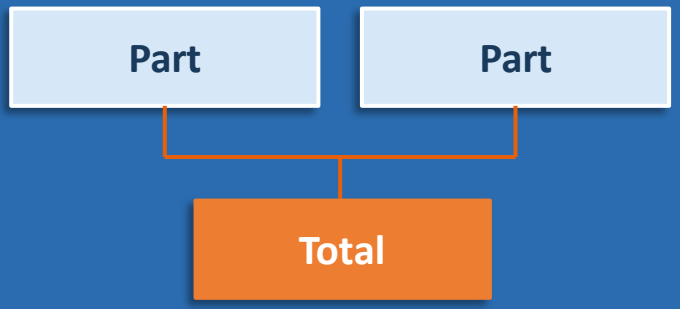
numeracy consultants
numbers are all we do



TOTAL Schema



CHANGE Schema



(+ or –)

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

Fres Supplement

Free Supplement

To purchase the remainder of this supplement please visit
www.numeracyconsultants.net/store

info@numeracyconsultants.net

Developing Schema

Fres Supplement

Free Supplement

To purchase the remainder of this supplement please visit
www.numeracyconsultants.net/store

info@numeracyconsultants.net

Main Menu

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

Deborah McCloud Individual License 2213

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.



Deborah McCloud Individual License 2213

Part – Part – Whole (Result Unknown)

Lesson 1

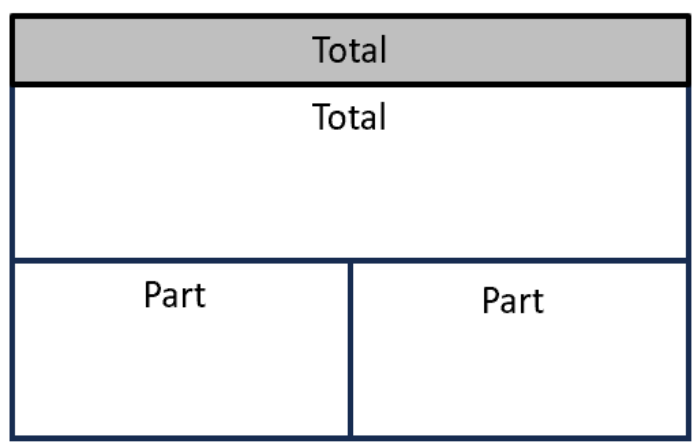
Deborah McCloud Individual License 2213

Numberless Problem

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

Think About It

1. What are the two 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?



Deborah McCloud Individual License 2213

Part – Part – Whole (Result Unknown)

Lesson 1

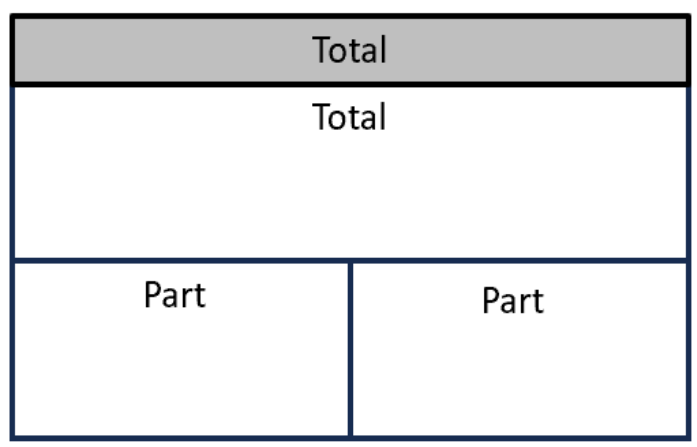
Deborah McCloud Individual License 2213

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?



Deborah McCloud Individual License 2213

Part – Part – Whole (Result Unknown)

Lesson 2

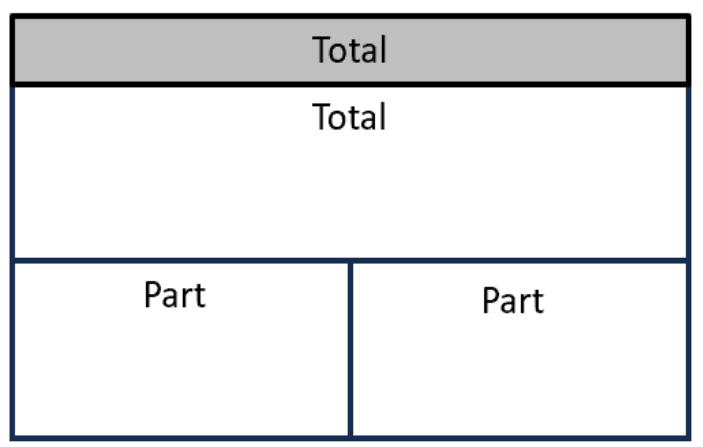
Deborah McCloud Individual License 2213

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?



