KCS @ home

Seventh Grade
Math

Week of April 27, 2020
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Unit 2 Performance Tasks

1. **CAREERS IN MATH** **Bicycle Tour Operator** Viktor is a bike tour operator and needs to replace two of his touring bikes. He orders two bikes from the sporting goods store for a total of $2,000 and pays using his credit card. When the bill arrives, he reads the following information:

Balance: $2,000
Annual interest rate: 14.9%
Minimum payment due: $40
Late fee: $10 if payment not received by 5/1/2020

a. To keep his good credit, Viktor promptly sends in a minimum payment of $40. When the next bill arrives, it looks a lot like the previous bill.

Balance: $1,984.34
Annual interest rate: 14.9%
Minimum payment due: $40
Late fee: $10 if payment not received by 6/1/2020

Explain how the credit card company calculated the new balance of **$1,984.34** *(Notice that the given interest rate is annual, but the payment is monthly).*

Unit 2 Performance Tasks

b.

Viktor was upset about the new bill, so he decided to send in $150 for his April payment. The minimum payment on his bill is calculated as 2% of the balance (rounded to the nearest dollar) or $20, whichever is greater. Fill out the details for Viktor's new bill (use the space provided to show your work).

Balance: _____

Annual interest rate: _____

Minimum payment due: _____

Late fee: $10 if payment not received by _____

Work Space

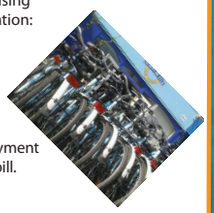
Unit 2 Performance Tasks

c.

Viktor's bank offers a credit card with an introductory annual interest rate of 9.9%. He can transfer his current balance for a fee of $40. After one year, the rate will return to the bank's normal rate, which is 13.9%. The bank charges a late fee of $15. Give two reasons why Viktor should transfer the balance, and two reasons why he should not.

Unit 2 Performance Tasks

1. **CAREERS IN MATH** **Bicycle Tour Operator** Viktor is a bike tour operator and needs to replace two of his touring bikes. He orders two bikes from the sporting goods store for a total of $2,000 and pays using his credit card. When the bill arrives, he reads the following information:



Balance: $2,000
Annual interest rate: 14.9%
Minimum payment due: $40
Late fee: $10 if payment not received by 5/1/2020

a. To keep his good credit, Viktor promptly sends in a minimum payment of $40. When the next bill arrives, it looks a lot like the previous bill.

Balance: $1,984.34
Annual interest rate: 14.9%
Minimum payment due: $40
Late fee: $10 if payment not received by 6/1/2020

Explain how the credit card company calculated the new balance. Notice that the given interest rate is annual, but the payment is monthly.

After Viktor's payment was received, the balance was $1,960. Then one month's interest was added to this, or (1960 · 0.149) ÷ 12 = $24.34. $1960 + $24.34 = $1,984.34.

b. Viktor was upset about the new bill, so he decided to send in $150 for his April payment. The minimum payment on his bill is calculated as 2% of the balance (rounded to the nearest dollar) or $20, whichever is greater. Fill out the details for Viktor's new bill.

Balance: $1,857.12

Annual interest rate: 14.9%

Minimum payment due: $37

Late fee: $10 if payment not received by 7/1/2020

c. Viktor's bank offers a credit card with an introductory annual interest rate of 9.9%. He can transfer his current balance for a fee of $40. After one year, the rate will return to the bank's normal rate, which is 13.9%. The bank charges a late fee of $15. Give two reasons why Viktor should transfer the balance, and two reasons why he should not.

Sample answer: Viktor should transfer the balance since the introductory rate is lower, and the normal rate is lower; he should not transfer the balance because he must pay $40, and the late fee is greater.

Seventh Grade
Social Studies

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Name _____ Date _____ Period ____

YOUR OWN 95 (OR SO) THESES

Martin Luther was motivated to write down 95 theses, or statements, about things he saw the Catholic Church doing that he felt needed to be changed. A few of his 95 Theses are listed below.

…from Luther's 95 Theses

35. They who teach that contrition is not necessary on the part of those who intend to buy souls out of purgatory or to buy confessional privileges preach unchristian doctrine.

36. Any truly repentant Christian has a right to full remission of penalty and guilt, even without indulgence letters.

43. Christians are to be taught that he who gives to the poor or lends to the needy does a better deed than he who buys indulgences.

44. Because love grows by works of love, man thereby becomes better. Man does not, however, become better by means of indulgences but is merely freed from penalties.

What are some things ***you*** would like to see changed in the world? (At home, at school, nationally, globally, etc.) Come up with **at least 10** and write them in the form of statements, or theses. Then, answer the questions at the end. Your statements do not all have to be directed at the same authority. Some may be directed to your parents, some to teachers and administrators, and some towards local or national government, or even global leaders. Put some thought into what you write down and make your statements strong and meaningful!

Questions

1. Luther posted his 95 Theses on the door of his church in Wittenberg. Where would you like to see your 10 theses posted? Explain why.

2. Luther also sent his 95 Theses to the Archbishop of Mainz along with a letter explaining his concerns with the Catholic Church's activities (such as the sale of indulgences). **Write a letter** to one of the authorities addressed in your 10 statements. Explain your concerns and why you see the need for change. Rather than just simply being critical can you be convincing in a way that might win this authority over to your side?

