

# DAY 5: 7th Grade

ELA

MATH

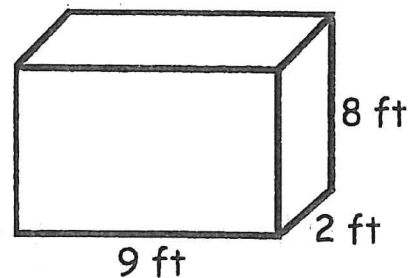
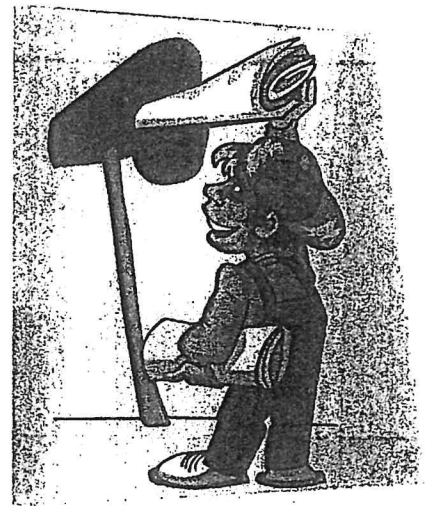
SCIENCE

SOCIAL STUDIES



## Lesson #5

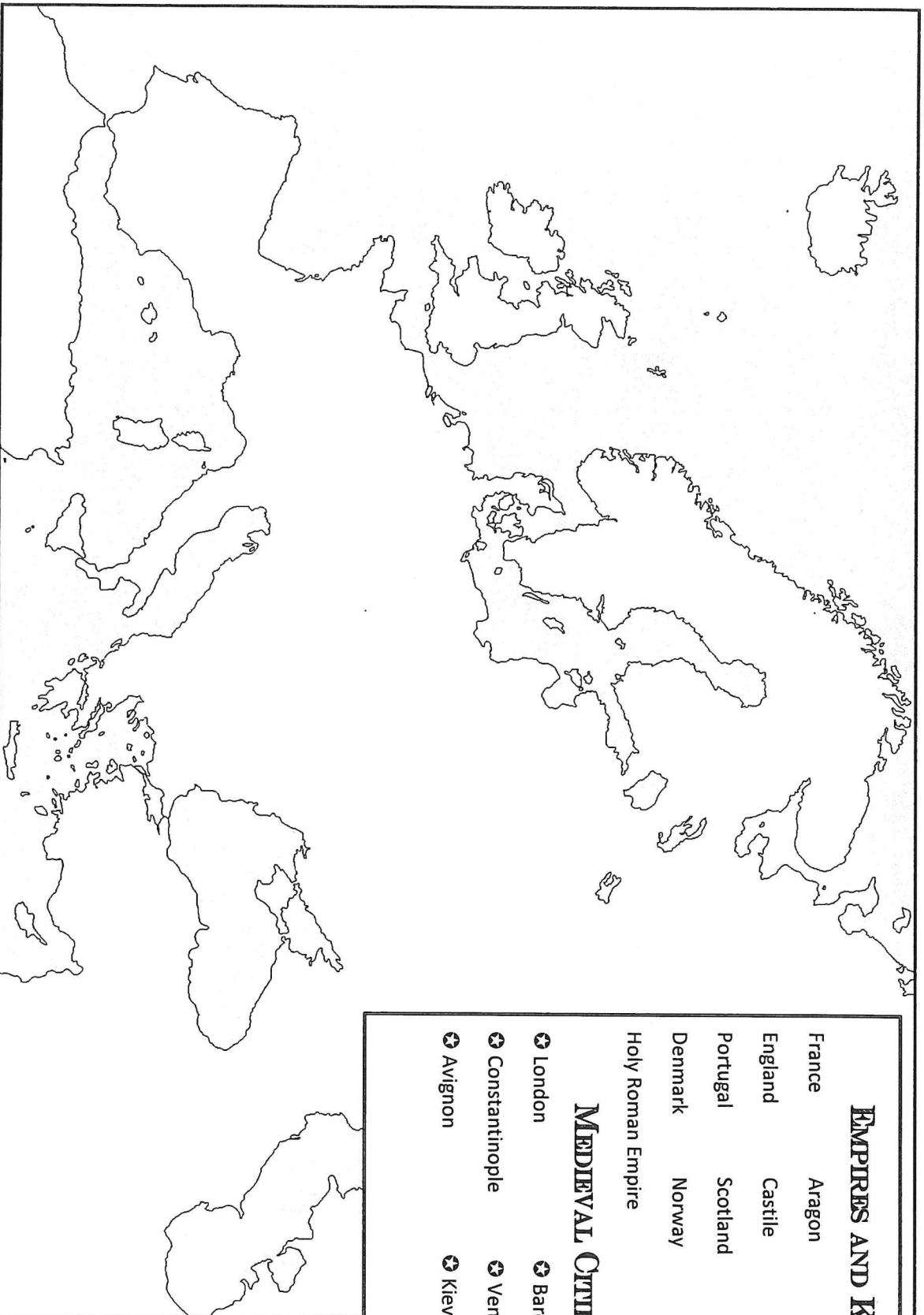
1. How many feet are in 2 miles?
2.  $76 \times 24 = ?$
3.  $1\frac{4}{7} + 2\frac{2}{3} = ?$
4. Draw a ray.
5.  $900 - 644 = ?$
6. Find the average (mean) of 37, 36, 76, 84, and 37.
7. Write the formula for finding the area of a parallelogram.
8.  $62.89 + 7.3 = ?$
9. How many millimeters are 8 meters?
10. Jason delivers newspapers on Saturdays and Sundays only. Each newspaper weighs about 1 pound, 9 ounces. If he delivers 24 newspapers each day, how much do the two days of newspapers weigh? Write your answer in pounds and ounces.
11.  $2.92 \div 0.8 = ?$
12. Find  $\frac{2}{5}$  of 15.
13. Water boils at \_\_\_\_\_ degrees Fahrenheit.
14. A triangle with no sides congruent is a(n) \_\_\_\_\_ triangle.
15. Define *circumference*.
16. Draw two similar squares.
17. Find the GCF of 8 and 12.
18. Write 36.42 using words.
19. Find the volume of the rectangular prism.
20.  $9 - 6\frac{3}{7} = ?$



1.	2.	3.	4.
5.	6.	7.	8.
9.	10.	11.	12.
13.	14.	15.	16.
17.	18.	19.	20.

# GEOGRAPHY OF EUROPE IN THE MIDDLE AGES

Directions: Color and label the Empires and Kingdoms of Europe listed in the key and then add the cities to the map.



## EMPIRES AND KINGDOMS

- |                   |          |                  |
|-------------------|----------|------------------|
| France            | Aragon   | Byzantine Empire |
| England           | Castile  | Ireland          |
| Portugal          | Scotland | Papal States     |
| Denmark           | Norway   | Sweden           |
| Holy Roman Empire |          |                  |

## MEDIEVAL CITIES

- |                  |             |
|------------------|-------------|
| ✦ London         | ✦ Barcelona |
| ✦ Constantinople | ✦ Venice    |
| ✦ Avignon        | ✦ Kiev      |



# PEOPLE TO KNOW

**Directions:** Use the bank of names below to identify the appropriate category for each person. For each person, identify the significant contributions that person made to history.

William the Conqueror

King John of England

Ferdinand and Isabella

Charlemagne

Richard the Lionheart

Saladin

Joan of Arc

Hugh Capet

St Thomas Aquinas

<p>Name: _____</p> <p>Contributions:</p>	<p>Name: _____</p> <p>Contributions:</p>	<p>Name: _____</p> <p>Contributions:</p>
<p>Name: _____</p> <p>Contributions:</p>	<p>Name: _____</p> <p>Contributions:</p>	<p>Name: _____</p> <p>Contributions:</p>
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# Lesson 17

7th - NTI Day 5

## Cells

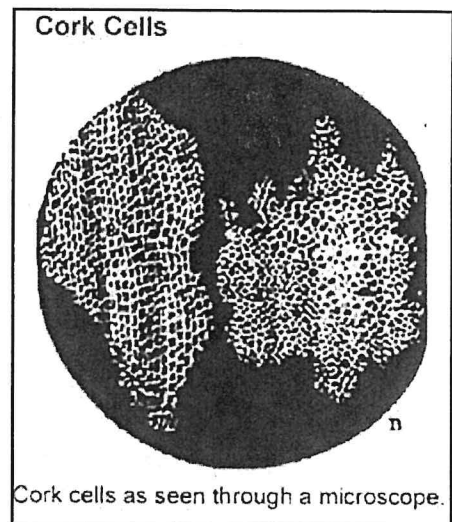
Imagine, if you will, a bustling city filled with hard-working citizens, carrying out their respective tasks to keep the city functioning smoothly. Now shrink this city down, down, down, until it's so small that it's visible only under a microscope. Welcome to a cell – the basic building block of all life as we know it. From microscopic bacteria to gigantic elephants and towering trees, cells form the foundation of life's structure and function.

You'll find organisms like bacteria as small as a single cell, while more complex beings like us humans, or your pet cat, are intricate tapestries woven from countless varieties of cells. Typically, these minute powerhouses of life, whether in a plant or animal, lie somewhere between 1 and 100 micrometers, which is why we need a microscope to take a peek into their secret world.

Our story takes us back to the year 1665, where English scientist Robert Hooke stands before a primitive microscope of his own invention. His subject of study was a thin slice of cork. As Hooke peered into his device, he saw a pattern of tiny, box-like structures. He decided to call these miniature compartments **cells**.

Fast forward a few years to 1673, and Dutch scientist Anton van Leeuwenhoek is making his own microscopic discoveries. He managed to get up close and personal with single-celled organisms, observing them in remarkable detail. Among the things he discovered were bacteria and paramecia – both incredibly tiny, but packed full of life.

By the 19th century, advancements in microscope technology had given scientists a clearer window into the cellular world. It was during this time that a pair of German scientists named Matthias Schleiden and Theodor Schwann began to formulate an important idea – **The Cell Theory**. After combining their research, they reached a groundbreaking conclusion: all living things are composed of cells.



Around 15 years after their discovery, another German scientist, Rudolf Virchow, made an intriguing proposition. He claimed that cells didn't just spontaneously appear out of thin air as people had previously assumed. Instead, Virchow argued that each new cell was born from an existing one, a breakthrough that combined with other **histologists'** (scientists who study cells) findings led to the formulation of the widely recognized Cell Theory.

Here's what the Cell Theory tells us:

1. Every living being is composed of one or more cells.
2. Cells serve as the basic units of life.
3. All cells are born from pre-existing cells.

Delving deeper into cellular biology, we find that cells are classified into two main types: **prokaryotes** and **eukaryotes**. Prokaryotes were the early birds of life on Earth, for billions of years being the lone cellular inhabitants. These cells are individualistic, capable of surviving independently without a defined nucleus. Bacteria and pond scum are some representatives of the prokaryotic family.

Eukaryotes, on the other hand, are a more advanced cellular model, housing a true nucleus within a protective **membrane**. Like the mayor's office in our city analogy, the **nucleus** is the cell's command center, orchestrating all cellular activities. Unlike their prokaryotic cousins, eukaryotes usually form multicellular organisms, like the plants in your garden or the animals at the zoo.

Although plant and animal cells share many characteristics, there are crucial differences between them. One of the most significant is that while animal cells rely on consuming food for energy, plant cells are capable of producing their own. They use a process known as photosynthesis, which harnesses sunlight, water, and carbon dioxide to create energy-packed sugars and starches, along with oxygen and water.

**END OF**  
**TEXT**

Name: \_\_\_\_\_

# Lesson 17

## Cells

7<sup>th</sup> - Day 5

1. What did Robert Hooke call the tiny, box-like structures he saw through his microscope?

- A. Bacteria
- B. Eukaryotes
- C. Cells
- D. Prokaryotes

2. What did Anton van Leeuwenhoek observe in remarkable detail?

- A. Multicellular organisms
- B. Single-celled organisms
- C. Animal cells
- D. Plant cells

3. What groundbreaking conclusion did Matthias Schleiden and Theodor Schwann reach?

- A. Cells are the basic units of life
- B. All cells are born from pre-existing cells
- C. All living things are composed of cells
- D. Cells can produce their own food

4. Who argued that new cells are born from existing cells?

- A. Anton van Leeuwenhoek
- B. Rudolf Virchow
- C. Robert Hooke
- D. Theodor Schwann

5. What does the *Cell Theory* state?

- A. All cells are born from pre-existing cells
- B. Cells serve as the basic units of life
- C. Every living being is composed of one or more cells
- D. All of the above

Name: \_\_\_\_\_

# Lesson 17

## Cells

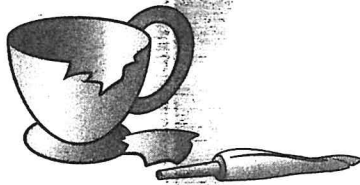
6. Which type of cells were the first to appear on Earth?
- A. Bacteria
  - B. Eukaryotes
  - C. Prokaryotes
  - D. Animal cells
7. What is the role of the nucleus in a cell?
- A. To provide food for the cell
  - B. To control all the cell's activities
  - C. To help the cell multiply
  - D. To protect the cell from harmful substances
8. How do plant cells differ from animal cells in obtaining energy?
- A. Plant cells consume food while animal cells produce their own
  - B. Plant cells produce their own food while animal cells consume food
  - C. Both plant and animal cells produce their own food
  - D. Both plant and animal cells consume food
9. What gives plant cells their structure and support?
- A. Cell membrane
  - B. Cell wall
  - C. Nucleus
  - D. Cell skeleton
10. If plants didn't have cell walls, what would happen?
- A. They would be able to soak up more sun
  - B. They would become a spongy pile of plant matter
  - C. They would grow taller
  - D. They would multiply faster

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Synonyms: Exercise 34****SYNONYMS**

**Directions:** A word can have several synonyms. Write the word on the blank that is not a synonym for the other words.

- |                |           |             |             |           |       |
|----------------|-----------|-------------|-------------|-----------|-------|
| 1. old         | elderly   | young       | antique     | aged      | _____ |
| 2. intelligent | smart     | forgetful   | clever      | brainy    | _____ |
| 3. friend      | pal       | enemy       | companion   | chum      | _____ |
| 4. dread       | happy     | fear        | horror      | alarm     | _____ |
| 5. cry         | weep      | laugh       | sob         | wail      | _____ |
| 6. chuckle     | laugh     | snicker     | moan        | giggle    | _____ |
| 7. purpose     | perhaps   | aim         | goal        | mission   | _____ |
| 8. adorn       | simplify  | decorate    | ornament    | beautify  | _____ |
| 9. wither      | fail      | thrive      | decline     | shrivel   | _____ |
| 10. certain    | definite  | dubious     | sure        | positive  | _____ |
| 11. open       | secretive | private     | clandestine | hidden    | _____ |
| 12. screen     | hide      | conceal     | cover       | view      | _____ |
| 13. kind       | brutal    | considerate | tender      | pleasant  | _____ |
| 14. finished   | done      | continuing  | through     | fulfilled | _____ |
| 15. mend       | repair    | fix         | rip         | patch     | _____ |





## Recognizable Relationships

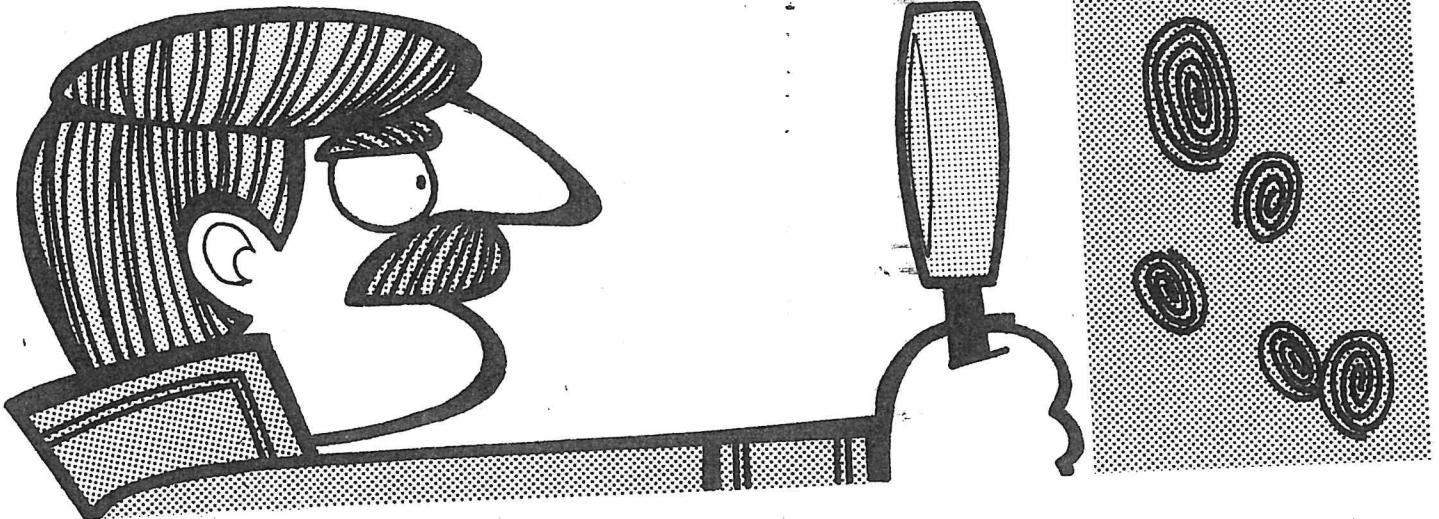
An **analogy** is a relationship or correspondence between one pair of terms that serves as a basis for the creation of another pair. The terms in the second pair have the same relationship to each other as did the terms in the first pair. Some possible relationships are:

1. One word is an **antonym** of the other.  
*Example: Old is to young as tall is to short.*
2. One word is a **kind** of the other.  
*Example: Bicycle is to vehicle as cat is to animal.*
3. One word is a **part** of the other.  
*Example: Toe is to foot as finger is to hand.*
4. One word is a **synonym** for the other.  
*Example: Big is to large as tiny is to small.*

Sergeant Sloane is completing a refresher course in investigative techniques. Help him detect the relationship between the first two underlined words in each sentence below. Then circle the word in the columns to the right that is in similar relationship to the third underlined word.

1. Fugitive is to justice as runaway is to
2. Detect is to notice as hide is to
3. Message is to code as face is to
4. Trigger is to gun as knob is to
5. Clue is to solution as part is to
6. Poverty is to wealth as young is to
7. Policeman is to criminal as trapper is to
8. Money is to bank as milk is to
9. Winter is to season as December is to
10. Verdict is to trial as diploma is to

- |           |           |          |
|-----------|-----------|----------|
| plane     | home      | hate     |
| conceal   | show      | fur      |
| eyes      | smile     | mask     |
| hand      | open      | door     |
| mechanic  | whole     | answer   |
| ancient   | new       | mediocre |
| trap      | rabbit    | woods    |
| cow       | pitcher   | drink    |
| month     | Christmas | day      |
| education | students  | marks    |







### 38 SUBORDINATING CONJUNCTIONS

**Subordinating conjunctions connect two ideas by making one idea dependent on the other.**

A subordinating conjunction connects a dependent idea in a sentence to the main idea. In the following examples, the subordinating conjunctions are underlined, and the dependent ideas are in boldface. Notice that each dependent idea includes a subject and a verb.

**Examples:** We ate lunch after **they arrived**.

When you called, I was studying.

Also note that the main idea can come at the beginning or at the end of the sentence. When the dependent idea comes first, it must be separated from the main idea with a comma. If the dependent idea comes second, no comma is necessary.

Common subordinating conjunctions include *after, although, as, because, before, if, since, than, that, though, unless, until, when, whenever, where, and while*.

#### PRACTICE A Identifying Subordinating Conjunctions

Read each sentence. Then, on the line provided, write the subordinating conjunction.

**Example:** We went to the store because we were out of milk.

**Answer:** because

1. If I could have any job I want, I would be an astronaut. \_\_\_\_\_
2. Although we hurried, we were still late. \_\_\_\_\_
3. My brother hummed a tune while he washed the dishes. \_\_\_\_\_
4. I haven't seen my cousins since they moved to Rhode Island. \_\_\_\_\_
5. The air smells fresh after it rains. \_\_\_\_\_
6. Before I see a movie, I like to read the reviews. \_\_\_\_\_
7. When the dog sees a tennis ball, he gets very excited. \_\_\_\_\_
8. The students leave whenever the final bell rings. \_\_\_\_\_

#### PRACTICE B Using Subordinating Conjunctions in Sentences

Read each sentence. Then, rewrite each sentence using the subordinating conjunction shown in parentheses to add a dependent idea.

**Example:** Dina will finish her report on time. (because)

**Answer:** Dina will finish her report on time because she has worked really hard.

1. My grandmother likes to read. (while) \_\_\_\_\_
2. It's possible to get to the movie on time. (if) \_\_\_\_\_
3. Dad went to the grocery store. (because) \_\_\_\_\_
4. I wanted to buy the video game. (although) \_\_\_\_\_

#### Writing and Speaking Application

Write two or three sentences giving directions to a place in your community. Use at least three different subordinating conjunctions. Read your directions aloud and have a partner listen for and identify the subordinating conjunctions and dependent ideas. Then, switch roles with your partner.

