

# **Summer Reading ELA Assignment**

## ***Task: Exploring Internal Versus External Conflict in "Just Lather, That's All"***

*This summer, your English Language Arts (ELA) assignment is centered around the short story "Just Lather, That's All" by Hernando Téllez. Through this assignment, you will dive into the themes of internal versus external conflict, analyze the decisions made by the characters, and reflect on your own moral choices of what you would do in the scenario presented. In a double spaced essay, discuss the short story and its themes. Follow the prompts below to complete the assignment:*

1. *Read the short story "Just Lather, That's All" by Hernando Téllez. Pay close attention to the characters, the setting, and the events that unfold.*

In your essay, include a summary of the story, highlighting the main characters, the conflict, and the resolution. Summarize the plot and the key events while capturing the essence of the story. Research the conflict of "La Violencia" that the story takes place in. What caused the conflict? How many were affected?

2. *Internal vs. External Conflict:*

In your essay, explore the nature of internal versus external conflict presented in the story. Define each type of conflict and provide examples of both internal and external conflicts experienced by the characters.

3. *Moral Dilemma*

Put yourself in the shoes of the barber: Imagine you are the barber faced with the difficult decision in the story. Consider the internal conflict and moral dilemma the barber experiences.

4. *Personal Anecdote:*

Discuss a time in your life where you experienced internal or external conflict. What was the context that led up to your conflict? Be sure to describe if it was external or internal and your reasoning. How did the situation resolve?

5. *Writing Your Essay*

Your assignment should be written in essay format.

The response should be two to three pages in length, double-spaced, with standard margins (1 inch) and a font size of 12.

Include a title that accurately reflects the content of your assignment.

Use proper grammar, punctuation, and sentence structure to ensure clarity and coherence in your writing.

6. Submission:

Submit your assignment as a printed copy to your ELA teacher on the first day of school.

Note: Remember to refer to the text for evidence and examples to support your analysis and reflections. If you have any questions or need assistance in finding a suitable article, feel free to reach out to me via email or Google Classroom.

**Edit Copy of “Just Lather, That’s All” Available on 7th  
Grade SS Google Classroom**

*Enjoy your summer reading!*

## *“Just Lather, That’s All”*

*By Hernando Téllez.*

He said nothing when he entered. I was sharpening the best of my razors back and forth on my main leather strop. When I recognized him, I started to tremble. But he didn't notice. Hoping to conceal my emotion, I continued sharpening the razor. I tested it on the meat of my thumb, and then held it up to the light. At that moment he took off the bullet-studded belt that his gun holster dangled from. He hung it up on a wall hook and placed his military cap over it. Then he turned to me, loosening the knot of his tie, and said, "It's hot as hell. Give me a shave." He sat in the chair. I estimated he had a four-day beard. The four days taken up by the latest expedition in search of our troops. His face seemed reddened, burned by the sun. Carefully, I began to prepare the soap. I cut off a few slices, dropped them into the cup, mixed in a bit of warm water, and began to stir with the brush.

Immediately the foam began to rise. "The other boys in the group should have this much beard, too." I continued stirring the lather. "But we did alright, you know. We got the main ones. We brought back some dead, and we've got some others still alive. But pretty soon they'll all be dead." "How many did you catch?" I asked. "Fourteen. We had to go pretty deep into the woods to find them. But we'll get even. Not one of them comes out of this alive, not one." He leaned back on the chair when he saw me with the lather-covered brush in my hand. I still had to put the sheet on him. No doubt about it, I was upset. I took a sheet out of a drawer and knotted it around my customer's neck. He wouldn't stop talking. He probably thought I was in sympathy with his party. "The town must have learned a lesson from what we did the other day," he said. "Yes," I replied, securing the knot at the base of his dark, sweaty neck. "That was a fine show, eh?" "Very good," I answered, turning back for the brush. The man closed his eyes with a gesture of fatigue and sat waiting for the cool caress of the soap. I had never had him so close to me. The day he ordered the whole town to file into the patio of the school to see the four rebels hanging there, I came face to face with him for an instant. But the sight of their tortured bodies kept me from noticing the face of the man who had directed it all, the face I was now about to take into my hands. It was not an unpleasant face, certainly. And the beard, which made him seem a bit older than he was, didn't suit him badly at all. His name was Torres. Captain Torres. A man of imagination, because who else would have thought of hanging the rebels and then holding target practice on certain parts of their bodies? I began to apply the first layer of soap. With his eyes closed, he continued. "Without any effort I could go straight to sleep," he said, "but there's plenty to do this afternoon." I stopped the lathering and asked with a pretended lack of interest: "A firing squad?" "Something like that, but a little slower." I got on with

the job of lathering his beard. My hands started trembling again. The man could not possibly realize it, and this was in my favor. But I would have preferred that he hadn't come. It was likely that many of our faction had seen him enter. And an enemy under one's roof imposes certain conditions. I would be obliged to shave that beard like any other one, carefully, gently, like that of any customer, taking pains to see that no single pore emitted a drop of blood. Being careful to see that the little tufts of hair did not lead the blade astray. Seeing that his skin ended up clean, soft, and healthy, so that passing the back of my hand over it I couldn't feel a hair.

Yes, I was secretly a rebel, but I was also a proud barber, and I respect the preciseness of my profession. This four-days' growth of beard was a fitting challenge. I took the razor, opened up the two protective arms, exposed the blade and began the job, from one of the sideburns downward. The razor responded beautifully. His beard was inflexible and hard, not too long, but thick. Bit by bit the skin emerged. The razor rasped along, making its customary sound as fluffs of lather mixed with bits of hair gathered along the blade. I paused for a moment to clean it, then took up the strop again to sharpen the razor, because I'm a barber who does things properly. The man, who had kept his eyes closed, opened them now, removed one of his hands from under the sheet, felt the spot on his face where the soap had been cleared off, and said, "Come to the school today at six o'clock." "The same thing as the other day?" I asked horrified. "It could be better," he replied. "What do you plan to do?" "I don't know yet. But we'll amuse ourselves." Once more he leaned back and closed his eyes. I approached him with the razor poised. "Do you plan to punish them all?" I asked timidly. "All." The soap was drying on his face. I had to hurry. In the mirror I looked toward the street. It was the same as ever: the grocery store with two or three customers in it. Then I glanced at the clock: two-twenty in the afternoon. The razor continued on its downward stroke. Now from the other sideburn down. A thick, new beard. He should have let it grow like some poets or priests do. It would suit him well. A lot of people wouldn't recognize him. Much to his benefit, I thought, as I attempted to cover the neck area smoothly. There, for sure, the razor had to be handled masterfully, since the hair, although softer, grew into little swirls. A curly beard. One of the tiny pores could be opened up and issued forth its pearl of blood. A good barber such as I prides himself on never allowing this to happen to a client. And this was a first-class client.

How many of us had he ordered to be shot? How many of us had he ordered to be tortured? It was better not to think about it. Torres did not know that I was his enemy. He did not know it nor did the rest. It was a secret shared by very few, precisely so that I could inform the revolutionaries of what Torres was doing in the town and of what he was planning each time he undertook a rebel-hunting adventure. So it was going to be very difficult to explain that I had him right in my hands and let him go peacefully—alive and shaved. The beard was now almost completely gone. He seemed younger, less



burdened by years than when he had arrived. I suppose this always happens with men who visit barber shops. Under the stroke of my razor Torres was being reborn—reborn because I am a good barber, the best in the town, if I may say so. A little more lather here, under his chin, on his Adam's apple, on this big vein. How hot it is getting! Torres must be sweating as much as I. But he is not afraid. He is a calm man, who is not even thinking about what he is going to do with the prisoners this afternoon. On the other hand I, with this razor in my hands, stroking and re-stroking this skin, trying to keep blood from oozing from these pores, can't even think clearly. Damn him for coming, because I'm a revolutionary and not a murderer. And how easy it would be to kill him. And he deserves it. Does he? No! What the devil! No one deserves to have someone else make the sacrifice of becoming a murderer. What do you gain from it? Nothing. Others come along and still others, and the first ones kill the second ones and then the next ones and it goes on like this until everything is a sea of blood. I could cut this throat just so—zip! zip! I wouldn't give him time to complain and since he has his eyes closed he wouldn't see the glistening knife blade or my glistening eyes. But I'm trembling like a real murderer. Out of his neck a gush of blood would spout onto the sheet, on the chair, on my hands, on the floor. I would have to close the door. And the blood would keep inching along the floor, warm, uncleanable, uncontainable, until it reached the street, like a little scarlet stream. I'm sure that one solid stroke, one deep cut, would prevent any pain. He wouldn't suffer.

But what would I do with the body? Where would I hide it? I would have to flee, leaving all I have behind, and take refuge far away, far, far away. But they would follow until they found me. "Captain Torres' murderer. He slit his throat while he was shaving him—a coward." And then on the other side. "The avenger of us all. A name to remember. (And here they would mention my name.) He was the town barber. No one knew he was defending our cause." And what of all this? Murderer or hero? My destiny depends on the edge of this blade. I can turn my hand a bit more, press a little harder on the razor, and sink it in. The skin would give way like silk, like rubber, like the strop. There is nothing more tender than human skin and the blood is always there, ready to pour forth. A blade like this doesn't fail. It is my best. But I don't want to be a murderer, no sir. You came to me for a shave. And I perform my work honorably. . . . I don't want blood on my hands. Just lather, that's all. You are an executioner and I am only a barber. Each person has his own place in the scheme of things. That's right. His own place. Now his chin had been stroked clean and smooth. The man sat up and looked into the mirror. He rubbed his hands over his skin and felt it fresh, like new. "Thanks," he said. He went to the hanger for his belt, pistol and cap. I must have been very pale; my shirt felt soaked. Torres finished adjusting the buckle, straightened his pistol in the holster and after automatically smoothing down his hair, he put on the cap. From his pants pocket he took out several coins to pay me for my services. And he began to head toward the door. In the doorway he paused for a moment, and turning to me he said: "They told me


that you'd kill me. I came to find out. But killing isn't easy. You can take my word for it."  
And he turned and walked away.

# **Incoming 8<sup>th</sup> Grade Intro to Algebra & Geometry – Summer Math Packet**

## **Kids' Information Page**

***We're so proud of you for taking the time to work on math over the summer!***

**Here are some helpful hints for success:**

- ☺ **Find a quiet work space where you can get organized and stay focused.**
- ☺ **Pay close attention to the examples and vocabulary.**
- ☺ **It's ok to struggle, it allows you to self-monitor what you do and do not know.**
- ☺ **If you don't know how to do something, make note of it on the answer sheet, so you know to ask questions when you come back to school.**
- ☺ **Remember to persevere (Mathematical Practice #1)! Don't just give up after one attempt.**
- ☺ **Complete all of the problems in the packet. Use loose leaf paper if you need more space to show your work.**
- ☺ **Calculators may ONLY be used when you see this symbol:** 
- ☺ **Remember to do a little work each week. DO NOT wait until the week before school starts to complete your packet!**
- ☺ **The packet should be returned to your math teacher during the first week of school.**

# Incoming 8<sup>th</sup> Grade Intro to Algebra & Geometry – Summer Math Packet

Unit: Knowledge of Algebra, Patterns, and Functions

Objective: Write expressions and equations

## Review: Word Chart

Addition	Subtraction	Multiplication	Division
more than	less than	times	quotient
increased by	decreased by	multiplied by	divided by
sum of	fewer than	twice	divided into
added to	change	product	separate into equal parts

## Examples:

- 1) Two times a number  $2x$
- 2) Three less than a number is equal to 7.  $x - 3 = 7$
- 3) The sum of a number and 1 is 5.  $x + 1 = 5$
- 4) Cody has \$50 to spend. How many shirts can he buy at \$16.50 each? Write an equation to solve.  $16.50x = 50$

Write an expression or equation for each of the following:

1.) Five times a number is 25.

2.) The sum of a number and 6 is 15.

3.) 24 divided by some number is 7.

4.) Five dollars less than two times Chris' pay is \$124.

5.) Write a word phrase that can be represented by  $x - 11$ .

6.) Suppose a DVD costs \$19 and a CD costs \$14. Write an equation to find how many CDs you can buy along with one DVD if you have \$65 to spend.

On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math: 1 2 3 4 5

# Incoming 8<sup>th</sup> Grade Intro to Algebra & Geometry – Summer Math Packet

**Unit: Knowledge of Algebra, Patterns, and Functions**

**Objective:** Determine the unknown in a linear equation with 1 or 2 operations

Remember, equations must always remain balanced.

- If you add or subtract the same number from each side of an equation, the two sides remain equal.
- If you multiply or divide the same number from each side of an equation, the two sides remain equal.

**Example 1: Solve  $x + 5 = 11$**

$$\begin{array}{r} x + 5 = 11 \quad \text{Write the equation} \\ - 5 = - 5 \quad \text{Subtract 5 from both sides} \\ \hline x = 6 \quad \text{Simplify} \end{array}$$



$$\begin{array}{r} x + 5 = 11 \quad \text{Write the equation} \\ 6 + 5 = 11 \quad \text{Replace x with 6} \\ 11 = 11 \checkmark \quad \text{The sentence is true} \end{array}$$

**Example 2: Solve  $-21 = -3y$**

$$\begin{array}{r} -21 = -3y \quad \text{Write the equation} \\ - 3 = - 3 \quad \text{Divide each side by } -3 \\ \hline 7 = y \quad \text{Simplify} \end{array}$$



$$\begin{array}{r} -21 = -3y \quad \text{Write the equation} \\ -21 = -3(7) \quad \text{Replace the y with 7} \\ -21 = -21? \quad \text{Multiply - is the sentence true?} \end{array}$$

**Example 3: Solve  $3x + 2 = 23$**

$$\begin{array}{r} 3x + 2 = 23 \quad \text{Write the equation} \\ - 2 = - 2 \quad \text{Subtract 2 from or add -2 to each side} \\ \hline 3x = 21 \quad \text{Simplify} \\ \frac{3x}{3} = \frac{21}{3} \quad \text{Divide each side by 3} \\ x = 7 \quad \text{Simplify} \end{array}$$



$$\begin{array}{r} 3x + 2 = 23 \quad \text{Write the equation} \\ 3(7) + 2 = 23? \quad \text{Replace x with 7} \\ 21 + 2 = 23? \quad \text{Multiply} \\ 23 = 23? \quad \text{Add - is the sentence true?} \end{array}$$

1.) Solve  $p + 7 = 15$

2.) Solve  $j - 5 = -8$

3.) Solve  $12d = -72$

4.) Solve  $\frac{n}{11} = 7$

5.) Solve  $5x - 5 = 5$

6.) Solve  $4t + 3.5 = 12.5$

# Incoming 8<sup>th</sup> Grade Intro to Algebra & Geometry – Summer Math Packet

7.) Solve $\frac{x}{2} - 9 = -2$	8.) Solve $\frac{d}{3} + 10 = 7$
9.) Solve $-9p - 17 = 10$	10.) Solve $\frac{w}{4} - 4 = 3$
11.) Write an equation to represent the following scenario: You withdrew \$100 from the ATM machine. The new balance is \$372. What was the original balance $b$ of your account?	12.) Write an equation to represent the following scenario: Alexa scored 87 on her history test. The test had a multiple-choice section and a short-answer section. Alexa earned 74 points on the multiple-choice section. How many points $p$ did she earn on the short-answer section?
13.) Write an equation to represent the following scenario: Mark wants to buy a skateboard that costs \$55. He plans to save \$5 per week. How many weeks $w$ will it take him to save \$55?	14.) Write an equation to represent the following scenario: This year, 14,265 people applied to a particular college. The number of applicants increased by 868 from last year. How many people $p$ applied last year?
15.) Write an equation to represent the following scenario: It costs \$12 to attend a golf clinic with a local pro. Buckets of balls for practice during the clinic cost \$3 each. How many buckets $b$ can you buy at the clinic if you have \$30 to spend?	16.) Write an equation to represent the following scenario: An online retailer charges \$6.99 plus \$0.55 per pound to ship electronics purchases. How many pounds $p$ is a DVD player for which the shipping charge is \$11.94?
<b>On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math: 1 2 3 4 5</b>	

# Incoming 8<sup>th</sup> Grade Intro to Algebra & Geometry – Summer Math Packet

**Unit: Knowledge of Algebra, Patterns, and Functions**

**Objective:** Graph ordered pairs in a coordinate plane.

The **coordinate plane** is used to locate points. The horizontal number line is the **x-axis**. The vertical number line is the **y-axis**. Their intersection is the **origin**.

Points are located using **ordered pairs**. The first number in an ordered pair is the **x-coordinate**; the second number is the **y-coordinate**.

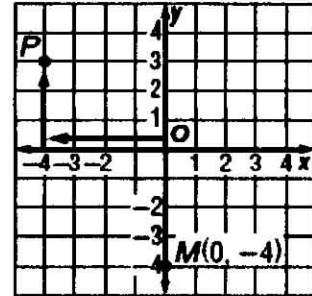
The coordinate plane is separated into four sections called **quadrants**.

**Example 1:** Name the ordered pair for point P. Then identify the quadrant in which P lies. Quadrant 2      Quadrant 1

- Start at the origin.
- Move 4 units left along the x-axis.
- Move 3 units up on the y-axis.

The ordered pair for point P is (-4, 3).

P is in the upper left quadrant or quadrant II.



**Example 2:** Graph and label the point M (0, -4).

- Start at the origin.
- Move 0 units along the x-axis.
- Move 4 units down on the y-axis.
- Draw a dot and label it M(0, -4).

Quadrant 3      Quadrant 4

1.) Name the ordered pair for each point graphed at the right. Then identify the quadrant in which each point lies.

Coordinates	Quadrant	
P (   ,   )		
Q (   ,   )		
R (   ,   )		
S (   ,   )		
S (   ,   )		

2.) Find each of the points below on the coordinate plane. Then identify the quadrant in which each point lies.

Coordinates	Quadrant	
A (   ,   )		
J (   ,   )		
B (   ,   )		
H (   ,   )		
H (   ,   )		
H (   ,   )		

3.) Graph and label each point on the coordinate plane.

N (3, -1)	
P (-2, 4)	
Q (-3, -4)	
R (0, 0)	
S (-5, 0)	
S (-5, 0)	

4.) Graph and label each point on the coordinate plane.

D (0, 4)	
E (5, 5)	
G (-3, 0)	
H (-6, -2)	
J (0, -2)	
J (0, -2)	

On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math:   1   2   3   4   5



# Incoming 8<sup>th</sup> Grade Intro to Algebra & Geometry – Summer Math Packet

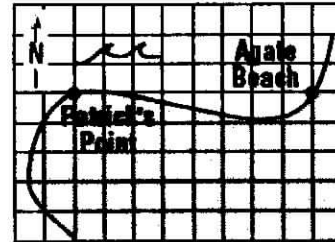
## Unit: Knowledge of Measurement

**Objective:** Determine the distance between 2 points using a drawing and a scale.

A **scale drawing** represents something that is too large or too small to be drawn at actual size. Similarly, a **scale model** can be used to represent something that is too large or too small for an actual-size model. The **scale** gives the relationship between the drawing/model measure and the actual measure.

**Example:** On this map, each grid unit represents 50 yards. Find the distance from Patrick's Point to Agate Beach.

	<b>Scale</b>		<b>Patrick's Point to Agate Beach</b>		
map	→ 1 unit	=	8 units	←	map
actual	→ 50 yards	=	x yards	←	actual



$$1 \cdot x = 50 \cdot 8 \quad \text{cross multiply}$$

$$x = 400 \quad \text{simplify}$$

**It is 400 yards from Patrick's Point to Agate Beach.**

1.) On a map, the distance from Los Angeles to San Diego is 6.35 cm. The scale is 1 cm = 20 miles. What is the actual distance?



2.) Lexie is making a model of the Empire State Building. The scale of the model is 1 inch = 9 feet. The needle at the top is 31.5 feet tall. How big should the needle be on the model?

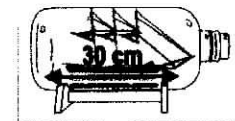


3.) A scale drawing of an automobile has a scale of 1 inch = 1/2 foot. The actual width of the car is 8 feet. What is the width on the scale drawing?

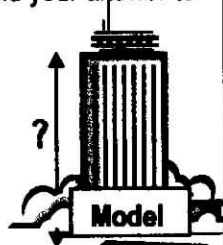


**Actual car**

4.) A model ship is built to a scale of 1 cm : 5 meters. The length of the model is 30 centimeters. What is the length of the actual ship?



5.) Jose wants to build a model of a 180-meter tall building. He will be using a scale of 1.5 centimeters = 3.5 meters. How tall will the model be? Round your answer to the nearest tenth.



6.) A pond is being dug according to plans that have a scale of 1 inch = 6.5 feet. The maximum distance across the pond is 9.75 inches on the plans. What will be the actual maximum distance across the pond?



**On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math: 1 2 3 4 5**



# Incoming 8<sup>th</sup> Grade Intro to Algebra & Geometry – Summer Math Packet

## Unit: Knowledge of Number Relationships & Computation

**Objective:** Determine equivalent forms of rational numbers expressed as fractions, decimals, percents, and ratios. - B

**Examples:**

A **RATIO** is a comparison of two numbers by division. When a ratio compares a number to 100, it can be written as a **PERCENT**. To write a ratio or fraction as a percent, find an equivalent fraction with a denominator of 100. You can also use the meaning of percent to change percents to fractions.

Write  $\frac{19}{20}$  as a percent.

$$\frac{19}{20} \cdot \frac{5}{5} = \frac{95}{100} = 95\% \quad \text{Since } 100 \div 20 = 5, \text{ multiply the numerator and denominator by 5.}$$

Write 92% as a fraction in simplest form.

$$\frac{92}{100} = \frac{\div 4}{\div 4} = \frac{23}{25}$$

Write 92% as a decimal.      Move decimal two places to the left. Add zeros if needed.      92.0% = 0.92

Write 0.4 as a percent.      Move decimal two places to the right. Add zeros if needed.      0.4 = 40%

1.) Write  $\frac{7}{25}$  as a percent and decimal.

2.) Write 19% as a decimal and fraction in simplest form.

3.) Write  $\frac{9}{50}$  as a percent and decimal.

4.) Write 75% as a decimal and fraction in simplest form.

5.) Ms. Crest surveyed her class and found that 15 out of 30 students brushed their teeth more than twice a day. Write this ratio as a fraction in simplest form, then write it as a % and a decimal.

6.) A local retail store was having a sale and offered all their merchandise as a 25% discount. Write this percent as a fraction in simplest form, then write it as a decimal.

# Incoming 8<sup>th</sup> Grade Intro to Algebra & Geometry – Summer Math Packet

On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math: 1 2 3 4 5

**Unit: Knowledge of Number Relationships & Computation**

**Objective: Add, subtract, multiply and divide integers. - A**

**Examples:**

**ADDITION INTEGER RULES:**

For integers with the same sign:

- The sum of two positive integers is **POSITIVE**.
- The sum of two negative integers is **NEGATIVE**.

For integers with different signs, subtract their absolute value. The sum is:

- **Positive** IF the positive integer has the greater absolute value.
- **Negative** IF the negative integers has the greater absolute value.

**Examples:**

$-6 + (-3) =$  add keep the sign = -9

$-34 + (-21) =$  add keep the sign = -55

$8 + (-7) =$  subtract keep the sign of the higher = 1

$-5 + 4 =$  subtract keep the sign of the higher = -1

**SUBTRACTION INTEGER RULES:**

- Keep the first number the same
- Switch the subtraction sign to **ADDITION**
- Change the second number to it's opposite. Opposite: -6 to 6
- Follow Addition rules above.

**Examples:**

$6 - 9 = 6 + (-9) = -3$

$-10 - (-12) = -10 + 12 = 2$

$-3 - 7 = -3 + (-7) = -10$

$1 - (-2) = 1 + 2 = 3$

1.) Add:  $2 + (-7)$

2.) Subtract:  $-13 - 8$

3.) Evaluate  $a - b$  if  $a = -2$  and  $b = -7$

4.) Evaluate  $x + y + z$  if  $x = 3$ ,  $y = -5$ , and  $z = -2$

5.) In Mongolia the temperature can dip down to  $-45^{\circ}\text{C}$  in January. The temperature in July may reach  $40^{\circ}\text{C}$ . What is the temperature range in Mongolia?

6.) Write an addition expression to describe skateboarding situation. Then determine the sum.

Hank starts at the bottom of a half pipe 6 feet below street level. He rises 14 feet at the top of his kickturn.

# Incoming 8<sup>th</sup> Grade Intro to Algebra & Geometry – Summer Math Packet

On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math: 1 2 3 4 5

**Unit: Knowledge of Number Relationships & Computation**

**Objective: Add, subtract, multiply and divide integers. - B**

**Examples:**

**MULTIPLYING & DIVIDING INTEGER RULES:**

- Two integers with DIFFERENT signs the answer is NEGATIVE.
- Two integers with SAME signs the answer is POSITIVE.

**Examples:**

$5(-2) = 5$  times  $-2$ , the signs are different so the answer will be negative =  $-10$

$(-6) \cdot (-9) =$  the signs are the same so the answer will be positive =  $54$

$30 + (-5) =$  the signs are different so the answer will be negative =  $-5$

$-100 + (-5) =$  the signs are the same so the answer will be positive =  $-105$

1.) Multiply:  $-14(-7)$

2.) Divide:  $350 \div (-25)$

3.) Evaluate if  $a = -3$  and  $c = 5$

$$-3ac$$

4.) Evaluate if  $d = -24$ ,  $e = -4$ , and  $f = 8$

$$\frac{de}{f}$$

5.) A computer stock decreased 2 points each hour for 6 hours. Determine the total change in the stock value over the 6 hours.

6.) A submarine descends at a rate of 60 feet each minute. How long will it take it to descend to a depth of 660 feet below the surface?

# Incoming 8<sup>th</sup> Grade Intro to Algebra & Geometry – Summer Math Packet



On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math: 1 2 3 4 5

**Unit: Order of Operations and Evaluating Expressions**

**Objective: Use the order of operations to simplify a numerical expression.**

**Order of Operations:**

**P – Perform operations inside the (Parentheses)**

**E – Evaluate any Exponent<sup>s</sup>**

**M/D – Multiplication/ Division (whichever comes first in the expression, moving left to right)**

**A/S – Addition/ Subtraction (whichever comes first in the expression, moving left to right)**

1.) Simplify:  $7 - 10 \cdot 5$

2.) Simplify:  $17 - 100 / 10 \cdot 5 + 14$

3.) Simplify:  $9 \cdot (5 + 5) + 3$

4.) Simplify:  $16 + 4^3 \cdot 2 / 16$

5.) Evaluate  $11p - 6$  for  $p = 5$

6.) Evaluate  $3x^2 - 4$  when  $x = -4$

7.) Evaluate  $62 + 3a$  for  $a = 12$

8.) Evaluate  $-4y^2 - 8y + 1$  when  $y = -3$

# Incoming 8<sup>th</sup> Grade Intro to Algebra & Geometry – Summer Math Packet

On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math: 1 2 3 4 5

**Unit: Knowledge of Number Relationships & Computation**

**Objective: Add, subtract, and multiply positive fractions and mixed numbers. - A**

**Examples:**

- To add unlike fractions (fractions with different denominators), rename the fractions so there is a common denominator.

$$\text{Add: } \frac{1}{6} + \frac{2}{5} = \frac{1}{6} = \frac{1 \cdot 5}{6 \cdot 5} = \frac{5}{30} \qquad \frac{2}{5} = \frac{2 \cdot 6}{5 \cdot 6} = \frac{12}{30} \qquad \frac{5}{30} + \frac{12}{30} = \frac{17}{30}$$

$$\text{Add: } 12\frac{1}{2} + 8\frac{2}{3} = \qquad 12\frac{1}{2} = 12\frac{1 \cdot 3}{2 \cdot 3} = 12\frac{3}{6} \qquad 8\frac{2}{3} = 8\frac{2 \cdot 2}{3 \cdot 2} = 8\frac{4}{6}$$

$$12\frac{3}{6} + 8\frac{4}{6} = 20\frac{7}{6} \qquad \frac{7}{6} \text{ is improper so we must change it to proper. } 7 \text{ divided by } 6 = 1\frac{1}{6}$$

$$20 + 1\frac{1}{6} = 21\frac{1}{6}$$

1.) Add:  $\frac{1}{3} + \frac{1}{9}$

2.) Add:  $7\frac{4}{9} + 10\frac{2}{9}$

3.) Add:  $1\frac{5}{9} + 4\frac{1}{6}$

4.) Add:  $2\frac{1}{2} + 2\frac{2}{3}$

5.) A quiche recipe calls for  $2\frac{3}{4}$  cups of grated cheese. A recipe for quesadillas requires  $1\frac{1}{3}$  cups of grated cheese. What is the total amount of grated cheese needed for both recipes?

6.) You want to make a scarf and matching hat. The pattern calls for  $1\frac{7}{8}$  yards of fabric for the scarf and  $2\frac{1}{2}$  yards of fabric for the hat. How much fabric do you need in all?

# Incoming 8<sup>th</sup> Grade Intro to Algebra & Geometry – Summer Math Packet

On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math: 1 2 3 4 5

**Unit: Knowledge of Number Relationships & Computation**

**Objective:** Add, subtract, and multiply positive fractions and mixed numbers. - B

**Examples:**

- To subtract unlike fractions (fractions with different denominators), rename the fractions so there is a common denominator.

$$\text{Subtract: } \frac{7}{8} - \frac{1}{2} = \frac{7}{8} - \frac{4}{8} = \frac{3}{8} \quad \frac{7}{8} = \frac{7 \cdot 1}{8 \cdot 1} = \frac{7}{8} \quad \frac{1}{2} = \frac{1 \cdot 4}{2 \cdot 4} = \frac{4}{8} \quad \frac{7}{8} - \frac{4}{8} = \frac{3}{8}$$

$$\text{Subtract: } 5\frac{3}{4} - 2\frac{1}{3} = 5\frac{3}{4} = 5\frac{3 \cdot 3}{4 \cdot 3} = 5\frac{9}{12} \quad 2\frac{1}{3} = 2\frac{1 \cdot 4}{3 \cdot 4} = 2\frac{4}{12}$$

$$5\frac{9}{12} - 2\frac{4}{12} = 3\frac{5}{12}$$

**\*\*Note:** If you have to borrow from the whole number change to improper fractions, find a common denominator, subtract, and then change back to proper fractions.

1.) Subtract:  $\frac{9}{10} - \frac{1}{10}$

2.) Subtract:  $\frac{2}{3} - \frac{1}{6}$

3.) Subtract:  $9\frac{7}{10} - 4\frac{3}{5}$

4.) Subtract:  $5\frac{3}{8} - 4\frac{11}{12}$

\*Hint: Change to improper fractions first!

5.) Melanie had  $4\frac{2}{3}$  pounds of chopped walnuts. She used  $1\frac{1}{4}$  pounds in a recipe. How many pounds of chopped walnuts did she have left?

6.) Lois has  $3\frac{1}{3}$  pounds of butter. She uses  $\frac{3}{4}$  pound in a recipe. How much does she have left? \*Hint: Change to improper fractions first.

# Incoming 8<sup>th</sup> Grade Intro to Algebra & Geometry – Summer Math Packet

On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math: 1 2 3 4 5

## Unit: Knowledge of Number Relationships & Computation

Objective: Add, subtract, and multiply positive fractions and mixed numbers. - C

Examples:

- To multiply fractions – Multiply the numerators & denominators.
- Be sure to change mixed numbers to improper fractions before multiplying.

$$\frac{1}{3} \cdot \frac{5}{8} = \frac{5}{24}$$

$$1\frac{1}{3} \cdot 3\frac{2}{5} = \frac{4}{3} \cdot \frac{17}{5} = \frac{68}{15} = 4\frac{8}{15}$$

\*\*Remember: Changing mixed numbers to improper fractions.  $2\frac{3}{4} = 4 \cdot 2 + 3 = \frac{11}{4}$

$$1\frac{1}{3} \cdot 21 = \frac{4}{3} \cdot \frac{21}{1} = \frac{4 \cdot 21}{3 \cdot 1} = \frac{84}{3} = 28$$

1.)  $\frac{2}{3} \cdot \frac{4}{5} =$

2.)  $\frac{7}{3} \cdot 4\frac{1}{2} =$

3.)  $2\frac{1}{2} \cdot 2\frac{1}{3} =$

4.)  $3 \cdot 5\frac{2}{9} =$

5.) Anna wants to make 4 sets of curtains. Each set requires  $5\frac{1}{8}$  yards of fabric. How much fabric does she need?

6.) One sixth of the students at a local college are seniors. The number of freshmen students is  $2\frac{1}{2}$  times that amount. What fraction of the students are freshmen?

# Incoming 8<sup>th</sup> Grade Intro to Algebra & Geometry – Summer Math Packet

On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math: 1 2 3 4 5

**Unit: Simplifying Expressions**

**Objective: Simplify variable expressions by combining like terms and using the Distributive Property.**

**Examples:**

- **To combine** – add terms that have the same exact variable part.
- **To distribute** – multiply the number outside the parentheses to all terms inside the parentheses.
- **REMEMBER!** Keep track of the sign of the number as you regroup

Example: Simplify the expression.

a) $4x - 3 + 1 - 2x$	b) $14y + 2 - 10y + 13$	c) $a + 2b - 5b - 6a$
$4x - 2x - 3 + 1$	$14y - 10y + 2 + 13$	$1a - 6a + 2b - 5b$
$2x - 2$	$4y + 15$	$-5a - 3b$

Example: Simplify the expression first using the Distributive Property.

a) $2(m + 6)$	b) $-3(g - 7)$	c) $4(2k - 1) - 3k$
$2 \cdot m + 2 \cdot 6$	$-3 \cdot g - -3 \cdot 7$	$4 \cdot 2k - 4 \cdot 1 - 3k$
$2m + 12$	$-3g + 21$	$8k - 4 - 3k$
		$5k - 4$

1.)  $7d - 8 + 4d + 4$

2.)  $2v - 5 + 5v$

3.)  $4(b + 1)$

4.)  $-2(2q - 1)$

5.)  $5(x + 10) + x$

6.)  $-6 - 7(c + 10)$



# L1: Elements, Mixtures and Compounds

## Atoms and molecules

Remember that an **element** is one type of atom, like carbon, gold or chlorine. We will look at three ways that atoms can exist.

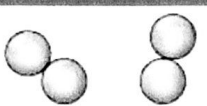
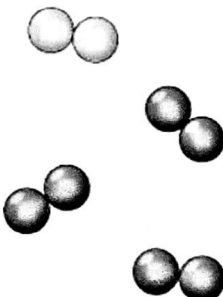
### 1. Single atoms

The atoms of some elements do not join up with other atoms. They stay as **single atoms**. The element helium is like this. Helium atoms do not join up with each other or any other element and it is a gas.



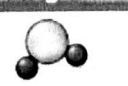
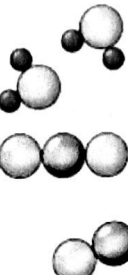
### 2. Molecules of elements

When atoms of the same element join together we get a molecule of that element.

Molecule name	Image
Oxygen	
Hydrogen	

### 3. Compounds

A compound is made when atoms of different elements join together by chemical bonds. This means that compounds will always exist as molecules, not separate atoms. The diagrams show some molecules of common compounds.

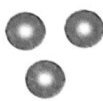
Compound name	Image
Water molecule	
Carbon dioxide molecule	

## What is a mixture?

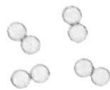
A **mixture** is made from different substances that are **not chemically joined**.



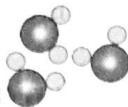
In summary:



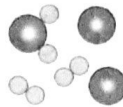
Atoms



Molecules



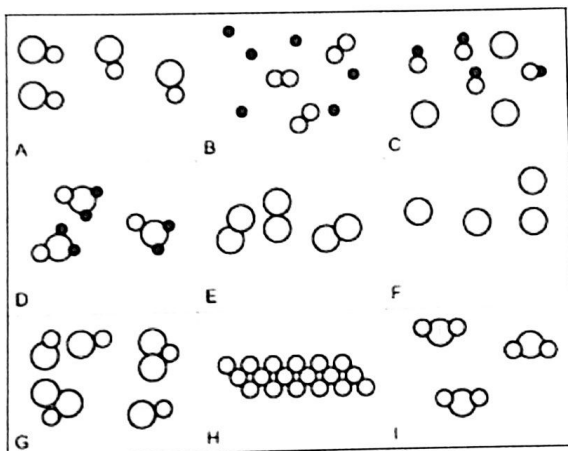
Compound



Mixture

Elements

## Test yourself



**Task:** Write the correct letters below.

1. 1 type of element: \_\_\_\_\_
2. 1 type of compound: \_\_\_\_\_
3. Mixture of elements: \_\_\_\_\_
4. Mixture of compounds: \_\_\_\_\_
5. Mixture of elements and compounds: \_\_\_\_\_

### Challenge:

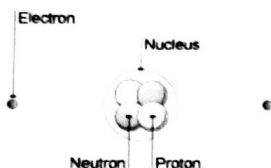
1. Which letter is showing molecules of elements?
2. Which letters are showing gases?
3. Which letter is showing a solid?
4. Which letter could be showing water ( $H_2O$ )

# L2 & L3: Structure of the atom, atomic mass and atomic number

## Atomic structure

All substances are made from tiny particles called **atoms**. An atom has a small central nucleus made up of smaller sub-atomic particles called **protons and neutrons**. The nucleus is surrounded by even smaller sub-atomic particles called **electrons**

Protons and electrons have an electrical charge. Protons are positive, electrons are negative. Neutrons are neutral.



Subatomic particle	Mass	Charge
Proton	1	+1
Neutron	1	0
Electron	Negligible	-1

The number of electrons in an atom is **equal to** the number of protons in its nucleus. This means atoms have no overall electrical charge.

## Atomic number and atomic mass

The **atomic number** of an atom is the number of protons it contains.

The atoms of different elements have different numbers of protons. For example, all oxygen atoms have 8 protons and all sodium atoms have 11 protons.

The **atomic mass** (or mass number) of an atom is the total number of protons and neutrons it contains.

**Challenge:** Calculating the number of subatomic particles in each atom using the atomic number and the atomic mass.

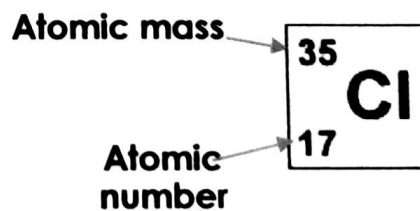
The symbol on the right tells you that chlorine has 17 protons. This is because the atomic number is 17.

In an atom, the number of protons is equal to the number of electrons, so chlorine contains 17 electrons.

To work out the number of neutrons, you subtract (take away) the atomic number from the mass number.

$$35 - 17 = 18$$

So, chlorine has 18 neutrons!

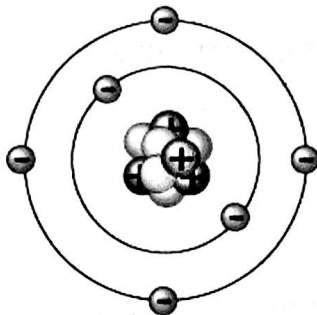


## Test yourself



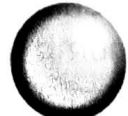
**Task 1:** Look → Cover → Write → Check

Information	1 <sup>st</sup> try	2 <sup>nd</sup> try
The atomic number is the number of protons an atom contains.	The atomic number is the number of...	
The atomic mass is the total number of protons and neutrons an atom contains.	The atomic mass is the total number of...	
In an atom, the number of protons is the same as the number of electrons	In an atom...	

**Task 2:** Label the protons, neutrons and electrons in the diagram below.



**Task 3:** Complete the table below.

<b>Properties of Protons, Neutrons, and Electrons</b>			
	Electron	Proton	Neutron
			
<b>Charge</b>			0
<b>Relative mass</b>		1	

**Challenge:** Sodium has an atomic number of 11 and a mass number of 23.

1. How many protons does it have?
2. How many electrons does it have?
3. How many neutrons does it have?

# L4: Calculating the number of each subatomic particle and learning about isotopes

## Calculating the number of subatomic particles

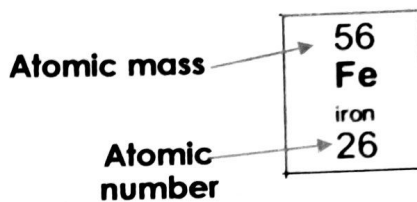
The symbol on the right tells you that iron has 26 protons. This is because the atomic number is 26.

In an atom, the number of protons is equal to the number of electrons, so iron contains 26 electrons.

To work out the number of neutrons, you subtract (take away) the atomic number from the mass number.

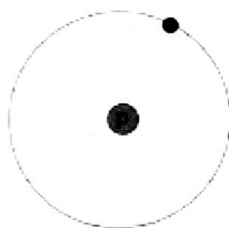
$$56 - 26 = 30$$

So, iron has 30 neutrons!



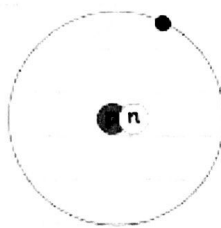
## Isotopes

Isotopes are the atoms of an element with different numbers of neutrons but **the same** number of protons. This means that they have the same atomic number (proton number) but a different atomic mass.



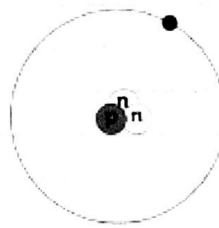
Hydrogen-1

1 proton  
0 neutrons  
1 electron



Hydrogen-2  
(Deuterium)

1 proton  
1 neutron  
1 electron



Hydrogen-3  
(Tritium)

1 proton  
2 neutrons  
1 electron

## Test yourself

**Task 1:** Fill in the missing words. The key words are provided below:

The smallest particle of an element is called an \_\_\_\_\_. The \_\_\_\_\_ is in the centre of an atom. Electrons have a \_\_\_\_\_ charge and protons have a \_\_\_\_\_ charge. The atomic number is the number of \_\_\_\_\_ in an atom. The Atomic mass is the total number of \_\_\_\_\_ and \_\_\_\_\_ inside an atom.

For an isotope, the atoms have the \_\_\_\_\_ number of protons but \_\_\_\_\_ number of neutrons.

Same    Protons    Negative    Atom    Protons    Different    Nucleus  
Neutrons    Positive

**Task 2:** The picture on the right shows an oxygen atom. Oxygen has an atomic number of 8 and an atomic mass of 16.

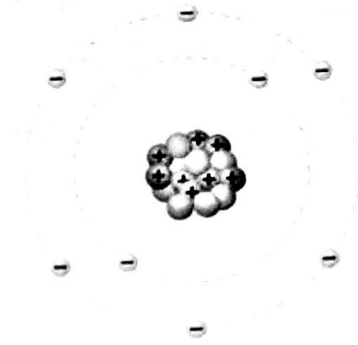
Using the picture and the information to help you, answer the following questions.

An oxygen atom contains \_\_\_\_\_ protons.

An oxygen atom contains \_\_\_\_\_ electrons

An oxygen atom contains \_\_\_\_\_ neutrons.

16
<b>O</b>
oxygen
8



**Task 3:** Complete the table using the pictures to help you. **Remember,** the top number shows atomic mass and the bottom number shows the atomic number.

12 <b>C</b> carbon 6	23 <b>Na</b> sodium 11	14 <b>N</b> nitrogen 7	31 <b>P</b> phosphorus 15	4 <b>He</b> helium 2	40 <b>Ca</b> calcium 20
-------------------------------	---------------------------------	---------------------------------	------------------------------------	-------------------------------	----------------------------------

The first row has been done to help you!

Name	Symbol	Protons	Neutrons	Electrons
Sodium	<i>Na</i>	11	$23 - 11 = 12$	11
	P			
				6
			7	
			20	
		2	2	2

**Task 4:** The table below shows isotopes of carbon. Each carbon atom has an atomic number of 6 but different atomic masses. State the number of electrons, protons and neutrons in each isotope of carbon.

<p><math>^{12}_6\text{C}</math></p>	<p><math>^{13}_6\text{C}</math></p>	<p><math>^{14}_6\text{C}</math></p>
<p>Carbon-12</p> <p>No. of protons = No. of electrons = No. of neutrons =</p>	<p>Carbon-13</p> <p>No. of protons = No. of electrons = No. of neutrons =</p>	<p>Carbon-14</p> <p>No. of protons = No. of electrons = No. of neutrons =</p>

# L5: Electronic arrangements of elements in the periodic table

## Electronic structure

The electrons in an atom occupy **energy levels**. These are also called **shells**. Each electron in an atom is found in a particular energy level.

The lowest energy level (innermost shell) fills with electrons first. Each energy level can only hold a certain number of electrons before it becomes full.

The table below shows the maximum number of electrons that fit on each shell.

Energy level or shell	Maximum number of electrons
first	2
second	8
third	8

## Writing an electronic structure

The electronic structure of an atom is written using numbers to represent the electrons in each energy level. For example, sodium contains 11 electrons so the electronic structure will be written as 2,8,1. This shows that there are:

2 electrons in the first energy level

8 electrons in the second energy level

1 electron in the third energy level.

You can work out the electronic structure of an atom from its atomic number (proton number). This is because the number of protons in an atom equals the number of electrons in an atom.

The diagram below shows the first 20 elements and their electronic structures. You will need to be able to write the electronic structure of any of the first 20 elements (hydrogen to calcium)

	Group							
	1	2	3	4	5	6	7	0
Period 1								2 <b>He</b> 2
Period 2	3 <b>Li</b> 2.1	4 <b>Be</b> 2.2	5 <b>B</b> 2.3	6 <b>C</b> 2.4	7 <b>N</b> 2.5	8 <b>O</b> 2.6	9 <b>F</b> 2.7	10 <b>Ne</b> 2.8
Period 3	11 <b>Na</b> 2.8.1	12 <b>Mg</b> 2.8.2	13 <b>Al</b> 2.8.3	14 <b>Si</b> 2.8.4	15 <b>P</b> 2.8.5	16 <b>S</b> 2.8.6	17 <b>Cl</b> 2.8.7	18 <b>Ar</b> 2.8.8
Period 4	19 <b>K</b> 2.8.8.1	20 <b>Ca</b> 2.8.8.2						

Atomic number = number of electrons

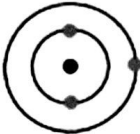
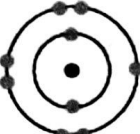
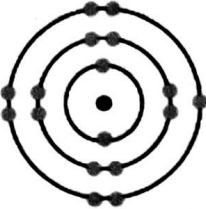
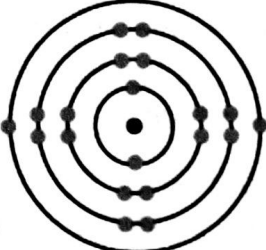
Electronic structure

## Electronic structure diagrams

You need to be able to draw the electronic structure of any of the first twenty elements (hydrogen to calcium). In these drawings:

- the nucleus is shown as a black spot
- each energy level is shown as a circle around the nucleus
- each electron is shown by a dot or a cross.

### The electronic structure of some elements

Element	Symbol	Electronic structure (written)	Electronic structure (drawn)
lithium	Li	2,1	
fluorine	F	2,7	
chlorine	Cl	2,8,7	
calcium	Ca	2,8,8,2	



# Test yourself

**Task 1.** Answer the following questions.

1. The diagram represents an atom of beryllium. Use words from the box to label the diagram.

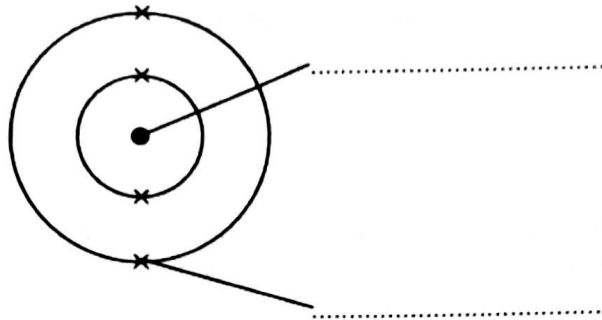
- electron**

**ion**

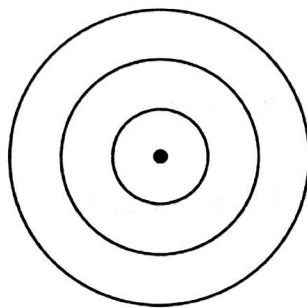
**isotope**

**molecule**

**nucleus**



2. Use crosses (x) to complete the diagram to show the electronic structure of a magnesium atom. The atomic (proton) number of magnesium is 12.



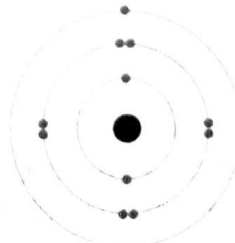
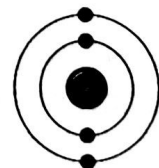
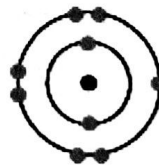
**Task 2.** Match the elements to the correct atoms! One element is not shown.

23  
**Na**  
sodium  
11

12  
**C**  
carbon  
6

19  
**F**  
fluorine  
9

9  
**Be**  
beryllium  
4



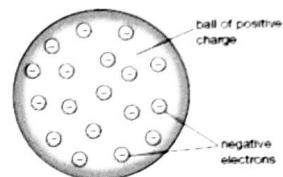
## L6: Discoveries leading to the current atomic model

Ideas about atoms have changed over time. Scientists developed new **atomic models** as they gathered new experimental evidence.

**John Dalton** published his ideas about atoms in 1803. He thought that all matter was made of tiny particles called **atoms**, which he imagined as tiny spheres that could not be divided.



Nearly 100 years later, **J J Thomson** carried out experiments and discovered the **electron**. This led him to suggest the **plum pudding model** of the atom. In this model, the atom is a ball of positive charge with negative electrons embedded in it - like currants in a Christmas pudding.

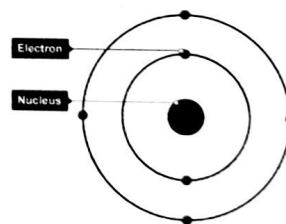


In 1909 **Ernest Rutherford** designed an experiment to test the plum pudding model. The evidence from his experiment suggested a new model for the atom, called the **nuclear model**. In the nuclear model:

- the mass of an atom is concentrated at its centre, the **nucleus**
- the nucleus is positively charged



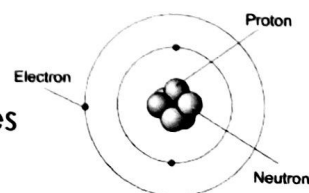
**Niels Bohr** adapted Rutherford's nuclear model. Bohr did calculations that led him to suggest that electrons orbit the nucleus in shells. The shells are at certain distances from the nucleus.



Further experiments led to the idea that the nucleus contained small particles, called **protons**. Each proton has a small amount of positive charge.



In 1932 **James Chadwick** found evidence for the existence of particles in the nucleus with mass but no charge. These particles are called **neutrons**. This led to another development of the atomic model, which is still used today.



## Test yourself

**Task 1:** Fill in the gaps using the key words below.

The discovery of the electron led to the \_\_\_\_\_ model of the atom. Before the discovery of the electron atoms were thought to be tiny spheres that could not be divided.

Rutherford and Marsden's alpha particle scattering experiments led to the plum pudding model being replaced by the \_\_\_\_\_ model.

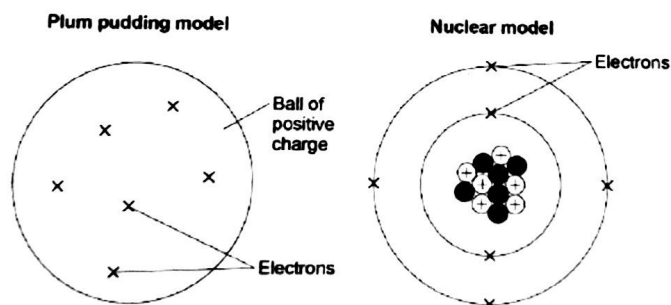
\_\_\_\_\_ adapted the nuclear model by suggesting that \_\_\_\_\_ orbit the \_\_\_\_\_ in shells. The theoretical calculations of Bohr agreed with experimental observations.

Later experiments led to the idea that the positive charge of any nucleus could be subdivided into a whole number of smaller particles, each particle having the same amount of positive charge. The name \_\_\_\_\_ was given to these particles. In 1932 the experimental work of \_\_\_\_\_ provided the evidence to show the existence of \_\_\_\_\_ within the nucleus.

**Electrons    Neutrons    Proton    Chadwick    Nuclear    Bohr**  
**Plum pudding    Nucleus**

### Challenge:

The diagram shows the plum pudding model of an atom of carbon and the current nuclear model of an atom of carbon.



Compare the position of the subatomic particles in the plum pudding model with the nuclear model. (4 marks)

---

---

---

---

---

---

---

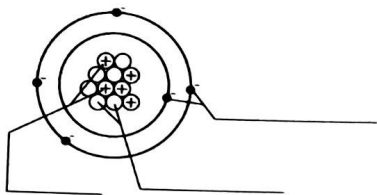
---

---

---

# Basic Atomic Structure

1. Label the parts of an atom in the diagram below



- What type of charge does a proton have? \_\_\_\_\_
- What type of charge does a neutron have? \_\_\_\_\_
- What type of charge does an electron have? \_\_\_\_\_
- Which two subatomic particles are located in the nucleus of an atom? \_\_\_\_\_

2. An element is represented by its chemical symbol along with a few numbers. Based on the example on the right, fill in the numbers of protons (P), neutrons (N), and electrons (E) for the following elements.

8	← Atomic Number
O	← Symbol
Oxygen	← Name
15.999	← Average atomic mass

6	#P _____
C	#N _____
Carbon	#E _____
12.011	

10	#P _____
Ne	#N _____
Neon	#E _____
20.108	

19	#P _____
K	#N _____
Potassium	#E _____
39.098	

3. Complete the table using your knowledge of the periodic table.

Symbol	Atomic Number	Mass Number	Number of Protons	Number of Electrons	Number of Neutrons
Na			11		12
K		39		19	
			38		50
F				9	10
	20	40		20	
	50			50	69
I	53	127			

# L1: Mendeleev and the periodic table

## The periodic table

All the different elements are arranged in a chart called the **periodic table**.

There were many scientists who noticed that some elements had similar properties and tried to arrange them in order. However, a pattern could not be found for all the elements.

A Russian chemist called **Dimitri Mendeleev** arranged the elements in an order that we would now recognise.

He realised that the physical and chemical properties of elements were related to their atomic mass in a 'periodic' way, and arranged them so that groups of elements with similar properties fell into vertical columns in his table.

## Gaps and predictions

Sometimes this method of arranging elements meant **there were gaps** in his horizontal rows or 'periods'. But instead of seeing this as a problem, Mendeleev thought it simply meant that the elements in the gap had not been discovered yet!

He was also able to work out the atomic mass of the missing elements, and so **predict their properties** and when they were discovered, Mendeleev turned out to be right. This is why his periodic table became widely accepted.

So, **Mendeleev** produced one of the first practical periodic tables in the 19th century. The modern periodic table is based closely on the ideas he used:

- the elements are arranged in order of increasing **atomic number**
- the horizontal rows are called **periods**
- the vertical columns are called **groups**
- elements in the same group are similar to each other

		Groups																										
		1	2											3	4	5	6	7	0									
Periods	1																H											He
	2	Li	Be											B	C	N	O	F	Ne									
	3	Na	Mg											Al	Si	P	S	Cl	Ar									
	4	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr									
	5	Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe									
	6	Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn									
	7	Fr	Ra	Ac																								

■ Metals    □ Non-metals

## The groups of the periodic table

The groups on the periodic table also have names. The main ones you need to know are listed below.

Group 1 = Alkali metals (orange)

Group 2 = Alkaline earth metals (Dark pink)

Group 7 = Halogens (Turquoise)

Group 0 = Noble gases (Grey)

		Alkali Metal										Metalloids										Non Metals						Noble Gas	
		Alkaline earth metal										Transition Metal										Halogen						Noble Gas	
		Other Metals																											
1	H																											He	
2	Li	Be																											Ne
3	Na	Mg																											Ar
4	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr											
5	Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe											
6	Cs	Ba		Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn											
7	Fr	Ra		Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Uut	Ff	Uup	Lv	Uus	Uuo											

## Test yourself

**Task 1:** Complete the paragraph below using the key words.

Mendeleev created one of the first versions of the \_\_\_\_\_ table. Using information about elements that had already been discovered, he was able to \_\_\_\_\_ properties of elements that had not yet been \_\_\_\_\_. This included things such as their melting point, \_\_\_\_\_ and appearance.

**Discovered**

**Periodic**

**Mass**

**Predict**

**Task 2:** Use the periodic table above and on the previous page to answer the following questions.

1. How many groups are there in the periodic table?
2. How many elements are there in group 1?
3. How many elements are there in the transition metals?
4. Which group is Cl (chlorine) in?
5. Which groups is Na (sodium) in?
6. Which group is Ne (Neon) in?
7. Which of these elements is the odd one out? Li Na Mg K Rb Cs



# Summer is here!



Students in Grades 6-8,

Attached are some Catholic summer activity ideas. Choose at least 4 to complete and write a brief (3-5 sentences) reflection.

Remember to go to Mass. We don't take a break from our Sunday obligations. Please continue to get your mass coupons clipped over the summer.

Summer work will be collected during the first week of school.

Have a safe and fun-filled Summer!

