Addition word problems, the basic types

1. How are these word problems different from a child's perspective? Which is easier for a young child to understand?

a. Paula had 4 marbles. When she cleaned her room, she found 5 more marbles. How many marbles does she have now?	b. There are 4 sweet crackers in the lunch box, and 5 salty crackers in the lunch box. How many crackers are in the lunch box?

In a, you are making the set of marbles bigger by adding to it (ARU). In b, you are taking 2 kinds of things and making a bigger group out of it (PPW-WU).

Making a group bigger (a) is easier for young children to understand.

Describe how to solve problems of each of these types by direct modeling:
Sample problems:
2. Explain how to model a ARU problem such as: Ethan had 3 robots. For his birthday, he got 5 more robots. How many robots does he have now?

- Put out 3 counters.
- Count 5 more counters as you add them to the pile
- Count all of the counters to get the total (answer)

3. Explain the difference in the associated strategies for direct modeling TRU, ACU and CDU problems. For example, explain how to solve each by direct modeling:
a. TRU (separating from): Nathan had 5 balloons. 2 of his balloons popped. How many balloons did he have left?

- Put out 5 counters in a group
- Remove 2 counters
- Count the counters that are left to find the difference (answer)

b. ACU (joining to): Ralph made 2 paper airplanes. How many more does he have to make to have 5 paper airplanes?

- Put out 2 counters
- Put out more counters in a separate pile, and count on to 5 as you put them out (3, 4, 5)
- Count the counters in the new pile to get the answer.

c. CDU (matching): John had 2 video games. Henry had 5 video games. How many more video games did Henry have than John?

- Put out 2 counters
- In a separate pile put out 5 counters
- Match the counters in the two piles
- Count the counters that don't have a match to get the answer

Describe how to solve problems of each of these types by using the associated counting strategy:

4. Describe how to solve this ARU problem by counting on: Ethan had 3 robots. For his birthday, he got 5 more robots. How many robots does he have now?

- Think "3".
- Put up fingers as you count on until you have 5 fingers up "4, 5, 6, 7, 8"
- The last number you said (8) is the answer

5. Describe how to solve this ACU problem by counting on to: Ralph made 2 paper airplanes. How many more does he have to make to have 5 paper airplanes?
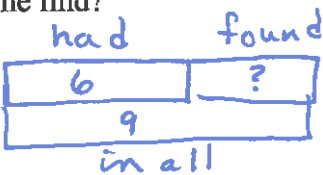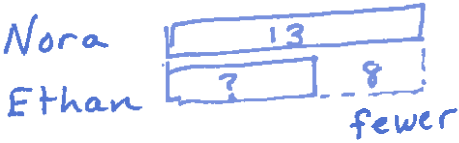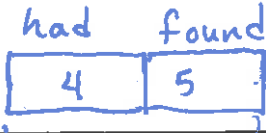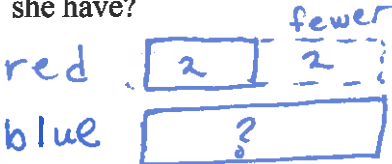
- Think "2"
- Put up fingers as you count on until you get to 5: "3, 4, 5"
- The number of fingers you have up (3) is the answer.

6. Describe how to solve this TRU problem by counting back: Nathan had 5 balloons. 2 of his balloons popped. How many balloons did he have left?

- Think "5"
- Put up fingers as you count back until you have 2 fingers up "4, 3"
- The last number you said (3) is the answer.

Draw a labelled bar diagram for a word problem of any of the CGI types, and write the associated addition and subtraction number sentence(s)

Sample problems: draw labelled bar diagrams for each problem.

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7. Michelle had 6 marbles. When she cleaned her room, she found some more marbles, and then she had 9 marbles. How many marbles did she find?	8. Nora has 13 markers. Ethan has 8 fewer markers than Nora. How many markers does Ethan have?
9. Paula had 4 marbles. When she cleaned her room, she found 5 more marbles. How many marbles does she have now?	10. Sandy has 2 red hats. She has 2 fewer red hats than blue hats. How many blue hats does she have?

11. Ellen had 11 butterfly stickers. She gave some butterfly stickers to Lisa. Now she has 8 butterfly stickers left. How many butterfly stickers did she give to Lisa?

had

11	
8	?

has left   gave
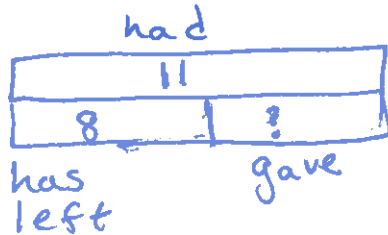
12. There are 5 sweet crackers in the lunch box, and 10 salty crackers in the lunch box. How many crackers are in the lunch box?

| sweet	salty
5	10
?	

total
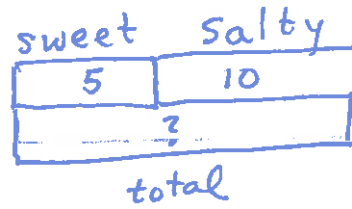
13. Yesterday Zach built some block towers. Today, he built 3 more block towers. In all, he built 11 block towers. How many block towers did he build yesterday?

yesterday   today

?	3
11	

in all
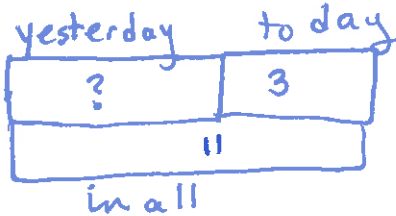
14. Zach had some dinosaurs. He gave 2 dinosaurs to Seth. Now he has 4 left. How many dinosaurs did Zach have to begin with?

had

?	
4	2

has left   gave
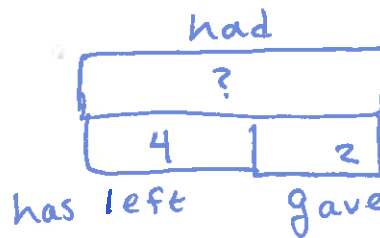
15. Todd has 5 stuffed toy animals and 9 hard plastic toy animals. How many more hard plastic toy animals than stuffed toy animals does Todd have?

more

stuffed | 5 | ? |
plastic | 9 | |
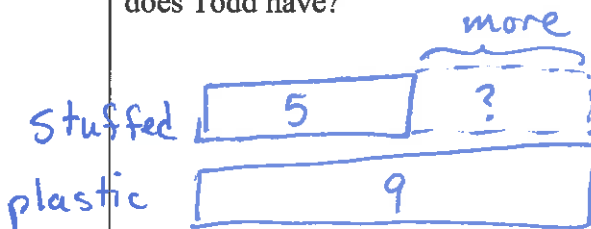
16. Zach has 6 GI Joes. He has 2 more GI Joes than Sam. How many GI Joes does Sam have?

Zach | 6 |
Sam | ? | 2 |
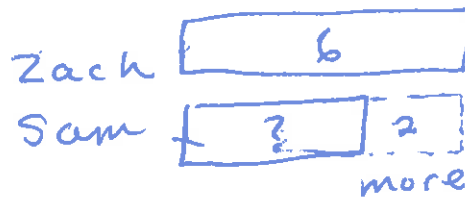
more

17. There are 19 bouncy balls in the toy box. 10 of the bouncy balls are green and the rest are blue. How many of the bouncy balls are blue?

bb in all

19	
10	?

green   blue
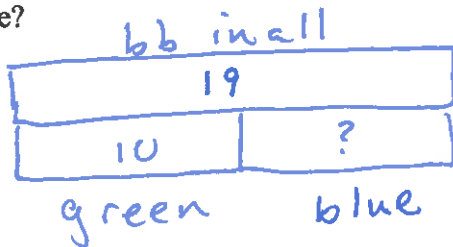
18. David caught 1 fish. How many more does he have to catch to have 3 fish?

caught more

1	?

3
wants in all