

Grade 8 Mathematics

Number and Number Relations: Lesson 7

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 7:

- 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 63 – 65 for students
- Paper and pencils

Preparations before beginning Lesson 7:

- Run off one copy of Student Sheets 63 – 65 for each student.
- Have paper and pencils available.

- 2.a. How many cubes were in the bag?
 - b. What percent of the cubes in the bag were red?
 - c. What is the ratio of blue cubes to white cubes in the bag?

- 3.a. How long would it take to watch both movies?
 - b. How many minutes long is *Independence Day*?
 - c. If I started watching *Independence Day* at 2:00 p.m., what time would I finish the movie?

- 4.a. How many minutes are in $2\frac{1}{2}$ hours?
 - b. How long would it take to get to New Orleans if Marian stops at the outlet mall?
 - c. What time should Marian leave Opelousas?

- 5.a. How much is 3 twenty-dollar bills worth?
 - b. How much did the other game cost?
 - c. What was Jorge's change?

Having students write questions will help them understand the questions they are being asked more fully 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 65.

Have students look at the strategies on Student Sheet 63 as they look at these problems.

Answers will vary, but these are possible responses.

	Necessary Info.	Unnecessary Info.	Assumed Info.	Missing Info.
1.	bought shirt for \$39.50, jacket for \$67.95, pants for \$41.99			amount of money given to the clerk
2.	flight was 75 minutes long		60 min = 1 hour	
3.	-10°F at 6:00 0°F at noon	-5°F at 8:00		
4.	20% of class absent; 35 students			

	total in class			
	Necessary Info.	Unnecessary Info.	Assumed Info.	Missing Info.
5.	bought 18 comics sale price is 3/\$1.89	original price was 98¢ each		
6.	costs 69¢/lb at Blue's costs 58¢/lb at TC's bought 10 lbs.			
7.	threw 3 passes	3 ft = 1 yd		number of yards for each pass
8.	concert starts at 6:15 p.m. left house at 5:00 p.m.			how long it took to get there
9	read $\frac{1}{4}$ book on Tues. read 200 pages on Wed. book is 420 pages long			
10.	\$500 saved normal cost was \$650 sale was 25% off tax was \$39			

] 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 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 64 (Number: Lesson 7)

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

1. At Worley Middle School, there are 525 students in the 7th grade and 639 students in the 8th grade. One-fifth of the 7th grade and one-ninth of the 8th grade students went on a field trip.
2. A bag of cubes contained 3 blue cubes, 8 red cubes, and 4 white cubes. There were no other cubes in the bag.
3. 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.
4. Marian was going to visit her mom in New Orleans. It takes about $2\frac{1}{2}$ hours to get there from Opelousas. She needs to be in New Orleans by 4:00 p.m., but she wants to stop for about 35 minutes at the outlet mall.
5. Jorge bought 2 *PlayStation* games. He spent \$49.30 including tax for the games. The *Star Fox* game costs \$24.10. He gave the clerk 3 twenty-dollar bills.

Student Sheet 65 (Number: Lesson 7)

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

1. Sammy went shopping. He bought a shirt for \$39.50, a jacket for \$67.95, and a pair of pants for \$41.99. How much change did he receive?

Necessary information:

Unnecessary information:

Assumed information:

Missing information:

2. Sara flew from Dallas to New Orleans. The flight was 75 minutes long. How many hours was the flight?

Necessary information:

Unnecessary information:

Assumed information:

Missing information:

3. The temperature at 6:00 a.m. was -10°F . The temperature was -5°F at 8:00 a.m. and was 0°F at noon. What was the difference in temperature from 6:00 a.m. to noon?

Necessary information:

Unnecessary information:

Assumed information:

Missing information:

4. Mr. Warren said 20% of his class was absent today. He has 35 students in his class. How many students were in his class today?

Necessary information:

Unnecessary information:

Assumed information:

Missing information:

5. Steve bought 18 comic books at the sale price of 3 for \$1.89. The comic books originally cost 98¢ each. How much did the comic books cost on sale?

Necessary information:

Unnecessary information:

Assumed information:

Missing information:

Student Sheet 65 (Number: Lesson 7) continued

6. Pecans were 69¢ a pound at Blue's and 58¢ a pound at TC's. Denise bought 10 pounds. How much would she save at TC's?

Necessary information:

Unnecessary information:

Assumed information:

Missing information:

7. Jesse threw 3 touchdown passes to win the football game. There are 3 feet in a yard. How many yards did he throw in the 3 passes?

Necessary information:

Unnecessary information:

Assumed information:

Missing information:

8. The Faith Hill concert starts at 6:15 p.m. We left the house at 5:00 p.m. Did we arrive at the concert in time?

Necessary information:

Unnecessary information:

Assumed information:

Missing information:

9. Tuesday night, Tucker read $\frac{1}{4}$ of his book. He read 200 pages of the same book on Wednesday night. He finished the book on Thursday night. If the book was 420 pages long, how many pages did he read on Thursday night?

Necessary information:

Unnecessary information:

Assumed information:

Missing information:

10. Julia has \$500 to buy a new computer. The computer she wants normally costs \$650, but is on sale for 25% off. The tax on the purchase is \$39. Does she have enough money saved?

Necessary information:

Unnecessary information:

Assumed information:

Missing information: