Kingsborough Community College
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TASC – HSE11E
Lesson # 3

Subject – Reading/Writing/Social Studies

Topic: Inferences (102 – 103)

Definition – Pertains to the conclusions one may draw based upon information provided. More simply put, reading in between the lines.

Example: Gail was pale and trembled, every time she heard thunder, she jumps.

Inference: Gail is scared of thunder.

Example: Often when trying new foods, people make peculiar faces while eating.

Inference: The person's facial expression communicates non-verbally their impression of the meal.

Hints:

- Read texts closely and carefully.
- Ask yourself the following question: “What is the author seeking to communicate?”
- Use the information given to make a sound and reasonable conclusion.
- When creating/making inferences, make sure you have evidence based facts which support your conclusions.

Excerpt “The Story of the Hour”
(Pages 102 – 103)

Summary

Louise Mallard is informed of her husband's death, by her sister Josephine, who tells her the news gently because Louise suffers from a heart condition. Louise cries and goes to her room alone. While in her room she, is happy because she is now thinking of living a new life without her husband. She is finally free.
But then, someone is opening the front door of the house. It was her husband, Mr. Bentley Mallard, who entered the door. He was alive. He was not near the place where the accident occurred.

He was shock to see everyone crying. When the doctor arrived to check Mrs. Louise Mallard, he told everyone she died of a heart disease – joy that kills.

Write an Essay - “The Story of the Hour” (Inference)

Directions: Choose one of the following topics and develop an essay based on the story.

- History of women in the 1890 (Role of Women)
- Marriage (Mr. Mallard and Mrs. Mallard)
- Grief and Happiness (Point of View)
- Analysis of characters, theme and symbols (Mrs. Mallard, Josephine, Richard)

Subject: Mathematics (Pages 330 – 331, 358)

Topics: Simplifying Algebraic Expressions, Inequalities/Solving Inequalities, Substitution Method and Elimination Method

Definition:

Simplifying Algebraic Expression means to combine **like terms**, when solving equations. Like terms have the same variables and the same power.

Rules to Remember:

- Recognize the **like terms and combine them**
- **Add and subtract the coefficient**
- **Remove parenthesis** using the **distributive property**

Example: $10x + 4 – 4x = -20$
$6x + 4 = -20$ (combine like terms)
$6x + 4 - 4 = -20 – 4$ (subtract 4 from both sides)
$6x = -24$
$6x/6 = -24/6$ (divide both sides by 6)
$x = -4$

Example: $7x + 2x – 7 = 21 + 8$
$9x – 7 = 29$ (combine like terms)
$9x – 7 + 7 = 29 + 7$ (add 7 to both sides)
$9x = 36$
$9x/9 = 36/9$ (divide both sides by 9)
$x = 4$

Simplifying containing Parenthesis

Rules to Remember:

- When removing parenthesis with plus (+) sign in front, get rid of the **plus sign** and the parenthesis. Do not change the signs of the like terms. Place like terms together.
- When removing on **minus sign** (-), get rid of minus sign and parenthesis and **change the sign of each terms.** Place like signs together.

Example: $(3x – 2xy + 3) + (7x + 5xy – 7)$ *Remove parenthesis and get rid of plus sign. Do not change any signs. Place like term together and simplify.*
$3x - 2xy + 3 + 7x + 5xy – 7$
$3x + 7x – 2xy + 5xy + 3 – 7$
$10x + 3xy – 4$

Example: (4x – 2xy + 5) + (-3x + 8xy + 7) *Remove parenthesis, get rid of minus sign. Change the*
4x – 2xy + 5 – 3x – 8xy – 7 *sign of each term. Place like terms together and simplify.*
4x – 3x – 2xy – 8xy + 5 – 7
x – 10 xy – 2

Inequalities – is the relationship between two numbers or algebraic expression.

Pages (358)

Symbols to Reading Inequalities:

(>) " is greater than"

(<) "is less than"

(≥) " is greater than or equal to"

(≤) " is less than or equal to"

Example: 5 > 1 - "5 is greater than 1" 5 ≥ 1 - " 5 is greater than or equal to 5"
1 < 5 - " 1 is less than 5" 5 ≤ 5 "5 is less than or equal to 5"

Rules to Remember:

- Know the inequality sign
- When graphing (< or >) the circle is open
- When graphing (≤ or ≥) the circle is closed
- Use graph paper when doing your work

Solving Inequalities

Rules to Remember:

*Adding or subtracting the same number on each side will not change the direction of the inequality sign.

- Multiplication and Division
- Multiplying or dividing on each side of the inequality sign by **any negative number REVERSES** the direction of the inequality sign.

Example: $x + 6 \geq -3$
$x + 6 - 6 \geq -3 - 6$
$x \geq -9$

Example: $5x \leq 30$
$\frac{5x}{5} \leq \frac{30}{5}$
$x \leq 6$

Example of a Fraction

$$\frac{x}{-3} > 2$$

$$-3 \cdot \frac{x}{-3} > -3 \cdot 2$$

$$x < -6$$

Substitution Method (Linear Equation)
Method is used when the coefficient of one variable is 1 or – 1.

Rules:

- Solve one of the equations for either x and y
- Substitute the expression and solve. This will give you the value of one of the variables.
- Take value and substitute into one of the original equation in order to solve the second variable.
- Check the values x and y by substituting them into the original equation
- The final solution will be an ordered pair.

Example: $4x + 3y = 27$ *Substitute (2x – 1) for y in the first equation and solve* ***x****.*
$y = 2x - 1$

$4x + 3(2x - 1) = 27$ *Use distributive property*
$4x + 6x - 3 = 27$ *Place like term together*
$10x - 3 = 27$ *Add three on both sides*
$10x = 30$ D*ivide both sides by 10*
$x = 3$

Now substitute x = 3 into either equation to get the value of ***y.***
Second part of the equation.

$y = 2x - 1$
$y = 2(3 - 1)$
$y = 6 - 1$
$y = 5$

Now I have the ordered pair (3, 5)

Elimination Method for Linear Equations

Rules:

- Make sure variables are on one side and the constant on the other side, with the like terms together.
- Add or subtract equation and eliminate one variable
- Substitute answer into either of the equation and get value of the second variable.
- Check by substituting the answer into the original equations
- Sometimes it is necessary to multiply one of the equation by the constant.

Example:

$$x + 2y = 5$$
$$-x + y = 13$$

$$x + 2y = 5 \quad \textit{First add equation}$$
$$\underline{-x + y = 13}$$
$$3y = 18 \quad \textit{Solve for y}$$
$$y = 6$$

$x + 2y = 5$ *Substitute y = 6 into either equation. (1st equation)*
$x + 2 (6) = 5$
$x + 12 = 5$
$x = +12 – 12 = 5 – 12$
$x = -7$

Ordered pair x = - 7 , y = 6 (-7, 6)

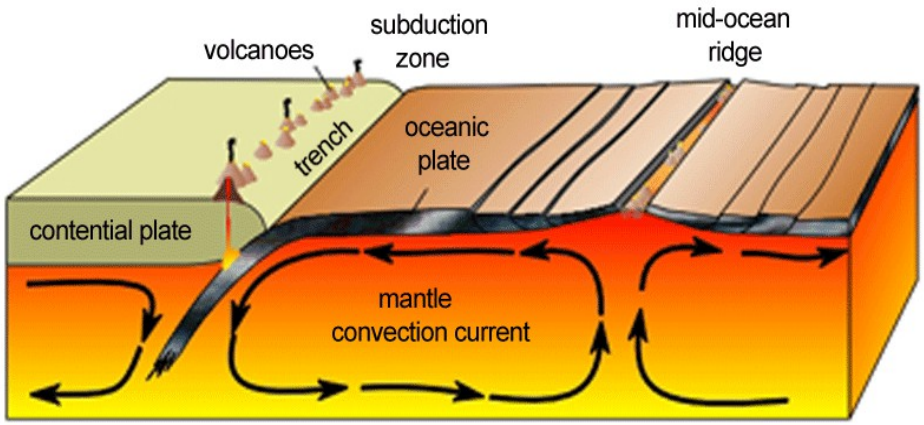
Science – Earth Science

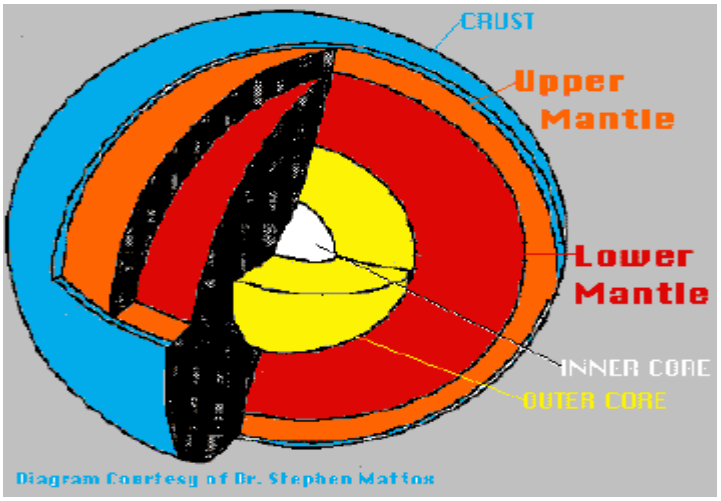
Topic: Structure of the Earth - Plate Tectonic (538 - 539)

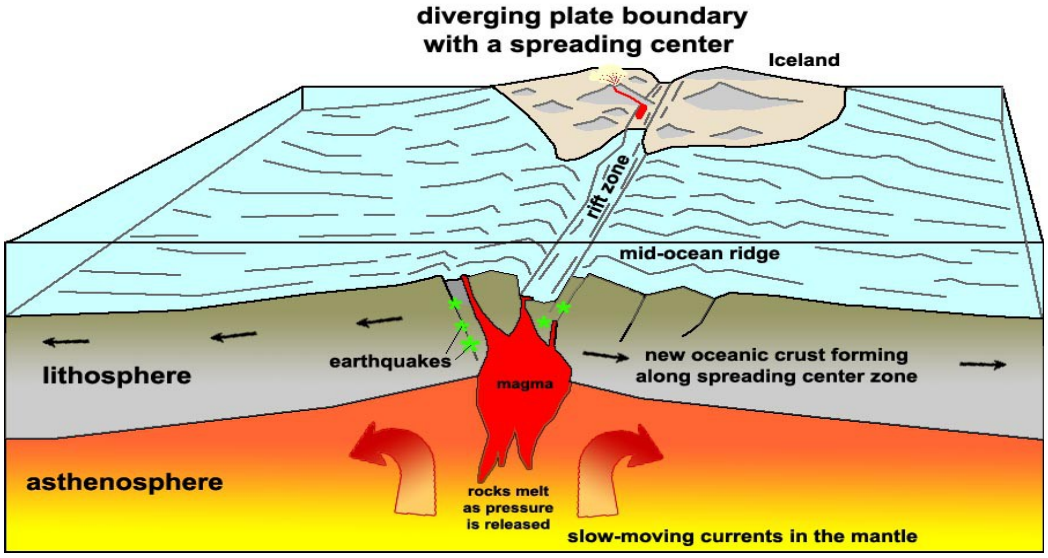
Definition – Is a disbalance of the plates/layers. Also known as the lithosphere. During the years 1950 – 1970s continents began to move slowly and drift apart. This was known as the Continental Drift.

It wa believed that the continents were all together (Pangea) over time many changes occurred on Earth that caused the continents to drift apart.

- Tsunami's
- Earthquakes/Faults (reverse, normal and transform)
- Volcanic Eruptions (convection currents)
- Mudslides
- Oceanic Eruption (sea – floor spreading)
- Icebergs


volcanoes
subduction zone
mid-ocean ridge
trench
oceanic plate
contential plate
mantle convection current


CRUST
Upper Mantle
Lower Mantle
INNER CORE
OUTER CORE
Diagram Courtesy of Dr. Stephen Mattox


diverging plate boundary with a spreading center
Iceland
rift zone
mid-ocean ridge
lithosphere
earthquakes
magma
new oceanic crust forming along spreading center zone
asthenosphere
rocks melt as pressure is released
slow-moving currents in the mantle

A scienist known as Alfred Wegener began his studies on Plate tectonics and said due to the natural disasters that occurred led to the continental drift. He stated tht the continents looked like a puzzle and many animals were dispersed in differents parts of the world. When he went to present his theory to the Board of Scientist, it was rejected, because there was not enough evidence.

Year later a Scientist known as Harry Hess looked over Alfred Wegner's research and began to study his work. Since he was a scientist, and also a commander in the USS, he was able to describe how hot magma rised from the under crust of the ocean, which later wrote a book. He added to Alfred Wegener and created the theory known as Sea- floor spreading.Where molten material rises to the Earth's mantle to the mid-ocean ridges.

Harry Hess was able to prove Alfred Wegener's Theory and give him recognition about the theory of Plate Tectonics.

Subject: History

Topic: Industrialization, Immigration and the Progressive Era (442- 443) (Industrial Revolution)

Background Information:

After the Civil War, in the late 1793 and mid 1800's, American Industries began to develop. Invention began to be created. It was a time for people to:

- Build the economy
- Create machinery
- Make money
- Import and Export goods
- Better ways of Transportation
- Create jobs
- Better production and efficiency

Inventions and Inventors:

- Eli Whitney – Cotton gin – remove seed from cotton fiber and mass production
- Robert Fulton – Steamboats to transport more people – better travel
- George Stephenson – Railroad – faster transportation of goods, people animals, etc.
- etc.

All these inventors came from different parts of the world to bring their inventions, make machinery, advertise, sell and buy machinery from others. Over time people wanted to be part of the Industrial Revolution and began creating inventions to make money, and have better lives for families and create a name for themselves.

The Big Fours

The Big four are known to be the four powerful men such as:

- Leland Straford – Industrialist, politician, businessman (Build universities, etc.)
- Elis P. Hungtington – also known as Collis – magnate industrialist, built railroads, etc.
- Mark Hopkins – Railroad executive in creating the principles of railway.
- Charles Crocker – Founder of the Central Pacific Railroad/ Transcontinental Railroad
-

Group of influential buisiness, philantropists,and railroad tycoons, who built the Central Pacific Railroad. They invested on Real Estate, Politics, Engineering, creating jobs, schools, etc. They preferred to be called ***"The Associates."***

There are 4 Types of Industrial Revolution:

- 1765 – Changes of industry (steel, metal, iron, textile, factories, etc.)
- 1870 – Electricity, Gas and Oil
- 1969 – Electronics, Telecommunications and Computers
- Present – Internet
- ? - Still on going