Deborah McCloud Individual License 2213

Part – Part – Whole (Result Unknown)

Lesson 2

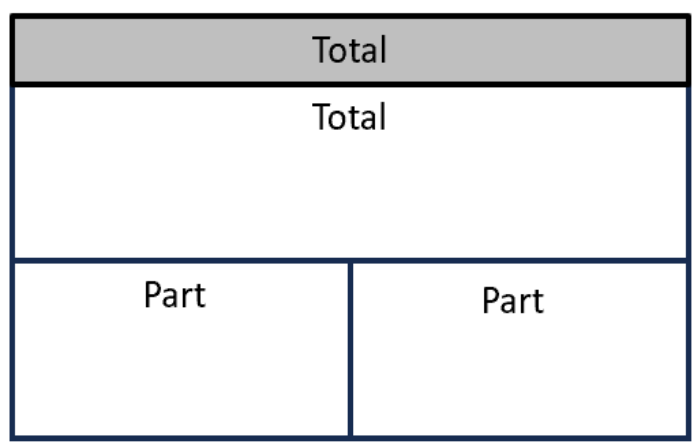
Deborah McCloud Individual License 2213

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?



Deborah McCloud Individual License 2213

Part – Part – Whole (Result Unknown)

Deborah McCloud Individual License 2213

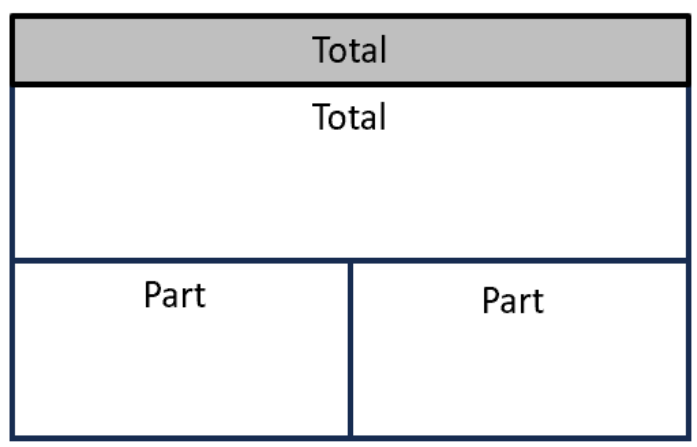
Lesson 3

Numberless Problem

A 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?



Deborah McCloud Individual License 2213

Part – Part – Whole (Result Unknown)

Lesson 3

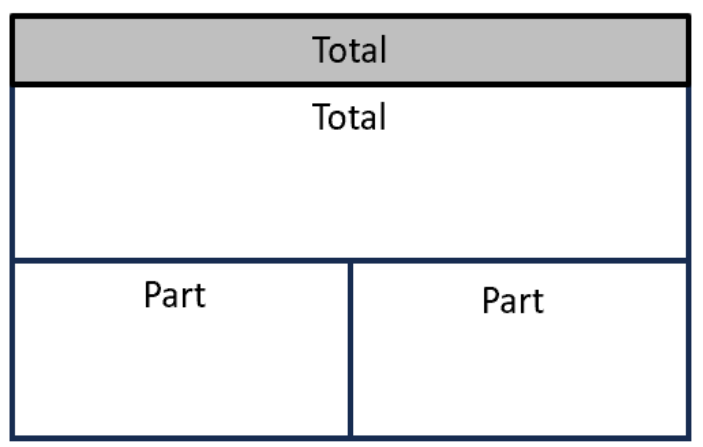
Deborah McCloud Individual License 2213

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?



Deborah McCloud Individual License 2213

Developing Schema

Fres Supplement

Free Supplement

To purchase the remainder of this supplement please visit
www.numeracyconsultants.net/store

info@numeracyconsultants.net