

Grade 4 Mathematics

Number and Number Relations: Lesson 11

Read aloud to the students the material that is printed in **boldface type** inside the boxes. Information in regular type inside the boxes and all information outside the boxes should **not** be read to students. Possible student responses are included in parentheses after the questions.

NOTE: The directions read to students may depend on the available materials. Read only those parts of the lesson that apply to the materials you are using.

Any directions that ask you to do something, such as to turn to a page or to hand out materials to students, will have an arrow symbol (\downarrow) by them.

Purpose of Lesson 11:

- In this lesson, the tutor and the students will
 - ✓ analyze word problems by looking at the information given, and
 - ✓ analyze word problems by looking at the questions asked.

Equipment/Materials Needed:

- Copies of Student Sheets 68 – 70 for students
- Paper and pencils

Preparations before beginning Lesson 11:

- Run off one copy of Student Sheets 68 – 70 for each student.
- Have paper and pencils available.

Lesson 11: Number and Number Relations

The questions on the LEAP assessment are all in context, or are all written as word problems. This lesson will focus on analyzing word problems. Telling students to read a word problem carefully or to read it twice is not the answer. Students need to be shown ways to analyze the parts of a word problem.

└ Give students Student Sheet 68.

Say:

In this lesson, we will focus on word problems. When you are given a word problem, there are things that you can do to help you understand the problem better.

- 1. Read the entire problem once.**
- 2. Read the problem a second time.**
 - a. Circle the question.**
 - b. Rewrite the question in your own words.**
- 3. Look at the information, or data, in the problem. Ask yourself these questions.**
 - a. Do I have enough data to answer the question? Are some data missing?**
 - b. Are some data assumed? What are some things that might be assumed? (A “pair” of shoes is 2 shoes. There are 7 days in one week. There are 25 pennies in a quarter, etc.)**
 - c. Are there too much data? If so, put an “X” over the data you don’t need.**

└ Give students Student Sheet 69.

These problems focus on writing questions about given data. Students should write at least two questions for each set of data. Either have the students answer their own problems or have students answer other students’ questions as the problems are read out loud. You may want to cut each problem out individually so that students focus on only one problem at a time.

Answers will vary, but here are some possible responses.

1. How many more chimps than baboons are in the exhibit area?
2. How many fewer female kittens than female puppies were available for adoption last week?
3. How many candies could Anthony give each friend?
4. Which class collected the least number of telephone books?
5. How many more girls than boys are in the 4th grade class?
6. How much more did Cassie spend on the movie than on the drink?
7. How many trophies could James put on each shelf of his trophy case if he puts the same amount on each shelf?
8. How many coins does Bubba have in all?
9. How many students total are in the classes at Central Elementary?
10. If I watched *Independence Day* and *Star Trek*, how long would I spend watching movies?

Having students write questions will help them understand the questions they are being asked more completely when they are given word problems. Writing questions also helps students focus on the data given. The next student sheet will focus on looking at the data.

] Give students Student Sheet 70.

You may want to cut each problem out individually so that students focus on one problem at a time. Have them look at the strategies on Student Sheet 68 as they look at these problems.

Answers will vary, but these are possible responses.

	Necessary Info.	Unnecessary Info.	Assumed Info.	Missing Info.
1.	FuBu cost \$36 bought 2 pairs of jeans.	Levis cost \$38 Hilfiger cost \$55		
2.	got 2 new students			the number of students in the class before
3.	concert starts at 6:15 concert lasts 2 hrs. 10 min.	Adult tickets are \$35. Child tickets are \$25.		
4.	had 3 doz. eggs took 26 eggs to school		1 dozen eggs = 12 eggs	

	Necessary Info.	Unnecessary Info.	Assumed Info.	Missing Info.
5.	spent \$2.25 for pizza spent \$1.55 for soda had \$5.00			
6.	took in 10 cans everyday for 1 school week		school week = 5 days	
7.	read 128 pages on Tues. read 142 pages on Wed.			number of pages read on Thurs
8.	threw 2 passes			number of yards in each pass
9	Smokey weighs 18 lbs. Snoopy weighs 12 lbs.	has 3 cats Snickers weighs 6 lbs.		
10.	flight lasts 180 minutes		1 hour = 60 minutes	

] Have one student summarize today's lesson. You want the students to think about how to look carefully at the information that is given in a word problem and how to look carefully at what information is needed to answer a question.

