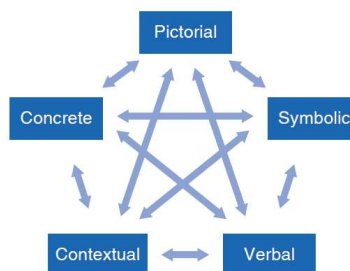# BEAUTIFUL MODELS: CHOOSING AND USING BRILLIANT REPRESENTATIONS

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ORIGO EDUCATION

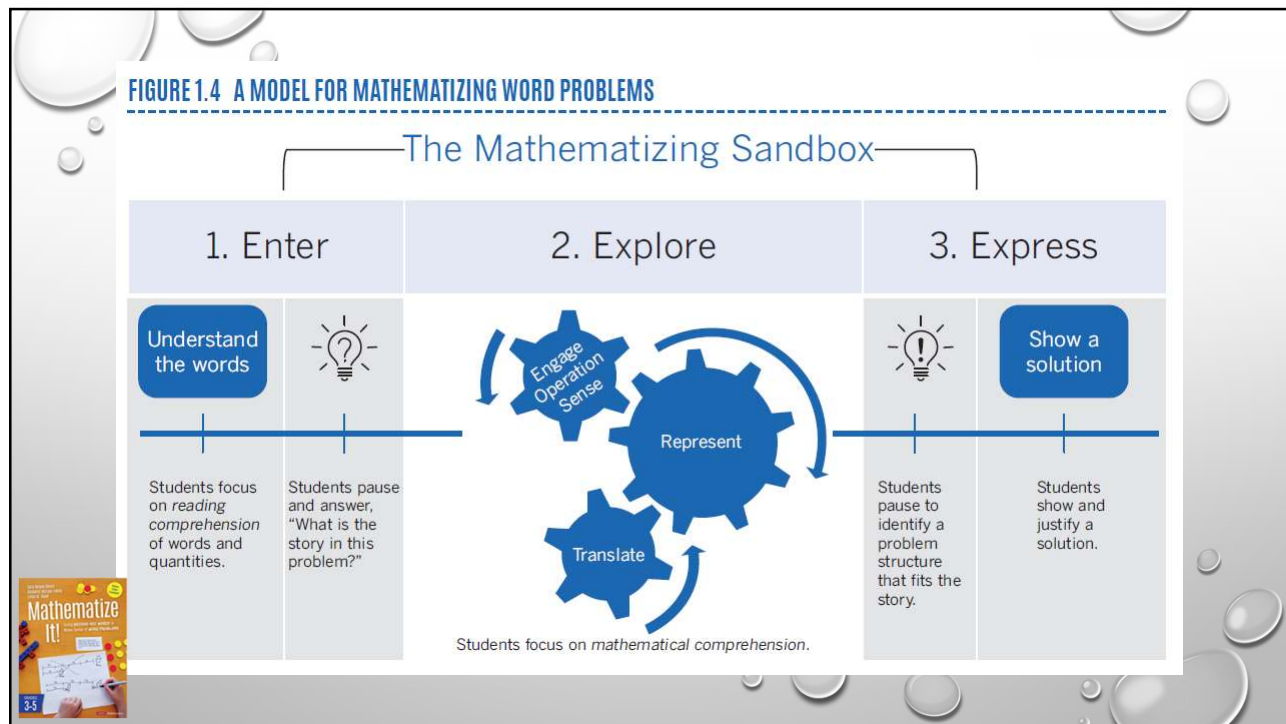@SARADELANOMOORE

1

USE AND CONNECT A VARIETY OF REPRESENTATIONS

FIGURE 1.1 FIVE REPRESENTATIONS: A TRANSLATION MODEL

Source: Adapted from Lesh, Post, and Behr (1987).

2

FIGURE 1.4 A MODEL FOR MATHEMATIZING WORD PROBLEMS

3

COUNTERS AND SKETCHES

- THEY SHOW ACTION EASILY.

- ONE-TO-ONE CORRESPONDENCE HELPS WITH ADDITIVE COMPARISON.

- THEY CAN SHOW EQUAL GROUPS WITH CONTAINERS.

4

CUISENAIRE RODS & BAR MODELS

- THEY CAN SHOW PART/WHOLE RELATIONSHIPS CLEARLY.

- THEY SHOW ADDITIVE COMPARISONS CLEARLY.

- THEY CAN SHOW MULTIPLICATIVE COMPARISON.

5

NUMBER LINES

- ARROWS CAN INDICATE ACTION.

- COMPARISONS CAN BE HARD TO SHOW.

- REPEATED ADDITION IS EASIER TO SEE THAN AREA.

6

▶ There are 26 students in Mrs. Amadi's class. 15 left to get ready to play in the band at the assembly. How many students remain in the classroom?

▶ There are 26 students in Mrs. Amadi's class. 15 play in the concert band. The rest sing in the choir. How many are in the choir?

► There are 15 band students and 11 choir members in Mrs. Amadi's class. How many more students are in the band than the choir?

▶ Kwon wants to fill 3 bags with collectible cards for his party guests. He puts 8 cards in each bag. How many cards does he need?

▶ Bradley bought a new rug for the hallway of his house. The rolled-up rug measures 3 feet tall and the label said the area is 24 square feet. How long is the rug?

▶ Rajesh had 12 grapes for a snack. Latika had 3 more grapes in her snack than Rajesh did. How many grapes did Latika have?

▶ Joyce lives 12 miles from her school. Andrew lives 3 times as far from school as Joyce lives. How far away from school does Andrew live?

Reflecting on Representations

Counters & Sketches

Cuisenaire Rods & Bar Models

Number Lines