

Word Problem Benchmark Addition and Subtraction w/in 20

Word problems have traditionally been among the most difficult situations to help students navigate. Well-meaning educators have attempted to help their students by focusing on the numbers and keywords, but unfortunately those key words can lead the students astray. Based on the work of Thomas Carpenter et al. in their book *Cognitively Guided Instruction*, there are 15 word problem types that involve addition and subtraction. This assessment will assist educators in determining which problem types are causing their students the most difficulty so that they can plan their instructional response. The 15 problems in this assessment follow the progression set out in the CCSS. Questions 1-4 are the problem types expected by the end of kindergarten, questions 5 – 10 are expected by the end of grade 1, and questions 11-15 are expected by the end of grade 2 (including some multi-step problems as well which are not in this assessment). When instructing students on solving word problems, be sure to act out the problem situations, build it using concrete manipulatives, draw it, and then make a model of it. While problem solving incorporates many of the 8 mathematical practices, Math Practice 4 is particularly important as students create models of the various situations. Even though this assessment focuses on numbers within 20, the structure of the models will remain the same as the students progress through the gradelevels. The only thing that changes is that the numbers become multi-digit or fractions and decimals. By working on these problem types and creating models for the situations, we are setting the foundation of problem solving for our students.

Name: _____ WP Benchmark w/in 20

Directions: For each question, you must draw a model and show all your work.

1. Rylee had 8 dinosaurs. Susan gave him 4 more. How many dinosaurs does Rylee have now?

Model:

Solution:

2. Susie has some bracelets. 6 are red and 5 are blue. How many bracelets does she have altogether?

Model:

Solution:

3. John had 15 crayons. He gave 7 of them to his friend. How many crayons does he have now?

Model:

Solution:

4. Grandma has 5 flowers. How many can she put in her red vase and how many can she put in her blue vase? Show ALL the combinations she can do to put all her flowers in a vase.

Model:

Solution:

5. Dean had 9 toy cars. His dad gave him some more. Then he had 12 toy cars. How many toy cars did Dean's dad give him?

Model:

Solution:

6. Ann has 17 headbands. 8 of them are blue. The rest are green. How many headbands are green?

Model:

Solution:

7. There were 14 ducks in a pond. Some flew away. Now there are 7 ducks in the pond. How many flew away?

Model:

Solution:

8. Susie had 12 lollipops and Kayla had 8. How many more lollipops did Susie have than Kayla?

Model:

Solution:

9. Matthew had 13 basketball cards. Joel had 5 more basketball cards than him. How many basketball cards did Joel have?

Model:

Solution:

10. Jillian collected 14 sea shells. Hannah collected 9 fewer shells than Jillian. How many shells did Hannah collect?

Model:

Solution:

11. Steven had some gum. His mother gave him 6 more pieces of gum. Now he has 13. How many pieces of gum did he start with?

Model:

Solution:

12. Jenny had some marbles. She gave John 4. Now she has 11 marbles. How many marbles did Jenny have to start with?

Model:

Solution:

13. There were 15 pelicans in a pond and 6 hippos. How many fewer hippos were there than pelicans?

Model:

Solution:

14. There were 7 more pine trees than birch trees. If there were 13 pine trees, how many birch trees were there?

Model:

Solution:

15. Jane had 7 fewer lollipops than packages of Skittles. If she had 9 lollipops, how many packages of Skittles did she have?

Model:

Solution: