### **Lesson 1**

#### **Language Arts**

1. C, We can understand that the main purpose of the passage is to identify the problem of food desserts and to discuss a few potential solutions.

2. D, Based on this information we can infer that if supermarkets opened more locations in low-income areas, then the health of the residents would be more likely to improve because they would have easier access to healthy food.

3. A, A study proving that living farther away from a supermarket is linked to a having a higher body mass index would provide supporting evidence for this idea.

4. E, Based on context, we can infer that affluent neighborhoods are not low-income neighborhoods. From this we can infer that a good synonym for affluent is wealthy.

5. A, The author considers major supermarkets to be more interested in making profits that in helping people. This information supports option I.

6. B, Commendable means something positive or praiseworthy.

**Social Studies**

1. Correct answer is 2. Look for smallest # under the Export column and the year it occurred.

2. Correct answer is 3. Trade balance refers to goods or products. It is reported in dollars.

3. Correct answer is 1. If your negative balance is increasing, this means #1. We continue to buy more from China. We rely on China to produce the goods we want, rather than producing them ourselves.

**Writing**

Examine prompt for a solid paragraph. Observe grammar, logical reasoning, using text to support the student’s argument, proper usage of punctuation.

 **Math**

1. 133 books. (Add all the numbers)
2. 15 pounds (Subtract the smaller number form the larger.)
3. $20,400.00($1700 x 12 months = $20,400)
4. 6 shelves (12 / 2 = 6)
5. 2 (Subtract the first mileage reading from the last reading. 53,871 - 52943 = 928 mi.)
6. $2072 (There are 36 months in 3 years. Multiply her monthly payment of 52 by 36 months. 53 x 36 = 1872. Then add in the $200 down payment. $1872 + 200 = 2072. Total cost.)
7. 5 (First write down the number from which you subtract other numbers; ex: $20. Next, add tax to book cost. Then subtract. $20- (6.95 = .42)
8. $12.63 $12.63. $20.00 -$7.37=$12.63

#### **Lesson 2 Language Arts**

***Assignment 1:*** *Author’s Purpose*

**1. C,** In paragraph 2, the author writes, “Authors write many kinds of stories to entertain, including humorous fiction, realistic fiction, fantasy, fairy tales, and fables.” We can tell that a passage titled *The Adventures of Waldo Wizard* is a fantasy story, fable, or a fairy tale. The word adventure lets us know this is a story, and since wizards are not real, we can tell that this story could be classified as a fantasy, fairy tale or fable. Since the author writes that these types of stories entertain, we can tell that *The Adventures of Waldo Wizard* is most likely the title of a passage in which the author’s main purpose is to entertain.

**2. A,** To answer this detail question correctly, we need to find where the author discusses writing to inform in the passage. A good way to do this is to scan the topic sentence of each paragraph, since this sentence will likely tell us what information can be found in the rest of that paragraph. The topic sentence of paragraph 3 reads: "Many non-fiction writings or texts are written with the purpose of giving information about an interesting topic." This lets us know that the details we are looking for can likely be found in paragraph 3. In paragraph 3, the author writes, “All of these types of writing give information about certain topics.” Since the “types of writing” the author is referring to here are meant to inform, we can tell that authors who write to inform want to provide information about a certain topic.

 **3. D,** At the end of paragraph 1, the author writes, “Whatever the circumstances, authors have reasons for writing; this is called, the ‘author’s purpose.’ The three most common types of author’s purpose are: to entertain, to inform, and to persuade.” This lets us know that the author will explain the concept of “author’s purpose” in this passage. In the next three paragraphs, the author informs us about each of the three types of author’s purpose mentioned in the quotation above. In paragraph 3, the author writes, “Many non-fiction writings or texts are written with the purpose of giving information [or to inform the reader] about an interesting topic.” Since the author informs us about “author’s purpose” in this passage, we can tell that the author’s purpose in writing this passage is to inform, so **(D)** is correct.

 **4. B, convey** *(verb):* to make an idea, impression, or feeling known or understandable to someone. In paragraph 3, the author writes, “Authors who write to inform must research their subject to ensure that they convey accurate information to the reader.” We can use context clues—hints from known words or phrases around the unknown word or phrase—to help us figure out what convey most nearly means. If authors who write to inform must research their subject so that they convey accurate information to the reader, we can tell that convey must mean something like to pass on, or make something known, because authors write so that readers get the story or information they are writing about. Using this information, we can tell that we are looking for the word group that contains words that mean something like to make an idea, information, or story known to someone else. *Communicate, pass on*, and *relay* all mean to make an idea, information, or story known to someone else. This lets us know that convey belongs to the word group containing these words, and **(B)** is correct.

**5. C,** In paragraph 4, the author writes, “Oftentimes, texts that are meant to persuade use specific techniques…These techniques might be found in letters to the editor, argumentative essays, or persuasive speeches.” Since the techniques used in letters to the editor are mean to persuade, we can understand that if Bill likes to read the “Letters to the Editor” section of his local newspaper, this means he likes to read passages that authors write in order to persuade. Therefore **(C)** is correct

**6. C,** To answer this detail question correctly, we need to find where the author discusses writing to persuade in the passage. A good way to do this is to scan the topic sentence of each paragraph, since this sentence will likely tell us what information can be found in the rest of that paragraph. The topic sentence of paragraph 4 reads: "Sometimes authors write because they want to convince their readers about something." Since we know that convincing and persuading are similar, this lets us know that the details we are looking for can likely be found in paragraph 4. In paragraph 4, the author writes, “Oftentimes, texts that are meant to persuade use specific techniques to make the reader care about the subject, and to think about it in a certain way.” This lets us know that texts that are meant to persuade often use specific techniques to make the reader care about the subject.

***Assignment 2:*** *Avalanche!*

**1. C,** To determine the main purpose of a passage, it is helpful to examine the content of the entire passage. In paragraph 1, the author tells us “there are many different kinds of avalanches... Avalanches are categorized based on whether the snow is wet or dry, and whether or not it is compacted. The four most common types are: dry snow, wet snow, wet slab, and dry slab.” Each of the next four paragraphs is devoted to explaining one of these four types. Paragraph 6 concludes the passage by highlighting the importance of knowing how and why the different types form. Based on its content, we can determine that the main purpose of the passage is to describe the four basic types of avalanches.

 **2. C,** To determine the author's intentions in writing the statement in question, it helps to examine the surrounding context. In the sentence before the statement in question, the author writes, "Despite the fact that they can reach speeds of up to 225 miles per hour, these avalanches tend to be small, and their snow is loose, not compacted, so they are less dangerous." Here the author tells us that simply because dry snow avalanche travels at high speeds, this does not mean that it is more dangerous. However, the author wishes to not give the wrong impression; the dry snow avalanche can still cause harm. Using this information, we can understand that the author writes the statement in question in order to qualify, or refine, an earlier statement.

**3. A, saturate** (*verb*): to cause something to become thoroughly soaked; to drench or wet through. In paragraph 3, the author writes, “The increased springtime rainfall saturates the snow with water, weakening the cohesive layers beneath the surface.” Because the rainfall is “increased,” we can infer that there is more of it. The more rain there is, the more the water mixes with the snow, even “beneath the surface.” This tells us that when the rainfall *saturates* the snow with water, the water goes all the way through, or *soaks*, the snow.

 **4. A,** In paragraph 3, the author describes the conditions that cause wet snow avalanches to occur in the spring: “Wet snow avalanches generally occur during the springtime when temperatures are consistently above freezing and there is an abundance of both sunshine and rainfall. The warmer temperatures and the sun melt the outer layers of snow. The increased springtime rainfall saturates the snow with water, weakening the cohesive layers beneath the surface. The combination of these factors results in unstable conditions.” From this information, we can understand that the sunshine causes the snow to melt, and the increased rainfall weakens the existing snow. In paragraph 4, the author reinforces this idea by writing, “Like a wet snow avalanche, a wet slab avalanche most often occurs during the spring, due to melting snow and increased rainfall.” This means that melting snow and increased rainfall are the main causes of wet snow and wet slab avalanches.

 **5. B, Ideal** (*adjective*): regarded as perfect or excellent. In paragraph 4, the author describes how a wet slab avalanche forms: “Daytime melting and nighttime refreezing of the ice and snow create ideal conditions for a wet slab avalanche.” Since the author is describing the conditions that make a wet slab avalanche most likely to happen, we can understand that the melting and “refreezing of the ice and snow” create very good, or even perfect, conditions for this type of avalanche. Using this information we can understand that *ideal* must mean perfect or excellent. Since the opposite of perfect is *flawed*, **(B)** is correct.

**6. B,** In paragraph 2, the author writes that even a dry snow avalanche, the “least dangerous” kind, “can cause harm under the right conditions.” In paragraph 4, the author claims that a wet slab avalanche travels at “no more than 10 miles per hour. But because the snow is compacted, not loose, a wet slab avalanche is still quite dangerous even at this slow speed.” In paragraph 5, the author tells us that dry slab avalanches travel “at speeds of 60-80 miles per hour” and are “the most dangerous of all.” From this information, we can **infer** that whether avalanches are fast or slow, they can all be very dangerous.

 **7. A,** In paragraph 2, we learn that a dry snow avalanche consists of “powdery snow.” In paragraph 3, we learn that a wet snow avalanche consists of “loose, partially melted snow and water.” In contrast, we learn in paragraph 4 that a wet slab avalanche contains snow that “is compacted.” Likewise, in paragraph 5, we learn that a dry slab avalanche is caused when “newly fallen snow…cause[s] the compacted layer underneath to break away.” This tells us that both wet slab avalanches and dry slab avalanches contain compacted snow, unlike the other two types, which contain “loose” or “powdery” snow.

**8. A,** In paragraph 2 the author discusses the dry snow avalanche. He or she writes, "Despite the fact that they can reach speeds of up to 225 miles per hour, these avalanches tend to be small, and their snow is loose, not compacted." Since the dry snow avalanche is capable of reaching the highest speed, choice **(A)** is correct.

 **9. D,** In the final paragraph, the author provides statistics in order to impress upon us how dangerous avalanches can be. The reason in doing this is to show how we might help to prevent avalanche related accidents. The author states, "The first step in preventing avalanche related fatalities is to be better informed about the various types of avalanches and the conditions under which they occur." By educating ourselves about the various types of avalanches and the conditions under which they occur, we can be better suited to help prevent them.

 **10. Essays will vary-Compare and Contrast**

***Assignment 3****: Parts of Speech-Verbs*

1. ran
2. sit
3. barked
4. is
5. looks
6. seem
7. sneezed: action
8. are: linking
9. appears: linking
10. appeared: action
11. are going
12. have been resting
13. must be
14. will be finished
15. has
16. do
17. was
18. are being

***Assignment 4****: Verb Tense*

1. called- yesterday

2. waits – every

3. moved – 2 years ago

4. enjoy – always

5. will work – next week

6. happened- last

7. demand – today

8. will end – next

9. owns – now

10. talked - yesterday

**Lesson 2 Math**

1. 3+ 2 x 8 – 4 x 2

 3 + 16 – 4 x 2

 3 + 16 – 8

 19 - 8

 **11**

2. (3●4$)^{2}$ ● 2 – 5(9-7$)^{2}$ + 1

 (12$)^{2}$ ● 2 – 5(2$)^{2}$ + 1

 144 ● 2 – 5(4) + 1

 288 – 20 + 1

 268 + 1

 **269**

3. 105 x 4 + (9-6) - 33

 420 + (3) – 27

 423 - 27

 **396**

4. [(2 ● 3) + 4]2 – 5

 [6 + 4$]^{2}$ – 5

 10$^{2}$ – 5

 100 – 5

 **95**

5. 12 ÷ 4 + 3 ● 6

 12 ÷ 4 + 18

 3 + 18

  **21**

6. (2 + 13) ÷ 5 - 2

 15 ÷ 5 - 2

 3 - 2

 **1**

*Fill in the Blanks*

1. Order of operations , “5 more than 3 times 4”
2. Parentheses, Exponents, Multiplication, Division, Addition, Subtraction
3. left to right
4. Any two: bracket, fraction bar, parentheses, radical signs

(Look at Vocabulary to Know)

1. (35 - 15) ÷ 2

 20÷ 2

 **10**

1. D

(3 ● 5.25) + (2 ● 2.00) + (1 ● 2.25)

 15.75 + 4.00 + 2.25

 **$22**

***Assignment 2****.****A***

1. 563.00
* 8. 03

571.03

1. 29.00
* 0. 25

 28.75

1. 7.500
* 1.004

6.496

1. 0.230
* 1.006

 80.000

81.236

***Assignment 2.B***

1. >
2. <
3. >
4. =

***Assignment 3:*** *Multiplication and Decimals*

1. 17.3

 x 5.92

 102.416

1. 42.556

 x 6.293

 267.804908

1. 3.89

 x 1.4

 5.446

1. 3.18

 x 92

 292.56

***Assignment 4****: Division and Decimals*

1. 72 ÷ 8 = 0.09
2. 42 ÷ .7 = 60
3. 1.44 ÷ 0.3 = 4.8
4. 57.5 ÷ 2.5 = 23
5. 1.6/48 = 0.03333
6. 1.6/1.44 = 1.1111
7. 0.9/5.4 = 0.1666
8. 6 ÷ 4.80 = 1.25

***Assignment 5:*** *Booklet Review*

1. D
2. B
3. C
4. C
5. -3
6. f. 18.9 – 6.3 = 12.6

 b. 18.9 ÷ 6.3 = 3

 a. 18.9 x 6.3 = 119.07

c. 18.9 + 6.3 = 25.2

1. b. 5.44/8 = 0.68, to find the average of a set of numbers or data, you add the numbers to find their total and then divide the total by how many numbers were in the set. In this case, you were given the total; therefore, you just need to divide the total by 8

**Lesson 3**

***Assignment 1:*** *Changes in Biodiversity*

1. C
2. A
3. C
4. B
5. B
6. D
7. A
8. Suggested answer: Many people got sick from eating crops sprayed with pesticides.
9. Suggested answer: Describe the sequence of events described in the paragraph beginning “Now think for a moment…” A pod of whales being unable to go to their usual feeding area results in them going to a new feeding area. They eat all the salmon in that area. The humans living in that area, who usually eat the salmon, must then find a new food source.
10. Suggested answer: Based on information in the passage, you should respond that the chemical would be likely to affect other living things in that environment. You may cite the example of the chemicals farmers used to get rid of insects that ended up making humans sick. You may point out that the interconnectedness of an ecosystem means that a change to one part of it affects other parts, citing the example of the whale pod that changes its feeding area. You may make other arguments as well, if you support your claims with evidence from the passage.

