DAY 4: 7th Grade

ELA

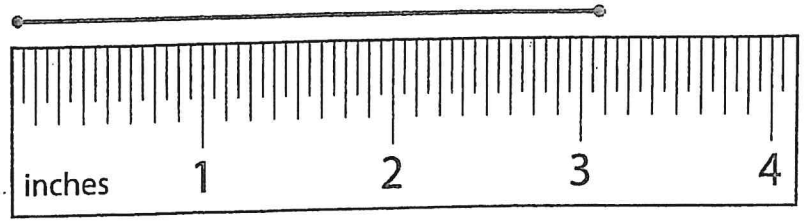
MATH

SCIENCE

SOCIAL STUDIES

Lesson #4

1. $9\frac{2}{7} - 6\frac{5}{7} = ?$
2. $3{,}265{,}818 + 9{,}375{,}962 = ?$
3. What is the length of the line segment in inches?



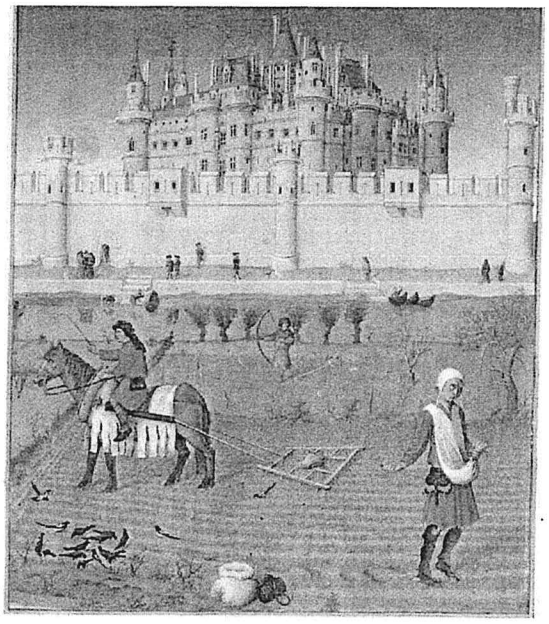
4. $\frac{5}{12} \times \frac{24}{25} = ?$
5. Draw parallel lines.
6. $80{,}000 - 69{,}214 = ?$
7. On a miniature golf course, the distance from the tee to the 1st hole is 96 inches. The distance to the 2nd hole is 3 yards. On the 3rd tee, the hole is 12 feet away. Which of the tees is farthest from the hole?
8. Write $\frac{7}{20}$ as a decimal and as a percent.
9. Write the formula for finding the volume of a prism.
10. What number is 80% of 30?
11. How many years are 7 decades?
12. $\frac{7}{8} \div \frac{2}{5} = ?$
13. Write the reciprocal of $\frac{3}{7}$.
14. Find $\frac{1}{6}$ of 72.
15. Put $\frac{15}{20}$ in simplest form.
16. $30 \times 7 \div 3 = ?$
17. What percent of 70 is 49?
18. If $3x = 21$, what is the value of x?
19. Is the more reasonable length of a pick-up truck 40 km or 40 m?
20. List the factors of 18.

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

The Middle Ages in Europe

Complete Unit Guide Packet

Overview



The **European Middle Ages** occur chronologically between the Roman Empire and the modern age that we live in. The Middle Ages are divided into three time periods- the **Early Middle Ages**, or the **dark ages**, the **High Middle Ages**, and the **Late Middle Ages**.

During the early Middle Ages Europe was coping with the effects of the **barbarian invasions** and the fall of the Roman Empire. Christianity was in decline, literacy was lost, cities were abandoned, and population declined. In general, life was pretty miserable and dangerous for most people. It was during this time that Feudalism emerged in Europe. **Feudalism** is both a social structure and a political system.

Life in Europe was much improved during the High Middle Ages . The Invasions were over. Christian monks had converted the pagan peoples who had invaded Europe. Trade returned as the countryside became safer for travelers. The weather also changed and so farmers could grow enough food to feed everyone. During the **Crusades** Europeans fought Muslim Caliphates over the control of the Holy Land in the Middle East and the Iberian Peninsula. Europeans also connected to trades routes such as the Silk roads. As a result, Europeans had access to technologies and scientific knowledge from other regions in Eurasia. Banking emerged in Europe. The first **universities** were founded. The middle-class merchants and artisans reemerged. They created craft **guilds** to manage their affairs and cooperated to govern cities. The **Gothic** style of architecture emerged in new Cathedrals, showing the wealth and power of the kings as well as the influence of the Church in society. It was during the High Middle ages that feudalism began to be challenged by Kings that wanted more power over their nobles and more political control over the church.

In the late middle ages, the weather turned against Europeans again. Problems in the Church caused the **Great Schism** when multiple men claimed to be pope at the same time. Increased trade brought Europeans a disease called the **Black Death** in 1347. As a result, people began to question the authority of church officials. Feudalism broke down when kings began to hire professional militaries to defend their interests. A war lasting 100 years between two emerging nation states- **France** and **England** finally helped to create a new political order based not on Feudalism but common culture and patriotism. Gunpowder, brought to Europe by the Mongols from China, made castles and siege warfare obsolete.

Essential Questions

a) How did the Christian church become the leading power in Europe?

b) How did the distribution of wealth affect societal structure and quality of life during the Medieval Times?

c) Why did the feudal system develop and how did it impact society and economics?

d) What were the causes and effects of Viking invasions?

e) What were the economic and cultural effects of the Crusades?

f) What effects did the Black Death have on Medieval Europe?

g) To what extent can the Middle Ages be described as the "Dark Ages"?

VOCABULARY

Directions: Write the definition for each word in the middle column and draw a picture to represent each in the 3rd column.

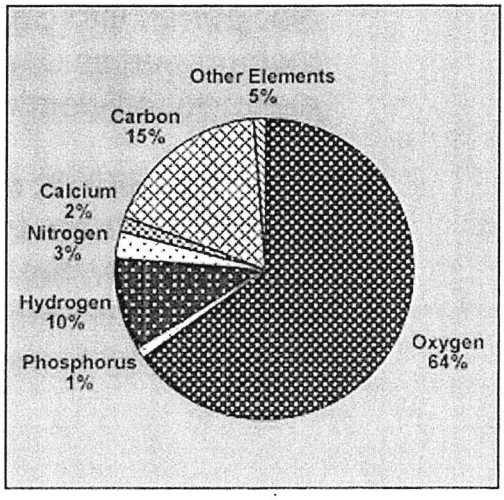
Feudal System		
Serfs		
Chivalry		
100 Years' War		
Common Law		
Magna Carta		
Crusades		
Black Death		
Czar		

Name: Science

Lesson 4 7th-NTI Day 4

Atoms, Elements, and Compounds

Elements in the Human Body



Gold, carbon, calcium, cobalt, and oxygen are merely a handful of the over 112 known elements that exist today. **Elements** are fundamental substances that cannot be simplified further without tampering with the atoms themselves. Everything around you, including you, is made of these elements. Take a peek at the circle graph on the right to understand the different elements that constitute your body.

An element is composed of **atoms**. Considered to be among the tiniest essential units of matter, these particles, also known as atoms, share the same chemical attributes as the element they belong to. Atoms are further composed of three types of **subatomic particles**, namely **protons**, which have a positive charge; **neutrons**, carrying no charge; and **electrons**, which are negatively charged. The protons and neutrons huddle together forming the **nucleus** in the atom's center, while the electrons orbit this nucleus. There's always an equal number of electrons and protons in atoms, leading them to have no net charge. Most atoms typically have as many neutrons as protons. Try identifying these particles in a helium atom.

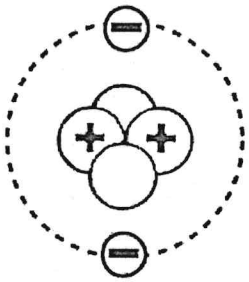
The smallest independent unit of a substance is known as a **molecule**. This is formed when one or more atoms chemically bond together. A **compound** is another type of substance, which is created when two or more elements chemically unite, creating a new substance altogether. Ordinary substances like table sugar, water, and chalk are examples of such compounds. The characteristics of these compounds are distinct from the elements they are derived from. Consider sodium and chlorine, for instance. These elements come together to form sodium chloride, or what we commonly know as table salt. Chlorine is known as a greenish-yellow, toxic gas, whereas sodium is a silvery, white metal.

Yet, when these two elements merge to create sodium chloride, the properties of the compound differ significantly. How would you articulate the properties of this compound that we call table salt?

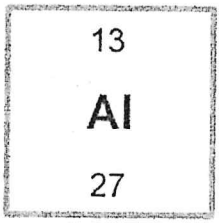
The **periodic table** serves as a comprehensive catalog of all elements, systematically arranged based on their chemical and physical similarities. One of the key parameters for this arrangement is their atomic number, which denotes the number of protons present in an element's atomic nucleus. Review the helium atom diagram we looked at earlier. Can you identify the atomic number of helium? Elements on the periodic table are also sorted into categories like metals, nonmetals, and metalloids based on their properties. Metals exhibit a lustrous sheen and conduct heat and electricity efficiently. Nonmetals are quite the opposite.

Metalloids exhibit properties of both metals and nonmetals. The given illustration shows how the metal aluminum appears on the periodic table. The atomic symbol is positioned in the center, the **atomic number** is at the top, and the **atomic mass**, which signifies the mass of a resting atom, is located beneath the symbol.

Helium Atom



Periodic Table of Elements: Aluminum



END OF TEXT

Name:

Lesson 4

7th - Day 4

Atoms, Elements, and Compounds

1. What are elements?
   - **A.** Mixtures of atoms
   - **B.** Fundamental substances that cannot be simplified further without tampering with the atoms themselves
   - **C.** Types of atoms
   - **D.** Types of compounds

2. What do atoms always have an equal number of?
   - **A.** Neutrons and protons
   - **B.** Protons and electrons
   - **C.** Neutrons and electrons
   - **D.** Protons, neutrons, and electrons

3. Which two elements combine to form table salt?
   - **A.** Sodium and Carbon
   - **B.** Oxygen and Chlorine
   - **C.** Sodium and Chlorine
   - **D.** Calcium and Cobalt

4. What is a molecule?
   - **A.** The smallest independent unit of a substance
   - **B.** A type of element
   - **C.** A large unit of a substance
   - **D.** A type of atom

5. What are metals known for?
   - **A.** Their dullness and bad conductance of heat and electricity
   - **B.** Their lustrous sheen and efficient conductance of heat and electricity
   - **C.** Their ability to become gas
   - **D.** Their ability to become liquid

Name:

Lesson 4
Atoms, Elements, and Compounds

6. How are elements arranged on the periodic table?
   - **A.** Alphabetically
   - **B.** By their size
   - **C.** By their color
   - **D.** Based on their chemical and physical similarities

7. What is the atomic number of an element?
   - **A.** The number of electrons in an atom
   - **B.** The number of protons and neutrons in an atom
   - **C.** The number of protons in the nucleus of its atom
   - **D.** The number of electrons in the nucleus of its atom

8. What do metalloids exhibit?
   - **A.** Properties of gasses
   - **B.** Properties of liquids
   - **C.** Properties of metals and nonmetals
   - **D.** Properties of solids

9. What does the atomic mass signify?
   - **A.** The mass of a moving atom
   - **B.** The mass of an atom at rest
   - **C.** The number of protons in an atom
   - **D.** The number of electrons in an atom

10. What happens when sodium and chlorine combine?
   - **A.** They form a greenish-yellow, toxic gas.
   - **B.** They form a silvery, white metal.
   - **C.** They form sodium chloride, or table salt.
   - **D.** Nothing happens.

7th NTI Day 4

I Hear America Singing

by Walt Whitman

I hear America singing, the varied carols I hear,
Those of mechanics, each one singing his as it should be, blithe and strong,
The carpenter singing his as he measures his plank or beam,
The mason singing his as he makes ready for work, or leaves off work,
The boatman singing what belongs to him in his boat, the deckhand singing on the steamboat deck,
The shoemaker singing as he sits on his bench, the hatter singing as he stands,
The wood-cutter's song, the ploughboy's, on his way in the morning, or at noon intermission or at sundown,
The delicious singing of the mother, or of the young wife at work, or of the girl sewing or washing,
Each singing what belongs to her and to none else,
The day what belongs to the day—at night the party of young fellows, robust, friendly,
Singing with open mouths their strong melodious songs.

Read the two poems. Then answer the questions that follow.

A Nation's Strength

by Ralph Waldo Emerson

What makes a nation's pillars high
And its foundations strong?
What makes it mighty to defy
The foes that round it throng?

It is not gold. Its kingdoms grand
Go down in battle shock;
Its shafts are laid on sinking sand,
Not on abiding rock.

Is it the sword? Ask the red dust
Of empires passed away;
The blood has turned their stones to rust,
Their glory to decay.

And is it pride? Ah, that bright crown
Has seemed to nations sweet;
But God has struck its luster down
In ashes at his feet.

Not gold but only men can make
A people great and strong;
Men who for truth and honor's sake
Stand fast and suffer long.

Brave men who work while others sleep,
Who dare while others fly . . .
They build a nation's pillars deep
And lift them to the sky.

Answer the questions. Mark your answers to questions 1–4 on the Answer Form to the right.

Answer Form

1 Ⓐ Ⓑ Ⓒ Ⓓ
2 Ⓐ Ⓑ Ⓒ Ⓓ
3 Ⓐ Ⓑ Ⓒ Ⓓ
4 Ⓐ Ⓑ Ⓒ Ⓓ

Number Correct ___/4

1 How does the structure of the two poems differ?

A Emerson's poem has an ABAB rhyme scheme, while Whitman's poem has no regular rhyme scheme.

B Emerson's poem has multiple stanzas, while Whitman's poem is a sonnet.

C Emerson's poem has no set rhyme scheme, while Whitman's poem uses repetition.

D The rhythm of Emerson's poem varies in each stanza, while Whitman's poem has a set rhythm.

2 How is the structure of both poems similar?

A Both use stanzas to develop meaning.

B Both use questions to emphasize certain points.

C Both use repetition to enhance meaning.

D Both use rhyme to draw attention to sounds.

3 Compare the structures of the two poems. How do these different structures affect the style of each poem?

A Emerson's poem has a fixed number of lines, and it is light and carefree. Whitman's poem uses rhyme, and it is humorous.

B Emerson's poem is an elegy, and it is complex and serious. Whitman's poem is a lyric poem, and it is imaginative.

C Emerson's poem has unanswered questions, making it like a speech. Whitman's poem repeats ideas for emphasis, making it monotonous.

D Emerson's poem has regular stanzas, making it formal and controlled. Whitman's poem is unstructured free verse, giving it a musical quality.

4 Emerson's poem is made of four-line stanzas. Whitman's poem is one long stanza. Which **best** explains why the poets likely made the structural choices they did?

A Emerson intended to give his serious ideas a lighter look. Whitman wanted his light subject matter, singing, to look more serious.

B Emerson wanted to emphasize his fixed rhyme scheme. Whitman wanted to emphasize the forward flow of his rhythmic language.

C Emerson chose to display the variety of his language. Whitman chose to highlight the repetition of the word "singing."

D Emerson wanted his rhythms to sound like soldiers marching. Whitman wanted his rhythms to sound like workmen singing.

5 Read the sentences below. Then complete the activity that follows.

> In poetry, a stanza sometimes develops a single idea related to the main topic of a larger poem. Emerson and Whitman both follow this practice in structuring their poems.

Write a paragraph supporting this statement. Cite at least **two** pieces of evidence from Emerson's multi-stanza poem and Whitman's single-stanza poem.

✓ Self Check *Go back and see what you can check off on the Self Check on page 144.*