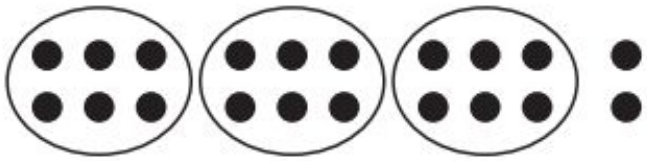
Chapter 4 Test

1. Between which two numbers is the quotient of 88 ÷ 5?
Write the numbers in the boxes.

5 10 15 20 25

The quotient is between ____ and ____.

2. Look at the model. What division does it show?



____ ÷ ____ → ____ r ____

3. Kira makes 93 greeting cards for a craft fair. She sells the cards in packs of 5.
How many full packs of greeting cards does Kira make?

____ packs

Work Space:

For 4a–4d, choose Yes or No to tell whether the division expression has a remainder.

4a.	32 ÷ 4	☐ Yes	☐ No
4b.	41 ÷ 3	☐ Yes	☐ No
4c.	65 ÷ 4	☐ Yes	☐ No
4d.	36 ÷ 9	☐ Yes	☐ No

5. A kennel is moving 160 dogs to a new facility. Each dog has its own crate. Each truck holds 9 dogs in their crates.

Part A

Write a division problem that can be used to find the number of trucks needed to carry the dogs in their crates. Then solve.

_____ ÷ _____ = _____ r _____

_____ **trucks**

Part B

What does the remainder mean in the context of this problem?

Teacher use only: 0 1

Part C

The facility manager rents 17 trucks. How can you use your answer to determine if the facility manager rented enough trucks? Explain.

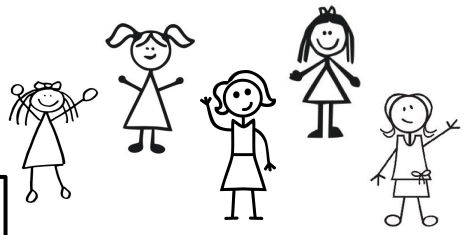
Teacher use only: 0 1

6. Which quotients are equal to 600? Mark Yes or No to tell if the quotient is equal to 600.

Ⓨ Ⓝ 1,200 ÷ 2	Ⓨ Ⓝ 180 ÷ 3
Ⓨ Ⓝ 2,400 ÷ 4	Ⓨ Ⓝ 3,000 ÷ 5
Ⓨ Ⓝ 420 ÷ 7	Ⓨ Ⓝ 6,000 ÷ 3

Work Space:

7. Amanda and her four sisters divided 1,021 stickers equally. About how many stickers did each girl receive?



_____ stickers

8. A science show brings along everything it needs for a show in big trucks.

Part A

The science show sets up chairs in rows with 8 seats in each row. How many rows will need to be set up if 456 people are expected to attend the show?

_____ rows

Part B

The lizards in the show eat about 250 crickets per week. About how many crickets do the lizards eat each day?

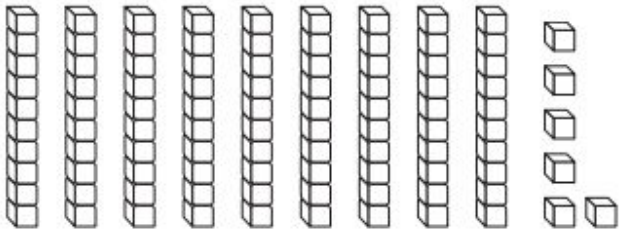
1 week = 7 days

_____ crickets

9. Use partial quotients to solve.

$7\overline{)749}$

10. Ethan needs to divide these base-ten blocks into 3 equal groups.



A. Draw or describe the model to show how many are in each group.

Teacher use only:

0 1

B. Write a division problem to show how many are in each group.

____ ÷ ____ = ____ **blocks**

11. Use the Distributive Property to break apart the dividend to find the quotient 128 ÷ 4.

Teacher use only:

0 1 2

128 ÷ 4 = (_____ ÷ _____) + (_____ ÷ _____)

= (_____ ÷ _____)

= _____

12. Chad bought 8 dozen note pads for his office. The note pads were divided equally into 6 boxes.
How many notepads are in each box?

_____ notepads

Chapter 5 Test

1. List all of the factors of the number.

21:

2. Use the rule to write the first five terms of the pattern.

Rule: Add 8, subtract 4 First term: 13

3. Marissa was decorating her room. She arranged 63 picture tiles on a wall in the shape of a rectangle. For 3a–3e, choose Yes or No to tell whether a possible arrangement of the picture tiles is shown.

3a.	7 rows of 9 tiles	☐ Yes	☐ No
3b.	22 rows of 6 tiles	☐ Yes	☐ No
3c.	21 rows of 3 tiles	☐ Yes	☐ No
3d.	63 rows of 1 tile	☐ Yes	☐ No
3e.	32 rows of 2 tiles	☐ Yes	☐ No

4. Classify the numbers. Some numbers may belong in more than one box.

45 48 81 84 99

Divisible by 3 and 9	Divisible by 5 and 9	Divisible by 2 and 6

5. Josh works in a balloon store. He will put 45 balloons into bunches. He must use the same number of balloons in each bunch. The number of balloons in each bunch must be greater than 1 and less than 10. How many balloons could be in each bunch?

_____ balloons

6. Miles has a train collection with 36 engines, 72 boxcars, and 18 cabooses. He wants to arrange the train cars in equal rows with only one type of train car in each row. How many can he put in each row? Mark all that apply.

☐ 12 ☐ 6 ☐ 4 ☐ 3 ☐ 2 ☐ 1

7. The library is designing a book display with 20 fiction books, 28 biographies, and 40 non-fiction books. Each shelf will have only one type of book on it. Sheena says she can put 5 books on each shelf. She listed the common factors of 20, 28, and 40 below to support her reasoning.

20: 1, 2, 3, 4, 5, 7, 20

28: 1, 2, 4, 5, 14, 28

40: 1, 2, 4, 5, 8, 10, 20, 40

Is she correct? Explain your answer. If her reasoning is incorrect, explain how she should have found the answer.

Teacher use only:

0 1 2

8. Beverly was skip counting while jumping rope. She started to count by 9s. She said 9, 18, 27, 36, 45, and 54. What number will she say next?

9. Marta uses 1 piece of paper and 1 piece of ribbon to make kites. The paper comes in packs of 3 pieces and the ribbon comes in packs of 4 pieces. What is the least number of kites Marta can make without any supplies left over?

kites

10. A store in Roger's neighborhood sells boxes of pencils that have 6 pencils in each box. Roger bought several boxes of pencils at the store. Which could be the number of pencils he bought? Mark all that apply.

☐ 9 ☐ 18 ☐ 20 ☐ 24 ☐ 34 ☐ 42

11. Type in the words that make the sentence true.

The number 12 is [ ] because it has [ ] two factors.

prime
composite

exactly
more than

12. Classify the numbers as prime or composite.

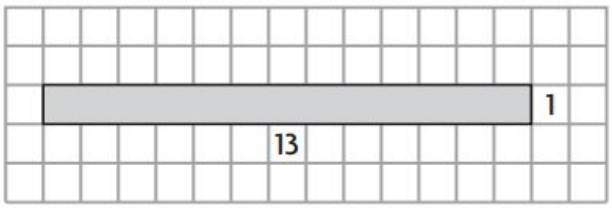
31 42 89 93

Prime	Composite

13. Aidan makes 12 bracelets on Monday. He makes 8 more bracelets each day from Tuesday through Thursday. How many bracelets does Aidan make on Friday?

[ ] bracelets

14. Eric had 13 tiles to arrange in a rectangular design for the top of a box. He drew a model of the rectangles he could make with the 13 tiles.



Part A

Teacher use only: 0 1

How does Eric's drawing show that 13 is a prime number?

Part B

Teacher use only: 0 1

Suppose Eric used 12 tiles to make the rectangular design. How many different rectangles could he make with the 12 tiles? Write a list or draw a picture to show the number and dimensions of the rectangles he could make.

Part C

Teacher use only: 0 1

Eric's friend Dawn said that she could make a larger number of different designs with 15 tiles than with Eric's 13 tiles. Do you agree with Dawn? Explain.

Student directions for Learning Performance 1

Station #1 Iodine on a Potato

Cut a SMALL fresh slice from the potato. Use a dropper to put 3-4 drops of iodine solution on the potato slice. After your observations are complete, throw away the used slice of potato into the trash can!

