SUMMARY

We have identified four basic classes of addition and subtraction word problems. By varying the unknown within each type, a total of eleven distinct types of problems can be constructed. In Figure 2.6, we present examples of each basic problem type. These eleven problems represent different interpretations of addition and subtraction. The different problem types within each of the four basic classes in Figure 2.6 contain the same key words, but the structure of each problem is unique and is related to how children solve the problems. We discuss the relationship between problem structure and children's solution strategies in the next chapter.

[handwritten: be careful with verb tense]

[handwritten left margin: Common Core - wording]

Problem Type			
Join *[Add to]*	*(Result Unknown)* Connie had 5 marbles. Juan gave her 8 more marbles. How many marbles does Connie have altogether? *[all together]*	*(Change Unknown)* Connie has 5 marbles. How many more marbles does she need to have 13 marbles altogether?	*(Start Unknown)* Connie had some marbles. Juan gave her 5 more marbles. Now she has 13 marbles. How many marbles did Connie have to start with?
Separate *[Take from]*	*(Result Unknown)* Connie had 13 marbles. She gave 5 to Juan. How many marbles does Connie have left?	*(Change Unknown)* Connie had 13 marbles. She gave some to Juan. Now she has 5 marbles left. How many marbles did Connie give to Juan?	*(Start Unknown)* Connie had some marbles. She gave 5 to Juan. Now she has 8 marbles left. How many marbles did Connie have to start with?
Part-Part-Whole *[Put together/ Take Apart]*	*(Whole Unknown)* *[Total]* Connie has 5 red marbles and 8 blue marbles. How many marbles does she have?	*(Part Unknown)* *[Addend]* Connie has 13 marbles. 5 are red and the rest are blue. How many blue marbles does Connie have?	
Compare	*(Difference Unknown)* Connie has 13 marbles. Juan has 5 marbles. How many more marbles does Connie have than Juan?	*(Compare Quantity Unknown)* Juan has 5 marbles. Connie has 8 more than Juan. How many marbles does Connie have?	*(Referent Unknown)* Connie has 13 marbles. She has 5 more marbles than Juan. How many marbles does Juan have?

FIGURE 2.6   *Classification of Word Problems*

[handwritten: Categories change (common core)]