Mrs. Bachu



## Low to No Tech Summer Activities for Catholic Students

<p><b>Linguistic:</b> Reading, writing, and communicating</p> <hr/> <ul style="list-style-type: none"> <li><input type="checkbox"/> Write a story or poem based on a Bible passage.</li> <li><input type="checkbox"/> Create a prayer journal.</li> <li><input type="checkbox"/> Read a book about a saint and write a summary.</li> <li><input type="checkbox"/> Compose letters to God.</li> <li><input type="checkbox"/> Memorize a favorite prayer and recite it.</li> <li><input type="checkbox"/> Write a play about a Biblical story.</li> <li><input type="checkbox"/> Start a book club with friends, focusing on books that have moral messages.</li> <li><input type="checkbox"/> Create a Catholic-themed crossword puzzle.</li> <li><input type="checkbox"/> Write a letter to a missionary.</li> </ul>	<p><b>Logical-Mathematical:</b> Logical reasoning, problem-solving, and using numbers</p> <hr/> <ul style="list-style-type: none"> <li><input type="checkbox"/> Create a Bible trivia game.</li> <li><input type="checkbox"/> Plan a budget for a charity project and complete it with family or friends.</li> <li><input type="checkbox"/> Construct a timeline of significant events in the Bible.</li> <li><input type="checkbox"/> Organize a community service project.</li> <li><input type="checkbox"/> Develop a strategy for a church fundraising event.</li> <li><input type="checkbox"/> Calculate the ages of people in different Biblical stories.</li> </ul>	<p><b>Visual:</b> Visualizing and creating visual art</p> <hr/> <ul style="list-style-type: none"> <li><input type="checkbox"/> Draw or paint Biblical scenes.</li> <li><input type="checkbox"/> Create a diorama of a Bible story.</li> <li><input type="checkbox"/> Design a stained-glass window pattern.</li> <li><input type="checkbox"/> Make a model of your church.</li> <li><input type="checkbox"/> Craft a rosary using beads.</li> <li><input type="checkbox"/> Build a model of Noah's Ark.</li> <li><input type="checkbox"/> Illustrate a comic strip of a saint's life.</li> <li><input type="checkbox"/> Create a vision board with pictures of how you see God's work in your life.</li> <li><input type="checkbox"/> Sculpt a religious statue using clay.</li> </ul> <p><b>Naturalistic:</b> Exploring and appreciating nature</p> <hr/> <ul style="list-style-type: none"> <li><input type="checkbox"/> Plant a garden and donate the harvest to a food bank.</li> <li><input type="checkbox"/> Go on a nature walk and reflect on God's creation.</li> <li><input type="checkbox"/> Identify and study different plants and animals mentioned in the Bible.</li> <li><input type="checkbox"/> Clean up a local park or beach.</li> <li><input type="checkbox"/> Build a birdhouse and observe the birds.</li> <li><input type="checkbox"/> Camp out and discuss God's creation around the campfire.</li> <li><input type="checkbox"/> Organize an outdoor prayer meeting.</li> <li><input type="checkbox"/> Create a nature journal with reflections and drawings.</li> <li><input type="checkbox"/> Volunteer at an animal shelter.</li> <li><input type="checkbox"/> Plan a hike to a scenic spot and have a prayer session there.</li> </ul>
<p><b>Bodily-Kinesthetic:</b> Physical movement and hands-on tasks</p> <hr/> <ul style="list-style-type: none"> <li><input type="checkbox"/> Organize a sports event for charity.</li> <li><input type="checkbox"/> Act out a Bible story in a play.</li> <li><input type="checkbox"/> Create a fitness routine inspired by the life of a saint.</li> <li><input type="checkbox"/> Choreograph a dance to go with your favorite hymn.</li> <li><input type="checkbox"/> Help with gardening at the church.</li> <li><input type="checkbox"/> Volunteer to clean and maintain church grounds.</li> <li><input type="checkbox"/> Practice mindfulness and prayer through yoga.</li> </ul>		



## Low to No Tech Summer Activities for Catholic Students

<p><b>Musical:</b> Music and rhythm</p> <hr/> <ul style="list-style-type: none"> <li><input type="checkbox"/> Join the church choir.</li> <li><input type="checkbox"/> Learn to play a hymn on an instrument.</li> <li><input type="checkbox"/> Compose a religious song.</li> <li><input type="checkbox"/> Organize a musical performance for a church event.</li> <li><input type="checkbox"/> Create a playlist of favorite worship songs.</li> <li><input type="checkbox"/> Learn Gregorian chant.</li> <li><input type="checkbox"/> Teach younger children religious songs.</li> <li><input type="checkbox"/> Listen to and discuss the messages in different hymns.</li> </ul>	<p><b>Intrapersonal:</b> Self-reflection and understanding</p> <hr/> <ul style="list-style-type: none"> <li><input type="checkbox"/> Spend a day in silent retreat.</li> <li><input type="checkbox"/> Reflect on daily Bible readings.</li> <li><input type="checkbox"/> Practice Ignatian meditation.</li> <li><input type="checkbox"/> Set personal spiritual goals for the summer.</li> <li><input type="checkbox"/> Keep a daily gratitude journal.</li> <li><input type="checkbox"/> Explore different forms of prayer.</li> <li><input type="checkbox"/> Attend a youth retreat.</li> <li><input type="checkbox"/> Write reflections on weekly homilies.</li> <li><input type="checkbox"/> Practice fasting and prayer for a special intention.</li> <li><input type="checkbox"/> Spend time in Eucharistic adoration.</li> </ul>	<p><b>Interpersonal:</b> Interacting and working with others</p> <hr/> <ul style="list-style-type: none"> <li><input type="checkbox"/> Volunteer at a local soup kitchen.</li> <li><input type="checkbox"/> Organize a small group Bible study.</li> <li><input type="checkbox"/> Help run a vacation Bible school.</li> <li><input type="checkbox"/> Visit nursing homes and share stories from the Bible.</li> <li><input type="checkbox"/> Mentor younger students in faith formation.</li> <li><input type="checkbox"/> Host a game night with faith-based games.</li> <li><input type="checkbox"/> Participate in a church service project.</li> <li><input type="checkbox"/> Lead a prayer group.</li> <li><input type="checkbox"/> Plan a youth group retreat.</li> <li><input type="checkbox"/> Help coordinate a parish event.</li> </ul> <p><b>Miscellaneous:</b> A variety of interests and skills</p> <hr/> <ul style="list-style-type: none"> <li><input type="checkbox"/> Make and deliver care packages for the homeless.</li> <li><input type="checkbox"/> Bake cookies and deliver them to your parish staff.</li> <li><input type="checkbox"/> Organize a family prayer night.</li> <li><input type="checkbox"/> Create homemade greeting cards for people in your parish.</li> <li><input type="checkbox"/> Read the Bible under a favorite tree.</li> <li><input type="checkbox"/> Organize a charity car wash.</li> <li><input type="checkbox"/> Help with a church yard sale.</li> <li><input type="checkbox"/> Create a rosary walk with your family.</li> <li><input type="checkbox"/> Spend time in silent prayer each day.</li> </ul>
<p><b>Existential:</b> Exploring big questions and the meaning of life</p> <hr/> <ul style="list-style-type: none"> <li><input type="checkbox"/> Contemplate and discuss the big questions of life and faith.</li> <li><input type="checkbox"/> Visit a historical church and learn about its significance.</li> <li><input type="checkbox"/> Debate moral and ethical questions from a Catholic perspective.</li> <li><input type="checkbox"/> Explore the meaning of different sacraments.</li> <li><input type="checkbox"/> Research the lives of different saints and their impact on the world.</li> <li><input type="checkbox"/> Visit a monastery and learn about monastic life.</li> <li><input type="checkbox"/> Discuss the Catholic view on social justice issues.</li> <li><input type="checkbox"/> Participate in an interfaith dialogue event.</li> <li><input type="checkbox"/> Plan and lead a group discussion on the teachings of Jesus.</li> </ul>		

# **Summer Reading Social Studies Assignment**

## ***Task: Exploring Current Events in Our Changing World***

*As global citizens, it is important for us to stay informed about the events and issues shaping our world today. This summer, your assignment is to dive into the world of current events by selecting and analyzing a recent article that highlights an important event or issue from around the globe. Through this assignment, you will not only expand your understanding of our world but also develop critical thinking skills and learn to express your thoughts effectively.*

### ***Research:***

1. Find a current event article: (An online or newspaper article that was published within the last six months) that focuses on a significant event, trend, or issue happening in our world today. The article should relate to a topic within the field of social studies, such as politics, culture, economics, or global issues. Ensure that the article is from a trustworthy source, such as a trusted news organization or a true online publication. Keep in mind that your article should provide enough details and material to create a complete analysis.

### ***Summary:***

2. After reading the article carefully, write a summary of the main points and arguments presented. Your summary should highlight the key ideas of the event or issue discussed and provide a clear understanding of why this event is important. Try to capture the essence of the article in your own words, avoiding direct quotations.

### ***Analysis:***

3. In this section, share your thoughts and feelings on the event or issue presented in the article. Consider the following points as you craft your analysis:

Importance - Explain why this event or issue is important in our world. How does it impact different communities, nations, or global relationships? Why should people pay attention to it?

**Personal Connection:** Share your personal thoughts and feelings about the event or issue. How does it relate to your own experiences, values, or beliefs? Discuss any emotional or intellectual reactions you had while reading the article.

**Potential Consequences:** Analyze the potential short-term and long-term consequences of the event or issue. Consider its impact on local communities, nations, and the global community as a whole.

### *When Writing Your Response:*

#### *Length and Formatting:*

- Your assignment should be written in essay format.
- The response should be two pages in length, double-spaced, with standard margins (1 inch) and a font size of 12.
- Include a title that accurately reflects the content of your assignment.
- Use proper grammar, punctuation, and sentence structure to ensure clarity and coherence in your writing.

#### *Submission:*

- Submit your assignment as a printed copy to your social studies teacher on the first week of school.

Note: Remember to choose an article that genuinely interests you, as this will help keep you engaged and enrich your learning experience. If you have any questions or need assistance in finding a suitable article, feel free to reach out to me via email or Google Classroom.

*Enjoy your summer reading and exploration of our ever-changing world!*