Station #2 Baggie Experiment

• Place one small spoonful of calcium chloride into a plastic sealable bag and the same amount of BAKING SODA. Seal the bag, shake it. Observe.
• Measure 2 small teaspoons (about 10 mL) of indicator solution into the small cup (or beaker). Carefully put the small cup into the bag. Seal it.
• GENTLY tilt the bag to tip the small cup over. Observe. Hold the baggie in the palm of your hand while making your observations.
• Clean the small cup with water and throw the baggie away.

Station #3 Coloring Paper

Take a square of paper and choose a crayon. Color the square on your paper with your crayon.

Station #4 Two Clear (or mostly) Liquids

Take full dropper of the vinegar solution and squirt its contents into a 50 ml beaker. Take a full dropper of the ammonia and add it slowly, a drop at a time, into the 50 ml beaker. Make sure you don't mix up the droppers!! When your observations are completed, pour the contents down the drain and clean the beaker with water.

Station #5 Water Baths

Fill a test tube ¼ or less with tap water. Place it in the salt water ice bath and stir it around gently and constantly for 2-3 minutes (possibly more) without removing it. Take the test tube out. Record your observations. Rinse the inside AND outside of the test tube well with water and return to the test tube rack.

Unit 2 Assessment
Chemical Reactions

Learning Performance A: Students will interpret data to determine if a change is physical or chemical.

Station #	Physical/Chemical	Evidence (List **ALL** signs of a physical or chemical change)	
1	1. _____ Ⓐ Physical change Ⓑ Chemical change	2.	Ⓞ Ⓟ Ⓘ
2	3. _____ Ⓐ Physical change Ⓑ Chemical change	4.	Ⓞ Ⓟ Ⓘ
3	5. _____ Ⓐ Physical change Ⓑ Chemical change	6.	Ⓞ Ⓟ Ⓘ
4	7. _____ Ⓐ Physical change Ⓑ Chemical change	8.	Ⓞ Ⓟ Ⓘ
5	9. _____ Ⓐ Physical change Ⓑ Chemical change	10.	Ⓞ Ⓟ Ⓘ

Learning Performance B: Students will use information to describe that synthetic materials come from natural resources and impact society.

11. The table provides information on three alternative fuels.

Alternative Fuel	Source	Amount of time to produce	Average Price	Physical State
Ethanol	Corn	3-5 days	$3.04/ gal	Liquid
Hydrogen	Water	1-3 hours	$1.50/ gal	Gas
Biodiesel	Vegetable Oil	6-8 hours	$4.02/ gal	Liquid

The data in this table can be used as evidence to support the claim that all of these fuels-

Ⓐ Are very costly to produce

Ⓑ Exist in the same state of matter

Ⓒ Are made of natural materials

12. Information on the raw materials required to produce four synthetic materials is provided.

Synthetic Material Produced	**Raw Material(s) Required**
Nylon fibers	Petroleum
Glass	Silica (sand)
Paper	Wood
Ceramic	Clay

The production of which of the listed materials would require growing plants?

Ⓐ Nylon fibers

Ⓑ Glass

Ⓒ Paper

Learning Performance C: Students will evaluate if a model supports the law of conservation of mass.

13. Which of the following is true regarding the atoms involved in a chemical reaction?

Ⓐ The same number of each type of atom will always be present before and after a chemical reaction takes place.

Ⓑ Some of the atoms present before the reaction will always be lost during a chemical reaction.

Ⓒ Some of the atoms will always be changed into a different type of atom by a chemical reaction.

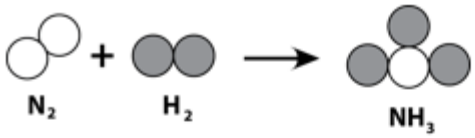
14. Students want to gather evidence for the claim that the number of atoms present before a chemical reaction is equal to the number of atoms present after the chemical reaction. They decide to react vinegar and baking soda in a sealed plastic bag. Which of the following would provide the evidence the students need?

