



Answering the Right Question

Purpose A typical student mistake when solving word problems is that students do the arithmetic right, but answer the wrong question. This is frustrating for both teachers and students. This Ramp Up activity has two parts. In the first part, the students and teacher work together to understand the context of a problem and then write questions that could be answered about the context. In the second part, students work together to understand the problem context and then answer different questions about it. This kind of activity helps students focus on the question so that they can be sure they answer the question that the problem is asking.

About the Problems: This Ramp Up contains one-step, two-step, and multi-step problems. The activity includes all four operations. Note that Problem #4 takes into account that half of a zebra's stripes are black and half are white.

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|---|---|---|-------------------------------------|
| <input checked="" type="checkbox"/> One-step problems | <input checked="" type="checkbox"/> Multi-step problems | <input checked="" type="checkbox"/> Small group | <input type="checkbox"/> Centers |
| <input checked="" type="checkbox"/> Two-step problems | <input checked="" type="checkbox"/> Teacher-facilitated | <input checked="" type="checkbox"/> Tutoring/Intervention | <input type="checkbox"/> Challenge! |

Setting Up For Instruction

- Prepare **Mr. Haroo's Zoo PG.1** so that it can be projected using your classroom technology.
- Make 1 copy of **Mr. Haroo's Zoo** for each student.

Thought Extenders

- What information is given in the problem?
- What is the action in the problem?
- What does operation mean? Which operation do you see in the problem?
- Could there be multiple (or various) ways to work the problem (e.g., repeated addition vs. multiplication, or repeated subtraction vs. division)?
- How do you know if you need only one operation to solve the problem? How do you know if you need two operations to solve the problem?
- What do the numbers in your equation stand for?
- How do the numbers relate to the problem?
- How does your answer relate to the problem?
- Can you write a solution sentence for the problem?

How-To Guide

1. Put students in groups of 3–4. Hand out materials.
2. Project Problem #1. Have students read #1 and discuss the context of the problem.
3. Questions for Discussion:
 - What information does the problem give us? What do we know?
 - What kinds of questions could be asked about the quantities (information) in the problem? (Have students write the questions on **Mr. Haroo's Zoo**.)
 - Do the questions have the same answers?
 - How do you know which information to use to answer the question?
4. Project Problem #2 and work through it with students in the same way.
5. Have students work in groups to answer the questions that were generated for Problems #1 and #2 and solve Problems #3–#8.

Helping Students Get Started with Word Problems (4.1B)

"I don't know what to do." Every math teacher has heard this. Often students who say that they don't know how to work the problem *actually do* have an idea how to get started, but they are afraid that they are wrong and, therefore, they don't get started at all. The teacher's job is to build their problem-solving confidence. When a student says, "I don't know what to do", the student is relying on the teacher, instead of themselves, to get them started. Instead of *telling* them what to do, *ask* them what they think they should do. Sometimes they will still say that they have no idea. There are at least two ways to challenge that assertion that still build their problem-solving confidence.

1. Ask them to guess what they should do. Guessing is less threatening than knowing. Sometimes their guess will be right. Even if the guess is wrong, you'll know what they are thinking and can question them into the best way to start the problem.
2. Ask them what they know about the problem and what they are trying to find out. Help them figure out how what they know is connected to what they are looking for.
3. Ask them what story the problem tells. Using the story is the key to knowing which operations to use.



MR. HAROO'S ZOO ANSWER KEY

Questions	Answers
<p>1 Possible questions include:</p> <p>Q1. How many grandchildren does Mr. Haroo have altogether?</p> <p>Q2. How many grandchildren are boys?</p> <p>Q3. How many grandchildren are girls?</p>	<p>Answers vary based on the question asked.</p> <p>Q1. 50</p> <p>Q2. 23</p> <p>Q3. 27</p>
<p>2 Possible questions include:</p> <p>Q1. How many children does he take to the zoo?</p> <p>Q2. How many go to see pandas?</p> <p>Q3. How long is the line to see the pandas?</p>	<p>Q1. 30 children</p> <p>Q2. 11 children</p> <p>Q3. 160 minutes</p>
<p>3 The zoo has 9 monkeys. It has 3 times as many zebras as it does monkeys. It has 2 times as many pandas as it does monkeys. It has 2 tigers. How many animals do they have combined?</p>	56 animals
<p>4 There are 27 zebras. Two of the zebras have 60 stripes. The rest have 50 strips. How many black stripes do the zebras have combined?</p>	685 stripes
<p>5 Zebras eat 80 pounds of grass every 4 days. How much does a zebra eat in a week?</p>	140 pounds
<p>6 One of the tigers is a male and the other is a female. The female tiger eats 66 pounds of meat every day. The male eats 77 pounds every day. How much more does the male eat in a week than the female?</p>	77 pounds
<p>7 The monkeys like to climb...a lot! Four of the monkeys each climb 175 meters every day. Three of them each climb 190 meters every day. The other 2 each climb 104 meters every day. How many combined meters do the monkeys climb every day?</p>	1,478 meters
<p>8 The zoo also has 35 ring-tailed lemurs, but no one wanted to see them. Each lemur eats 4 pounds of food a day. Half of their diet consists of tamarinds, and the rest is divided among flowers, herbs, bark, sap, spider webs, and dirt. How many pounds of tamarinds do the lemurs eat in 30 days?</p>	2,100 pounds



Directions: Using the information in the problem, write two questions that could be asked and answered.

1 Mr. Haroo has 5 sons. Each of his sons has 10 children.

- Two of Mr. Haroo's sons have only girls.
- Two of Mr. Haroo's sons have only boys.
- One of his sons has 3 boys and 7 girls.

2 Mr. Haroo takes 3 of his sons and all of their children to the zoo.

- 11 of the children want to see monkeys, and the line for monkeys is 30 minutes long.
- 3 of them want to see tigers, and the line to see the tigers is 50 minutes long.
- 5 want to see zebras, and there is no line to see zebras.
- The rest of the children want to see pandas, and the line to see the pandas is twice as long as the other lines combined.
- One adult goes with each group to see a different animal.



Q1: _____

Q2: _____

Q1: _____

Q2: _____



Directions: Solve.

3 The zoo has 9 monkeys. It has 3 times as many zebras as it does monkeys. It has 2 times as many pandas as it does monkeys. It has 2 tigers. How many animals do they have combined?

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Solution: _____

Solution: _____



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