeracy Consultants Presents

Developing Schema

Building the Mental Map for Word Problems



Total Schema

Parts that make a whole



Compare Schema

More, less, and the difference



Change Schema

Start, change, result

"Every word problem has a structure — once students see it, they own it."

Developing Schema

FREE Supplemental Resource

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Total Part - Part - Whole

Lesson 1:
Result Unknown

Lesson 2:
Result Unknown

Lesson 3:
Result Unknown

Lesson 4:
Part Unknown

Lesson 5:
Part Unknown

Lesson 6:
Part Unknown

Change

Lesson 1:
Result Unknown

Lesson 2:
Start unknown

Lesson 3:
Change Unknown

Lesson 4:
Result Unknown

Lesson 5:
Start Unknown

Lesson 6:
Change Unknown

Compare

Lesson 1:
How Many More

Lesson 2:
How Many Fewer

Lesson 3:
Larger Unknown

Lesson 4:
Smaller Unknown

Lesson 5:
How Many More

Lesson 6:
Smaller Unknown

Total: Part-Part-Whole Cards

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Objective:

The Part-Part-Whole Cards help students understand how parts combine to form a whole — before numbers are introduced.

How It Works:

Each card presents a numberless scenario with two parts and a whole.

Students use the graphic organizer to identify parts and the whole.

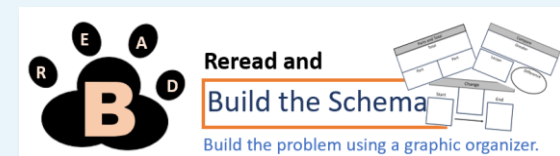
- Targeted prompts guide discussion: "What are the parts or groups?" and "What makes up the total?"

Why It Matters:

Students develop schema language that captures the structure of the problem.

- This prepares students to confidently add real numbers later.

Students learn to see the underlying structure, not just memorize steps.



 **Numberless Problem**

There are some red marbles and some blue marbles. All of the marbles are put together in one container.

 **Think About It**

1. What two are the groups or parts in the story?
2. What happens to the groups or parts?
3. What schema is this: Part-Part-Whole, Change, or Compare?

Total	
Total	
Part	Part

 **Word Problem**

There are 6 red marbles and 4 blue marbles. All of the marbles are put together in one container. How many marbles are there in all?

 **Think About It**

1. What are the two parts?
2. What is the whole?
3. What schema is this?

Total	
Total	
Part	Part

 **Numberless Problem**

A student has some pencils at school and some pencils at home. They decide to count all of their pencils together.

 **Think About It**

1. What two groups are being described?
2. What happens to them?
3. What schema is this?

Total	
Total	
Part	Part

 **Word Problem**

A student has 5 pencils at school and 3 pencils at home. They decide to count all of their pencils together. How many pencils do they have in total?

 **Think About It**

1. What are the parts?
2. What is the total?
3. What schema is this?

Total	
Total	
Part	Part

 **Numberless Problem**

One student has some stickers and another student has some stickers. They put all of their stickers together to see how many they have.

 **Think About It**

1. Who has the two groups?
2. What happens to the stickers?
3. What schema is this?

Total	
Total	
Part	Part

 **Word Problem**

One student has 7 stickers and another student has 2 stickers. They put all of their stickers together. How many stickers do they have in all?

 **Think About It**

1. What are the parts?
2. What is the total?
3. What schema is this?

Total	
Total	
Part	Part

Developing Schema

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