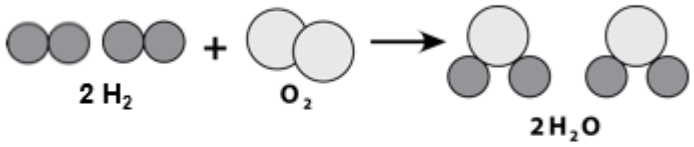
Ⓐ The mass of the plastic bag, baking soda and vinegar before the reaction was equal to the mass after the reaction.

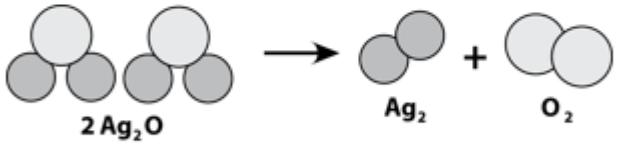
Ⓑ Bubble were produced during the reaction which meant that a gas was being produced.

Ⓒ The mass of the baking soda was exactly equal to the mass of the vinegar used to create the chemical reaction.

15. Which of the following atomic models of chemical reactions correctly demonstrates the Law of Conservation of Matter?

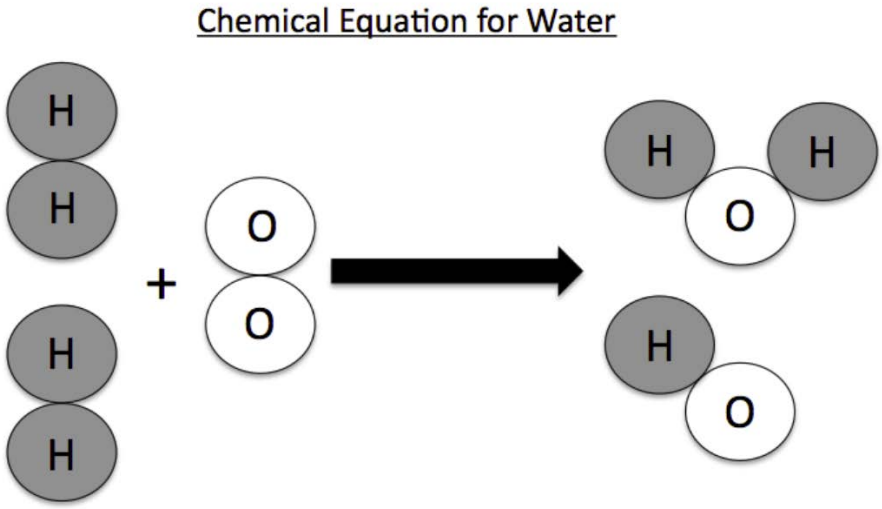
Ⓐ 

Ⓑ 

Ⓒ 

16. For science homework, a student was responsible for creating a model that accurately represented the Law of Conservation of Matter. The model below depicts this student's attempt at creating this model by using the chemical reaction that creates water.

Student's homework:



Write a scientific explanation that describes why the model pictured above does **NOT** follow the Law of Conservation of Matter.

Use the following words in your response: reactant, product, Law of Conservation of Matter, hydrogen, oxygen

0 P 1 Q 2

Learning Performance D: Students will evaluate data to determine if different substances release or absorb thermal energy by chemical processes.

Students performed the following experiments where they combined various chemicals in plastic bags. Their results are listed in the table below.

Experiment Number	Reactants	Starting Temperature	Ending Temperature
1	Hydrogen Peroxide and Yeast	22 degrees Celsius	42 degrees Celsius
2	Baking Soda and Vinegar	22 degrees Celsius	18 degrees Celsius
3	Iodine and Liquid Starch	22 degrees Celsius	22 degrees Celsius

17. Which of the above chemical reactions shows an endothermic reaction?

- Ⓐ Hydrogen Peroxide and Yeast
- Ⓑ Baking Soda and Vinegar
- Ⓒ Iodine and Liquid Starch

18. How do you know the above reaction was endothermic?

- Ⓐ The temperature increases
- Ⓑ The temperature decreases
- Ⓒ The temperature stays the same

19. Which of the above chemical reactions shows an exothermic reaction?

- Ⓐ Hydrogen Peroxide and Yeast
- Ⓑ Baking Soda and Vinegar
- Ⓒ Iodine and Liquid Starch

20. How do you know the above reaction was exothermic?

- Ⓐ The temperature increases
- Ⓑ The temperature decreases
- Ⓒ The temperature stays the same