***Assignment 2:*** *Reading Charts*

1. A, Note the ***rows*** of energy types and the ***column*** ”Risks/Health Issues”; Read the chart across. The chart indicates Nuclear energy is the greatest risk.
2. C, Note the ***rows*** of energy types and the ***column*** ”Benefits”; Read the chart across. The chart indicates Fuel Cell reduces emissions.
3. C, Note the ***pie chart*** sources of energy. Page 3 vocabulary defines fossil fuels. Add the fossil fuel percentages to note they make up ¾ of the pie chart.
4. B, Page 3 vocabulary defines non renewable.

***Assignment 3****: Is the Earth Getting Warmer?*

1. A
2. C
3. B
4. D
5. A
6. A
7. D
8. Suggested answer: Carbon dioxide traps heat which can cause the Earth's temperature to rise if large quantities of carbon dioxide are released in the Earth's atmosphere.
9. Suggested answer: A feedback loop is a process that helps to amplify or diminish certain changes within the process.
10. Suggested answer: Answers may vary and should be supported by the passage. Students should indicate that heat produces more heat in positive feedback loop systems. Students may also illustrate this phenomenon using one of the examples from the passage. For example, they may mention the example of melting permafrost. Some of the gases that contribute to global warming are trapped in permafrost. When permafrost melts, many of these gases are released into the atmosphere. This leads to an increase of the atmosphere's temperature, which causes more permafrost to melt. As more permafrost melts, the atmosphere's temperature increases. Thus, heat can produce more heat.

***Assignment 4:*** *Simple Subjects and Verbs*

1. Alice ; enjoys
2. park ; was
3. dog ; won
4. rights ; will be
5. riders ; learn
6. bees ; collect

***Explanation for the correct answers***

***1****. Alice enjoys an afternoon coffee break.*

***Subject*** *–* ***Alice****-A person that the sentence is about.*

***Verb*** *–* ***enjoys*** *– what Alice is doing*

***2.*** *Even though the weather was cold and windy, the theme park was open.*

***Subject*** *–* ***park*** *– a place that the sentence is about*

***Verb*** *–* ***open*** *– what the place is doing*

*Introductory phrase – “Even though the weather was cold and windy,”*

***3.*** *The dog in the last cage won the blue ribbon.*

***Subject*** *–* ***dog*** *– sentence is about the dog*

***Verb*** *–* ***won*** *– tells what the dog did*

*“in the last cage” is a detail about the dog*

***4.*** *Human rights will be the topic of the conference.*

***Subject*** *– human* ***rights*** *– thing that the sentence is about*

***Verb*** *–* ***will be*** *– state of being verb*

***5.*** *Bus riders, most of whom do not own a car, learn to wait patiently.*

***Subject*** *–* ***riders*** *– people the sentence is about*

***Verb*** *–* ***learn*** *– what the riders do*

*“most of whom do not own a car.” Describes the riders*

***6.*** *Honey bees diligently collect pollen for making honey.*

***Subject*** *–* ***bees*** *– what the sentence is about*

***Verb*** *–* ***collect*** *– what the bees are doing*

*“diligently’ describes how the bees collect the pollen*

***7.*** *Honesty, reliability, and punctuality are important to most employers.*

***Subject*** *–* ***Honesty, reliability, punctuality*** *- Character traits*

***Verb*** *–* ***are*** *– state of being verb*

***These are always verbs****: Am, is, are, was, were, have, has, had, be been*

*They are called “state of being verbs”*

***Assignment 5:*** *Verbs*

1. takes
2. make
3. want
4. goes
5. sell
6. plan
7. doesn’t

***Explanations for correct verb answers:***

***Singular Subject takes a verb with an “s” or “es”***

***Plural Subject uses a verb without an “s” or “es***

|  |
| --- |
| *1. Ellen take/****takes*** *her toys to her room.*  ***Ellen-singular subject*** |
| *2. The librarians* ***make****/makes finding a book easy.* ***Librarians-plural subject*** |
| *3. Carol, Bob, and Deanna* ***want****/wants to go to lunch together.* ***Carol, Bob, and Deanna –plural subject*** |
| *4. The Boy Scout troop go/****goes*** *camping in May.* ***Troop – singular subject*** |
| *5. The Girl Scouts* ***sell****/sells cookies to raise funds.* ***Scouts – plural subject*** |
| *6. I* ***plan****/plans to come to your party.*  ***“I” is an exception-never uses a verb with “s” or ”es”***  |
| *7. William don’t/****doesn’t*** *want any more ice cream.*  ***William-singular subject*** |

***Assignment 6:*** *Vocabulary*

 **1) D**

The main clue in this question is the phrase “following every degrading command without hesitation or question.” This phrase explains or elaborates on the meaning of the missing word, so the missing word must refer to following every command without question***. Servile***means having an excessive willingness to serve others, so choice **(D)** is correct.

**(A)** is incorrect because *humble* means modest or deferential. Although this may describe the henchman, it is not strong enough to work in context. It does not refer to the fact that the henchman’s work was “degrading” or that he did it “without hesitation or question.”

**(B)** is incorrect because *freethinking* means independently forming opinions or beliefs. This does not describe someone who follows “degrading” commands “without hesitation or question.”

**(C)** is incorrect because *uppity* means arrogant or self-asserting. This does not describe someone who follows “degrading” commands “without hesitation or question.”

**(E)** is incorrect because *modest* means humble or not proud. Although this may describe the henchman, it is not strong enough to work in context. It does not refer to the fact that the henchman’s work was “degrading” or that he did it “without hesitation or question.”

**2) A**

The main clue in this question is the word “so,” which links parts of a sentence joined by a cause-and-effect relationship. This means there is a logical relationship between the fact that “one must be sworn into office” and what must happen before the elected candidate can “become president.” This means that the missing word must likewise mean sworn in. Because ***inaugurated*** means admitted formally to public office, choice **(A)** is correct.

**(B)** is incorrect because *baptized* means admitted to a specific church through a water-based rite or ceremony. Nothing in this prompt suggests any religion or religious rite.

**(C)** is incorrect because *discharged* means relieved of or released from duty. The prompt implies that the candidate will assume his duties in January, not that he will be released from them.

**(D)** is incorrect because *established* means instituted or set up. Although the winning candidate will be established as president in January, this is not the strongest choice, since established is too broad in meaning and does not specifically refer to a formal swearing in.

**(E)** is incorrect because *annulled* means eliminated or voided. The prompt implies that the candidate will assume his duties in January, not that his election victory will be voided.

 **3) C**

The main clues in this question are “knee injury” and “long-distance runner.” If a long-distance runner were to have a knee injury, her career would likely end, since one cannot have bad knees and be a successful runner. The missing word should imply that the knee injury damaged her career, and because ***precludes***means makes impossible or prevents from happening, choice **(C)** is correct.

**(A)** is incorrect because *forbids* means refuses to allow or bans. Coleen’s injury cannot literally forbid her to run. Only people can forbid one another from doing things, because forbidding involves issuing a command or demand.

**(B)** is incorrect because *facilitates* means makes possible or makes easy. Coleen’s injury will not make it easier for her to run. Rather, it will prevent her from running, so this is the opposite of a correct choice.

**(D)** is incorrect because *nurtures* means cares for or fosters. Coleen’s injury will not make it easier for her to run. Rather, it will prevent her from running, so this is the opposite of a correct choice.

**(E)** is incorrect because *eschews* means avoids or abstains. Coleen may have to abstain from running as a result of her injury, but her injury cannot eschew anything itself.

 **4) E**

The main clue in this question is the semicolon, which is used to link independent clauses that are logically linked. This means that there is a relationship between what the “professor failed to do” and the fact that “poor communication skills resulted in confusion and misunderstanding.” The convoluted language must have caused the students to misunderstand the professor’s points, so her language must have failed to explain her ideas. Because *convey* means to make an idea known to someone, choice **(E)** is correct.

**(A)** is incorrect because *bequeath* means to leave as an inheritance. Nothing in the prompt implies that the professor is dying and leaving “her ideas” as an inheritance to others. **(B)** is incorrect because *contract* means to bring upon oneself or incur. The prompt does not state that the professor is trying to take in the ideas of others. Rather, she is trying to make her students understand her ideas.

**(C)** is incorrect because *commit* means to obligate or promise. Nothing in the prompt implies that the professor is giving “her ideas” as a kind of promise to her students.

**(D)** is incorrect because *yield* means to give up or surrender. Nothing in the prompt implies that the professor is giving up “her ideas” entirely and leaving nothing for herself. Rather, she will retain her own ideas even after sharing them with others.

**5) B**

The main clue in this question is the word “and,” which links parts of a sentence that state similar information. This means that the type of “reader” Leila is relates to the fact that she “has read more than eighty books this year.” Eighty books is a lot of books, so the missing word must imply that she is a person who is very interested in books. Because ***avid***means having or showing a keen interest for something, choice **(B)** is correct.

**(A)** is incorrect because *careful* means done with thought and attention. The prompt only implies that Leila reads a lot, not that she reads with close attention.

**(C)** is incorrect because *casual* means relaxed. The prompt only implies that Leila reads a lot, not that she reads in a relaxed manner.

**(D)** is incorrect because *reluctant* means hesitant. A hesitant reader would not be likely to read “more than eighty books this year.”

**(E)** is incorrect because *occasional* means infrequent and irregular. An occasional reader would not read that many books, but the prompt states that Leila “has read more than eighty books this year.”

**6) A**

The main clue in this question is the word “so,” which implies a cause-and-effect relationship between the parts of the sentence*.* Here, the delivery of the message is a certain way, so one needs to “be absolutely certain” that the message gets delivered. If one absolutely has to get the message to the general, the message must be very important. Because ***imperative***means of vital importance, choice **(A)** is correct.

**(B)** is incorrect because *optional* means available to be chosen but not required. This does not work because being optional is not the same as being important.

**(C)** is incorrect because *intentional* means done on purpose. This does not work because being intentional is not the same as being important.

**(D)** is incorrect because *adequate* means sufficient. This does not work because being sufficient is not the same as being important.

**(E)** is incorrect because *abnormal* means unusual. This does not work because being unusual is not the same as being important.