Strategies for Word Problems

- 1. Read the entire problem once.**

- 2. Read the problem a second time.**
 - a. Circle the question.
 - b. Rewrite the question in your own words.

- 3. Look at the information, or data, in the problem. Ask yourself these questions.**
 - a. Do I have enough data to answer the question? Are some data missing?
 - b. Are some data assumed? What are some things that might be assumed that you know? (A pair of shoes is 2 shoes. There are 7 days in a week. There are 25 pennies in a quarter, etc.)
 - c. Are there too much data? If so, put an “X” over the data you don’t need.

Student Sheet 69 (Number: Lesson 11)

Write two different questions using the given information. You don't have to use all of the information.

1. The zoo has 12 baboons, 4 gorillas, and 18 chimps in one exhibit area of the park.
2. The SPCA has pets to adopt. Last week they had 12 male kittens, 2 female kittens, 2 male puppies, and 16 female puppies.
3. Anthony has 6 bags of candy. Each bag has 36 pieces. He has 3 friends coming to his house.
4. At Estelle Elementary, the students are recycling telephone books. The 4th grade class collected 396 books. The 5th grade class collected 216 books, and the 3rd grade class collected 111.
5. There are 59 girls and 57 boys in the 4th grade class. There are 63 girls and 65 boys in the 3rd grade class.
6. Cassie had \$12.50 last week. This week, she spent \$4.25 on a movie and \$1.75 on a drink.
7. James has won 56 trophies. Twenty of the trophies were for soccer. He has 8 shelves in his trophy display case.
8. Bubba has 8 nickels, 4 quarters, and 3 dimes. A burger costs \$1.25.
9. There are approximately 120 students in each of the four classes at Central Elementary. There are approximately 150 students in each of the 3 classes at South Elementary.
10. The movie *Independence Day* was 2 hours and 25 minutes long. The movie *Star Trek--First Contact* was 1 hour and 51 minutes long. It is 2:00 p.m. now.

Student Sheet 70 (Number: Lesson 11)

For each problem, look at the information given. In order to answer the question, you must identify what information is necessary, unnecessary, assumed, or missing.

1. Jean Joint had a sale on jeans. Fu Bu Jeans were \$36, Levis were \$38, and Tommy Hilfiger were \$55. Christine bought two Fu Bu Jeans. How much did she spend on jeans?

Necessary information:

Unnecessary information:

Assumed information:

Missing information:

2. Mr. Smith got two new students in his mathematics class today. How many students are in his class now?

Necessary information:

Unnecessary information:

Assumed information:

Missing information:

3. The Ricky Martin concert starts at 6:15 p.m. and will last for 2 hours and 10 minutes. Adult tickets are \$35 and children's ticket are \$25. What time will the concert end?

Necessary information:

Unnecessary information:

Assumed information:

Missing information:

4. Dejoyce is coloring 3 dozen Easter eggs. She is planning to take 26 eggs to school for her class. How many will she have left at home?

Necessary information:

Unnecessary information:

Assumed information:

Missing information:

5. Lee spent \$2.25 for a slice of pizza and \$1.55 for a soda. Would \$5.00 be enough to pay the bill?

Necessary information:

Unnecessary information:

Assumed information:

Missing information:

Student Sheet 70 (Number: Lesson 11) continued

6. Our class collected canned goods for the holiday food drive. We took in 10 cans everyday for one school week. How many cans did we collect in a week?

Necessary information:

Unnecessary information:

Assumed information:

Missing information:

7. Tuesday night, Marie read 128 pages of a book. She read 142 pages of the same book on Wednesday night. She finished the book on Thursday night. How many pages were in the book?

Necessary information:

Unnecessary information:

Assumed information:

Missing information:

8. Cody threw 2 touchdown passes to win the football game. How many yards did he throw in these two passes?

Necessary information:

Unnecessary information:

Assumed information:

Missing information:

9. Kathy has 3 cats. Snickers weighs 6 pounds. Smokey weighs 18 pounds, and Snoopy weighs 12 pounds. How much more does Smokey weigh than Snoopy?

Necessary information:

Unnecessary information:

Assumed information:

Missing information:

10. Jay's flight to New Orleans took 180 minutes. How many hours was the flight?

Necessary information:

Unnecessary information:

Assumed information:

Missing information: