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Practice 1-1

Understanding Whole Numbers

Write each number in words.

1. 1,760

_____

_____

2. 84,505

_____

_____

Write each number in standard form.

3. three thousand forty

_____

4. one hundred ten

_____

5. 750 thousand, 33

_____

Use < or > to make each sentence true.

6. 12,680 ☐ 12,519

7. 25,345 ☐ 25,391

8. 7,657 ☐ 7,650

9. 101,321 ☐ 141,321

Write the value of the digit 6 in each number.

10. 46,051

_____

11. 816,548

_____

12. 42,916

_____

13. 1,063,251

_____

Write in order from least to greatest.

14. 12; 152; 12,512

_____

15. 10; 10,113; 113

_____

16. 149; 49; 14

_____

17. 1,422; 142; 247

_____

Multiplying Decimals (B)

Find each product.

43.7 × 0.77	11.1 × 16	265 × 1.3	866 × 68
71.7 × 0.68	6.38 × 8.5	667 × 1.9	0.941 × 9.1
10.5 × 40	0.307 × 6.1	0.649 × 9.9	0.589 × 21
6.93 × 46	6.88 × 7.4	0.607 × 24	36.4 × 14
6.66 × 6.5	82.3 × 0.71	29.7 × 1.7	0.475 × 0.39

Writing numbers in expanded form (12 digits)

Grade 6 Place Value Worksheet

Write each number in expanded form.

1. 56,168,208 _____

2. 33,987,806 _____

3. 69,457,549 _____

4. 32,332,336,214 _____

5. 1,051,158 _____

6. 9,057,406,104 _____

7. 24,000 _____

8. 84,250,001 _____

9. 576,385 _____

10. 90,017 _____

Prime Factors (A)

Use a tree diagram to find the prime factors of each number.

18	28	34
48	36	4
12	15	27

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Adding with Some Regrouping (J)

Find each sum.

1 + 5	9 + 9	2 + 9	2 + 1	2 + 2	1 + 9	6 + 4	2 + 8	5 + 5	5 + 7
4 + 7	5 + 3	8 + 3	9 + 5	4 + 2	6 + 3	4 + 5	4 + 6	2 + 1	2 + 2
1 + 6	5 + 9	2 + 8	2 + 7	3 + 2	3 + 9	4 + 2	6 + 1	2 + 2	3 + 8
8 + 2	4 + 5	9 + 7	1 + 5	6 + 5	6 + 8	6 + 1	2 + 4	9 + 9	4 + 7
7 + 4	9 + 3	7 + 1	2 + 7	6 + 1	4 + 6	9 + 4	1 + 1	7 + 2	2 + 5
4 + 8	1 + 6	3 + 6	3 + 9	4 + 9	6 + 9	3 + 8	4 + 3	2 + 9	1 + 9
9 + 2	4 + 1	3 + 9	2 + 9	5 + 2	6 + 4	5 + 8	9 + 3	7 + 3	1 + 7
5 + 1	8 + 6	5 + 9	1 + 9	4 + 9	6 + 9	9 + 1	6 + 2	4 + 5	8 + 5
8 + 3	1 + 9	5 + 4	3 + 3	3 + 5	7 + 9	1 + 4	5 + 6	9 + 9	1 + 3
6 + 8	9 + 3	9 + 1	7 + 6	2 + 6	5 + 5	8 + 6	6 + 9	6 + 4	2 + 9

Subtraction Facts to 18 (J)

Calculate each difference.

7	8	12	2	8	4	10	9	10	6
- 1	- 2	- 6	- 0	- 0	- 1	- 9	- 4	- 3	- 2
12	16	15	14	11	13	11	4	6	16
- 7	- 8	- 8	- 5	- 7	- 6	- 9	- 0	- 3	- 7
12	12	10	10	10	6	7	6	12	9
- 3	- 5	- 1	- 5	- 2	- 4	- 6	- 0	- 9	- 2
9	10	7	14	4	6	8	6	10	10
- 7	- 4	- 7	- 7	- 4	- 1	- 3	- 6	- 6	- 8
7	12	9	5	2	5	1	13	12	2
- 4	- 4	- 1	- 2	- 1	- 1	- 0	- 8	- 8	- 2
16	8	10	11	7	7	3	9	5	17
- 9	- 1	- 7	- 3	- 2	- 0	- 2	- 5	- 5	- 9
5	4	8	3	15	5	14	9	4	11
- 3	- 3	- 5	- 1	- 6	- 0	- 8	- 9	- 2	- 5
8	8	9	11	6	7	3	3	13	14
- 8	- 6	- 6	- 8	- 5	- 3	- 0	- 3	- 7	- 9
8	17	15	13	14	11	13	11	0	11
- 4	- 8	- 7	- 5	- 6	- 2	- 4	- 4	- 0	- 6
15	13	1	18	7	9	8	9	5	9
- 9	- 9	- 1	- 9	- 5	- 8	- 7	- 3	- 4	- 0

Multiplying By 8 (J)

Find each product.

6 × 8	8 × 3	4 × 8	2 × 8	9 × 8	8 × 1	8 × 11	8 × 10	8 × 5	7 × 8
8 × 10	9 × 8	8 × 8	4 × 8	8 × 5	2 × 8	6 × 8	11 × 8	8 × 7	8 × 3
8 × 8	8 × 11	2 × 8	8 × 3	8 × 9	10 × 8	4 × 8	8 × 5	8 × 6	8 × 7
8 × 8	6 × 8	11 × 8	7 × 8	8 × 9	8 × 1	8 × 4	8 × 10	8 × 5	8 × 3
5 × 8	12 × 8	2 × 8	8 × 8	8 × 1	6 × 8	8 × 7	10 × 8	8 × 9	3 × 8
8 × 1	5 × 8	8 × 9	7 × 8	4 × 8	2 × 8	8 × 12	6 × 8	8 × 11	8 × 3
8 × 4	8 × 3	6 × 8	11 × 8	8 × 9	8 × 8	1 × 8	8 × 7	8 × 10	8 × 2
2 × 8	3 × 8	12 × 8	8 × 9	8 × 1	8 × 11	5 × 8	8 × 10	8 × 7	8 × 8
8 × 10	8 × 4	12 × 8	8 × 7	9 × 8	11 × 8	1 × 8	8 × 8	8 × 5	6 × 8
8 × 7	5 × 8	8 × 8	8 × 12	4 × 8	11 × 8	2 × 8	10 × 8	8 × 9	8 × 6

Division (J)

Find each quotient.

$4\overline{)584}$	$3\overline{)2505}$	$9\overline{)5571}$	$7\overline{)1197}$	$3\overline{)1041}$
$6\overline{)5436}$	$2\overline{)1050}$	$2\overline{)1606}$	$4\overline{)2768}$	$2\overline{)1534}$
$7\overline{)6902}$	$1\overline{)864}$	$9\overline{)1512}$	$3\overline{)1488}$	$3\overline{)1011}$

Multi-Step Word Problems

1. Sandra read 5 books, Deacon read 6 books and Breanna read 7 books. One book was read by all three children, but every other book was different. How many different books did the children read?

2. In Science class, Sara needed 8 test tubes for 3 different experiments. The first experiment required 2 test tubes and the other two experiments required the same number of test tubes. How many test tubes were needed for each of the other two experiments?

3. Branson and his sister Beatrice combined their allowance of $7 each, so they could buy a movie for $12. They bought $1 containers of fruit salad with the remaining money and split the containers evenly between them. How many containers of fruit salad did they each get?

4. Before Cam broke his right arm, he was able to type 9 words per minute on his phone. After he broke his arm, he had to use his left hand for a while, and he could only type 6 words per minute. What is the difference between the number of words he could type in 5 minutes before and after he broke his arm.

5. When Gisselle decided to stop eating junk food, she started saving more of her allowance to buy a larger bicycle. She managed to put away $6 every week for 8 weeks and found a nice used bicycle for $50. She thought that she had close to that amount in her savings jar. Did she have exactly enough for the bicycle? If not, how much extra or how much too little did she have?

6. Annie and Dustin took a beginner's programming course over several weekends that showed them how to make simple video games. They spent most of their waking hours engaged in programming tasks and ended up with a game they called "Ro-Bot-Ro-Call." How many hours do you think they spent on their course? Show your work.

Multi-Step Word Problems

7. Kelley belonged to a canoe club that had 18 canoes. They kept their canoes on trailers, each able to carry canoes 2 wide and 3 high. If they had enough trailers for all of their canoes, how many trailers did they have?

8. Lilah's band had practiced 24 songs. At a performance, they played 7 songs in their first set and 8 songs in their second set. How many songs did they have for their third set, if they had to save one song for an encore?

9. While Gideon was camping with his family for a week, it rained for 3 days. When he looked at the weather records, he saw that the amount of rain was 3 mm, 6 mm, and 5 mm on the three days. During the same week, it rained 26 mm at his house. How much less rain did he experience while camping?

10. Heath and Jaydon liked birdwatching and kept track of how many different species they saw at each site. In one day, they visited 5 different sites and saw an average of 7 species at each site. The day before, they saw 30 different species at 6 different sites. How many fewer species did they see at each site the day before?

11. Harmony used discarded paper to make notepads for her friends. She would fold five letter size pieces of paper three times then cut along the lines. She would then stack the smaller note papers and staple them together. How long would one notepad last if someone wrote ten notes per day?

12. Gregory's nine chickens laid an average of six eggs each per week. Gregory sold those eggs for $3 per dozen. How much money did he collect in two weeks if he sold all his eggs?

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Skills Worksheet

Section Review

Scientific Models

USING KEY TERMS

In each of the following sentences, replace the incorrect term with the correct term from the word bank.

theory law

1. A law is an explanation that matches many hypotheses but may still change.

_____

2. A model tells you exactly what to expect in certain situations.

_____

UNDERSTANDING KEY IDEAS

_____ **3.** A limitation of models is that
- **a.** they are large enough to see.
- **b.** they do not act exactly like the things that they model.
- **c.** they are smaller than the things that they model.
- **d.** they model unfamiliar things.

4. What are three types of models? Give an example of each type.

_____

_____

_____

5. Compare how scientists use theories with how they use laws.

_____

_____

_____

_____

_____

_____

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MATH SKILLS

6. If Jerry is 2.1 m tall, how tall is a scale model of Jerry that is 10% of his size? Show your work below.

CRITICAL THINKING

7. Applying Concepts You and a friend are making a three-dimensional model of an extinct plant. Describe some of the potential uses for your model. What are some limitations of your model?

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Skills Worksheet

Section Review

Tools, Measurement, and Safety

USING KEY TERMS

Complete each of the following sentences by choosing the correct term from the word bank.

mass	area
volume	temperature

1. The measure of the surface of an object is called _____.

2. Life scientists use kilograms when measuring an object's _____.

3. The _____ of a liquid is usually described in liters.

UNDERSTANDING KEY IDEAS

_____ **4.** SI units are
- **a.** always based on standardized measurements of body parts.
- **b.** almost always based on the number 10.
- **c.** used only to measure length.
- **d.** used only in France.

5. How is temperature related to energy?

_____

_____

6. If you were going to measure the mass of a fly, which SI unit would be most appropriate?

_____

_____

MATH SKILLS

7. Convert 3.0 L into cubic centimeters. Show your work below.

8. Calculate the volume of a textbook that is 28.5 cm long, 22 cm wide, and 3.5 cm thick. Show your work below.

CRITICAL THINKING

9. Making Inferences The mite shown in your textbook is about 500 µm long in real life. What tool was probably used to produce this image? How can you tell?

10. Applying Concepts Give an example of what could happen if you do not follow safety rules.

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Skills Worksheet

Chapter Review

USING KEY TERMS

1. Use the following terms in the same sentence: *life science* and *scientific methods.*

_____

_____

2. Use the following terms in the same sentence: *controlled experiment* and *variable.*

_____

_____

For each pair of terms, explain how the meanings of the terms differ.

3. *theory* and *hypothesis*

_____

_____

_____

4. *compound light microscope* and *electron microscope*

_____

_____

_____

5. *area* and *volume*

_____

_____

_____

UNDERSTANDING KEY IDEAS

Multiple Choice

_____ **6.** The steps of scientific methods

a. must all be used in every scientific investigation.
b. must always be used in the same order.
c. often start with a question.
d. always result in the development of a theory.

_____ **7.** In a controlled experiment,
- **a.** a control group is compared with one or more experimental groups.
- **b.** there are at least two variables.
- **c.** all factors should be different.
- **d.** a variable is not needed.

_____ **8.** Which of the following tools is best for measuring 100 mL of water?
- **a.** 10 mL graduated cylinder
- **b.** 150 mL graduated cylinder
- **c.** 250 mL beaker
- **d.** 500 mL beaker

_____ **9.** Which of the following is NOT an SI unit?
- **a.** meter
- **b.** foot
- **c.** liter
- **d.** kilogram

_____ **10.** A pencil is 14 cm long. How many millimeters long is it?
- **a.** 1.4 mm
- **b.** 140 mm
- **c.** 1,400 mm
- **d.** 1,400,000 mm

_____ **11.** The directions for a lab include the safety icons shown below. These icons mean that

- **a.** you should be careful.
- **b.** you are going into the laboratory.
- **c.** you should wash your hands first.
- **d.** you should wear safety goggles, a lab apron, and gloves during the lab.

Short Answer

12. List three ways that science is beneficial to living things.

_____

_____

_____

13. Why do hypotheses need to be testable?

_____

_____

14. Give an example of how a life scientist might use computers and technology.

15. List three types of models, and give an example of each.

16. What are some advantages and limitations of models?

17. Which SI units can be used to describe the volume of an object? Which SI units can be used to describe the mass of an object?

18. In a controlled experiment, why should there be several individuals in the control group and in each of the experimental groups?