***Assignment 7:***  *Fact and Opinion*

1. **Fact**
2. Opinion
3. Opinion
4. **Fact**
5. Opinion
6. Opinion

**Lesson 3 Math**

*Assignment 1: Integers*

1. 29
2. 4
3. -10
4. -7
5. 1
6. 21
7. 13
8. -255
9. 153
10. 180
11. -16
12. 29
13. 4
14. 7
15. -2
16. -4
17. 16
18. -25
19. 14
20. 22
21. 5280 - (-10) = 5280 + (+10) =**5290 (“above” means positive; “below” means negative. Finding the difference between numbers means “subtract”.)**
22. C
23. C and D
24. B
25. 0 - 2 - 2 + 4 + 2 = +2 which is 2 points above par
26. 973 - (-79)= 1052 feet.
27. -12 + -8 + -3 + 6 + -15 = -32 ÷ 5 = -6.4
28. Hightop roofing lost $4,991 between the months of June and December.

***Assignment 8:*** *Data Analysis*

1. 8Mean: 39/13=**3**, Median **3,** Mode **3 and 4**
2. Mean: 376/10=**37.6**, Median: **34**. Mode: **35**
3. $525
4. 21
5. **A** - 25 years - The ***range is the difference between the least and the greatest***. To find the range between the oldest (greatest) and youngest (least) you subtract.

|  |
| --- |
| Oldest – youngest = range |
| Oldest - 10 years = 15 years |
| What number minus 10 is 15? The answer is 25. |
| You could also solve by adding 15 + 10 = 25 |

6. ****

*Assignment 9: Scientific Notation - Chart on following page*



**Lesson 4**

**Science**

***Assignment 1:*** *Energy*

1. D

2. A

3. B

4. D

5. A

6. D

7. A

8. Suggested answer: Some of the kinetic energy the ball has when it strikes the floor is retained but some of it is transformed. Some of the kinetic energy is used to make the ball bounce but not all of it. Some energy is used to change the shape of the ball; some of its energy has been transferred to the floor or transformed into sound and thermal energy. So each time the ball bounces it loses a bit of kinetic energy, and after several bounces it has so little of kinetic energy left that it ceases to bounce.

9. Suggested answer: When the ball is lifted, the ball is storing potential energy. The higher the ball is lifted, the more potential energy is stored inside it. When the ball is let go, its potential energy is transformed to kinetic energy as the ball is moving. Kinetic energy builds up as the ball falls. When the ball collides with the ground, some kinetic energy is transformed into sound and thermal energy while some is used to change the shape of a ball for a split second. The ball bounces because elastic potential energy is transformed to kinetic energy but the ball doesn’t get as high because it has less kinetic energy than it started with.

10. D. The triangle form of the diagram is intended to show that energy transfers upward through the various levels of consumers. Therefore, this response correctly interprets the graphic representation and describes one aspect of the relationship between primary and secondary consumers with regard to energy. That is, energy is directly transferred from primary consumers to secondary consumers.

11. E potential energy is greater at a higher point

***Assignment 2:*** *Everyday Energy*

1. A

2. B

3. D

4. C

5. D

6. A

7. C

8. Suggested answer: The Hoover Dam provides power to California, Nevada and Arizona by harnessing the converted potential energy of Lake Mead

9. Suggested answer:(1) How much water is required downriver from the dam and (2) the water levels of Lake Mead determine the energy production of the Hoover Dam

***Assignment 3****: No Bullying*

1. A

2. D, The author says that experiments show that bullying is a natural response to situations, hard-wired into the human brain. A natural response means that that response was in that person before anything else came along. Something that is hard-wired is attached permanently.

3. D

4. A, In the context of the paragraph, there is no indication that the researchers were concerned about the public’s opinion. The author indicated that the researchers were interested only in making sure the test results were accurate.

5. B, In this paragraph, the author points out verbal criticisms such as “Great, we’re never going to win now”. He then states that 80% of all cases with such remarks caused team leaders to entered bully mode. We can conclude that the word disparaging used in the context of a “disparaging ornery team members with remarks such as “Shut up”, refers to the use of words. The abuse is verbal. This leads us to the answer B

6. Answers will vary.

***Assignment 4:***  *Sentence Completion*

1. A The main clue in this question is the word “though,” which sets up an opposite relationship between how Peter “did not appear to be particularly” and what he actually was. The missing words describe what he did not appear to be and what he actually was, so they must be synonyms in order to maintain the opposite relationship. Brawny means strong and muscular, while strongest means having the most power and ability to move heavy objects. These words have similar meanings, so choice (A) is correct.

2. D The main clue in this question is the phrase “the teacher asked his students a series of questions.” This describes what the teacher did “in order to” have an effect on the class’s “discussion about the novel.” By asking specific questions, the teacher probably started or encouraged an ongoing discussion, so the missing word must mean encourage or start. Because facilitate means to make a process easier, choice (D) is correct.

3. C The main clue in this question is the word “though,” which indicates a negative or opposite relationship between the two parts of the sentence. This means that the clause containing the missing words describes something unexpected, given that the “the attorney did not directly state that the witness was a liar.” If the jury still figured out that the witness was a liar, this would be the opposite of what is expected. Therefore, the first missing word must describe the jury’s actions or conclusions, while the second missing word must mean honest, since it is modified by the “not” that precedes it. Because infer means to deduce something from evidence rather than explicit statements, while trustworthy means reliable or honest, choice (C) is correct.

4. B The main clue in this question is the word “and,” which is used to link parts of a sentence that state similar information. This means that there is a relationship between what the helicopter did “over the scene of the accident” and the fact that it “lingered at a low altitude.” The missing word must, therefore, describe lingering over the scene. Because hovered means remained in one place in the air, choice (B) is correct.

***Assignment 5:*** *Verbs 1/Verbs II*

1. plays- action

2. will return – action

3. is – state of being or linking verb

4. have been – state of being/linking

5. should have been playing-action

6. go – action

***Assignment 6:*** *Punctuation and Capitalization*

Dear Great-Uncle Eddie,

I am excited about seeing you when you come for a visit next month. We will pick you

up at Greensboro Regional Airport on Saturday, April 15 at 6p.m. Please be sure to

bring a bathing suit, towel, and sunscreen. Could you, also, please bring the latest

family photos? I can’t wait to see you!

Love,

Jay

**Lesson 4 Math**

***Assignment 1:*** *Mathematical Reasoning*

1. 9

2. 36

3. 1.6

4. ¼

5. 1 ¼ or 5/4

6. 3

7. 9

8. 125

9. -4

10. -11

11. -5

12.-8

13.-4

14. 10

15. -12

16. 2

17. 8

18. -10

19. 6

20. -6

***Assignment 2****: Math/Solving for the Unknown*

1. x – 4 = 12 x= 16 6. x + 5 = 20 x=15

2. x + 4 = 12 x= 8 7. x/4 = 52 x = 208

3. x/4 = 12 x= 48 8. x + 10 = 310 x = 310

4. 4x = 12 x=3 9. 6x + 2 = 11 x = 1.50

5. x – 5 = 25 x= 30 10. 7x = 28.84 x = 4.12

***Assignment 3:*** *Exponents*

1. -27 6. 729

2. 36 7. -64

3. 49 8. -1728

4. 100 9. 125

5. 8 10. 144

***Assignment 4:*** *Graphs*

1. Export and Imports of a Country (In US Dollars, Millions)

2. The average exports is $\frac{157 + 159 + 171 + 168 +145 +168}{6}$ = **161.33**

3. 1996

4. 1994

***Assignment 5:*** *Interpreting Charts*

1. 44% + 9% + 14% = 67% **C**

2. Heating and Cooling

***Assignment 6****: Line Graph*

1. May (45)

2. January (20)

3. 45-20 = 25 The range is the difference between the greatest and least amount.

4. January and March month had sells less than 30

 *Assignment 7: Bar Graph*

1**. Mean – a. 14.3**

\* To find the mean of this set of data, add the number of boys and divide by the number of grades. $\frac{23+12+5+27+18+1}{6}$ =14.3

 **Median – b. 15** \*The median is the number in the middle. Put the data in order from least to greatest. Since there are 6 numbers in this set of data, you must add the two numbers that share the middle and then divide their sum by 2

1 5 **12 18** 23 27 = 15

$\frac{12+18}{2}$= 15

 **Mode – d. None**

\*The mode is the number that appears the most often. In this set of data each number only appears once.

**Range – c. 26**

\*The range is the difference between the greatest and least amount in a set of data

27-1= 26

\*This information was covered in lesson 3 if you need to review.

**2.A**, 0 the correct answer is 0. This number represents the x-coordinate of the starting point of the only line segment that increases from left to right. The x-coordinates on the graph show the number of hours after taking ibuprofen.

**b)** 2/3 this number represents the x-coordinate of the ending point of the only line segment that increases from left to right. The x-coordinates on the graph indicate the time.

**Lesson 5**

**Math**

***Assignment 1****: Value of Expressions*

1. 49 8. 63

2. 51 9. -13

3. -27 10. P= 20

4. 14 11. A= 10

5. 5 12. 120 mi

6. 13 13. 125

7. 27 14. C= nr

***Assignment 2****: Formulas*

1. 4000 8. 2.25$mi^{2}$

2. 480 cubic inches 9. 36

3. 18.85 feet 10. 113.04 $in^{2}$

4. 6.28 meters 11. 78.54 $ft.^{2}$

5. 48 feet 12. 1 $cm^{3}$

6. 320 feet 13. $1,000

7. 30 square centimeters 14. $3,500

***Assignment 3****: Formulas Continued*

1. **B** This question involves determining the volume of a cone by substituting the appropriate values into the formula. The first step is in recognizing that the diameter is given, rather than the radius, requiring you to divide the diameter by 2. After substituting values into the formula, you must convert the result from a mixed number into a decimal. You can, also, convert the mixed number measurements into decimal form before substituting it into the formula.

The paper drinking cup is in the shape of a cone. In order to determine the volume of the cone, you must first find the radius. The diameter of the cone is 2 ¼ or 11/4 inches. Because the radius is half of the diameter, the radius is 11/8 inches. You must substitute these and other measurements into the formula for the volume of a cone, which results in V = 1/3 π (11/8)2 (4), which is equal to approximately 7.9 cubic inches.

***Assignment 4****: Surface Area*

1. 6 $cm^{2}$

SA=6(1$)^{2}$$$

SA = 6(1)

SA = 6$cm^{2}$

2. 158 $in^{2}$

SA=ph + 2B

SA = (5+3+5+3)(8) + 2(3x5)

SA = (16)8 + 2(15)

SA = 128 + 30

SA = 158 $in^{2}$

3. **C** The surface area for the original square is 54 cm2. The surface area for the square doubled is 216cm2. To find out by how much is area increases you subtract: **216cm2 - 54 cm2 =162 cm2**

*Assignment 5: Surface Area Continued*

Example: 122

1. 199.2

2. 84.7

3. 210

4. 25.8

5. 139.2

6. 80

7. 210

9.54.17 in^2

10.184 in^2

11.512 ft^2

12.$26.00

13.288 in^2

14.288 in6^2

**Lesson 5 Language Arts and Social Studies**

***Assignment 1A:*** *Writing*

In my experience, one of the best ways to recover from an injury is to complete the physical therapy that the doctor prescribes. Broken bones, torn ligaments, and damaged muscles all benefit from strengthening, stretching, and retraining. Many patients, though they promise to follow doctor’s orders, disregard the instructions. They later complain about not getting better, and their recovery requires additional time and money. We tend to want instant recovery, but we don’t want to do the work to have it. When the doctor says, “Ralph, begin stretching gently after a week”, she doesn’t mean “Ralph, stretch after about a month.” While there is a time for rest, there is also a time for action if you want the best recovery possible.

***Assignment 1B****: Grammar*

1. I don’t want to argue with you, yet I don’t want to give in.

2. She had lots of friends, for she was a friendly girl.

3. I had a cute puppy, but I lost him.

4. He studied for the test, so he got a good grade.

5. Jim can boil eggs, and Sally can make toast.

***Assignment 1C***

6. He lives near the beach; the salty air is making his car rust.

7. We did an experiment in class; all the students participated.

8. It was a very hot day; I had to use a fan to keep cool.

9. My friend was feeling sick; I walked her to the nurse’s office.

10. The traffic on the freeway was horrible; I decided to wait.

11. D

12. C –For most people, choosing the paint color can be the most intimidating part of the project for most people.

***Assignment 2***

1. A.

2. D

3. E.

4. B

5. D

6. A

7. D

8. C

***Assignment 3*** *- The Declaration of Independence*

1. C 6. A

2. B 7. D

3. A

4. B

5. C

8) Suggested answer: An important part of American democracy has become the right for people to watch their government in action.

9. Suggested answer: Answers should indicate that the Declaration of Independence reflected the frustration of the colonists with the British King by listing a series of complaints that captured the “history of repeated injuries and usurpations” the colonists suffered under the British monarchy. Since the Declaration of Independence was read aloud throughout the colonies and built a tone of rage and indignation the colonists could relate to, the colonists were most likely enraged upon hearing the document read. They would most likely be motivated to join armies and fight against British rule.

***Assignment 4****: The U.S. Constitution*

1. D 7. D

2. B 8. C

3. E 9. A

4. C 10. The Legislative Branch

5. A 11. The Executive Branch

6. C 12. The Judicial Branch

13. Answers will vary.

***Assignment 5****: Primary and Secondary Source*

1. **B**

2. **A**, Of the three branches of the U.S. government, only the legislative branch is involved in the amendment process whereas both the legislative and executive branches are involved in creating federal laws. In the table it is explicitly shown that the only government branch involved in the amendment process is the legislative branch.

3. **A**, The excerpt from a primary source explicitly states that the 17th Amendment “will prevent men buying a set in the Senate.” It can logically be inferred from the evidence in this statement that, in contrast to the original method of having senators appointed by state legislatures, direct election of senators will limit the influence of the wealthy, “those capable of buying a seat.”

4. **B**, The term “formal assemblies” best fits the meaning of the term “convention” as it is used in the table and the passage as they both refer to legislative bodies and conventions. The historical and political context of the table and the passage makes it clear that as used, “convention” is a kind of assembly.

**Assignment 6** - Timelines

1. What does the timeline represent?

The timeline represents Historical Periods of the United States of America.

2. What is the time span of this timeline?

The span of this timeline is from 1754 to the present day.

3. List three historical periods on the timeline.

Example: 1850-1877 Civil War and Reconstruction

4. Notice how the historical periods overlap in the timeline. Why do you think they overlap? Answers will vary. Answers should include such ideas as:

Changes that take place in society (cultural, political) do not happen in one instance. Change happens gradually and each change creates events that change life-history. Each event leads to another, a domino effect occurs, and change happens. As one period in history is beginning the other is coming to an end.