Seventh Grade
ELA

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Monday: Watch the YouTube video posted by The Richest "10 Ways Advertisers are Tricking You Everyday'" https://www.youtube.com/watch?v=MlSyk27fHSw and take notes using the chart below.

Step 1: Collect a list of words and terms from the video. Look for the following:

Topic	**1.** _____	**6.** _____
Defined terms	**2.** _____	**7.** _____
Important ideas	**3.** _____	**8.** _____
Process steps	**4.** _____	**9.** _____
Facts or numbers	**5.** _____	**10.** _____

Step 2: Sort the words into groups or categories:

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Tuesday: Summarize the video and include the words you selected categorized from the video. Then, read your summary to a family member.

Wednesday: Answer the question on separate paper or electronically.

1. What advertising technique used in last week's article "How Kids Can Resist Advertising and be Smart Consumers," or the video "10 Ways Advertisers are Tricking you Everyday" did you find most surprising? Be sure to answer in a complete paragraph and include text evidence in your response.

Thursday: Answer the question below on separate paper or electronically.

2. In a complete paragraph, compare and contrast the author's purpose in the article to the creators' purpose in making the video. Were both the article and video made for the same target audience? Explain by using evidence from both the article and video in your answer.

Friday: Answer the question below on separate paper or electronically.

3. In a complete paragraph, argue whether the video or the article is more persuasive and why. Be sure to include details from both the article and the video in your response.

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Seventh Grade
Science

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7th Grade Science: Week 4 April 27
Photosynthesis and Respiration:
How do organisms obtain and use the energy they need to live and grow?

Directions: Please read the information below and answer the questions that follow.

Photosynthesis

How Do Living Things Get Energy From the Sun?

All living things need energy. Some living things use the energy of sunlight to make their own food in a process called **photosynthesis.** Organisms that make their own food are called **autotrophs,** or producers. Other living things get energy from the food they eat. These organisms are called **heterotrophs,** or consumers. **Nearly all living things obtain energy either directly or indirectly from the energy of sunlight that is captured during photosynthesis.**

What Happens During Photosynthesis?

During photosynthesis, plants and some other organisms absorb energy from the sun and use the energy to convert carbon dioxide and water into sugars and oxygen. Most photosynthesis takes place in the leaves of plants. Photosynthesis can be thought of as taking place in two stages. In the first stage, energy from sunlight is captured in the green pigment **chlorophyll,** which is found in the organelles known as chloroplasts. Water that entered the chloroplasts is split into hydrogen atoms and oxygen atoms. The oxygen is given off as a waste product and the hydrogen is used in the next stage.

In Stage 2, hydrogen and carbon dioxide, which has entered the plant through small openings on the underside of the leaves, combine to form sugars. The energy that powers this reaction is the energy produced in Stage 1. One important sugar is glucose. The balanced chemical equation for photosynthesis is:

$$\text{light energy} + 6\ CO_2 + 6\ H_2O \rightarrow C_6H_{12}O_6 + 6\ O_2$$

1. **Describe the path of energy from the sun to you, using all the vocabulary terms above [ELL: Draw the path of sunlight to the earth, and label the vocabulary words] (photosynthesis, autotrophs, heterotrophs, chlorophyll).**

Cellular Respiration

What Happens During Cellular Respiration?

Cellular respiration is the process by which cells obtain energy from glucose, which is the most common sugar in foods and the result of the breakdown of foods. **During cellular respiration, cells break down glucose and other molecules from food in the presence of oxygen, releasing energy.** Living things continuously carry out cellular respiration in order to have a constant supply of energy. In the first stage of cellular respiration, which takes place in the cytoplasm of a cell, molecules of glucose are broken down into smaller molecules. Only a small amount of energy is released. In the second stage, which takes place in the mitochondria, the small molecules react, producing a great deal of energy. The balanced equation for cellular respiration is:

$$C_6H_{12}O_6 + 6\ O_2 \rightarrow 6\ H_2O + 6\ CO_2 + \text{energy}$$

Photosynthesis and cellular respiration can be thought of as opposite processes.

2. **Compare and contrast the processes of cellular respiration and photosynthesis.**

Cycles of Matter

Situation

Deepa wanted to study how oxygen and carbon dioxide move through ecosystems. To do this, she set up three jars to represent *consumers (A), producers (B), and consumers and producers (C)* together. She tested the jars for the presence of oxygen and carbon dioxide. Deepa's procedure and results are shown below. Study this information and then use a separate sheet of paper to answer the questions.

Testing for Oxygen and Carbon Dioxide

Procedure

Bromthymol blue (BTB) is a chemical that turns yellow in the presence of carbon dioxide. In the presence of oxygen, BTB stays blue. Deepa put the same amount of BTB in the three jars, and varied the organisms she placed in each jar. In Jar A, she put two aquatic snails. In Jar B, she put two sprigs of Elodea, an aquatic plant. In Jar C, she put two snails and two sprigs of Elodea.

Results

Deepa examined the jars every day for three days. These are the observations she recorded.

Jar	Observations
A	The BTB solution turned yellow.
B	The BTB solution stayed blue.
C	The BTB solution stayed blue.

Analyze and Conclude

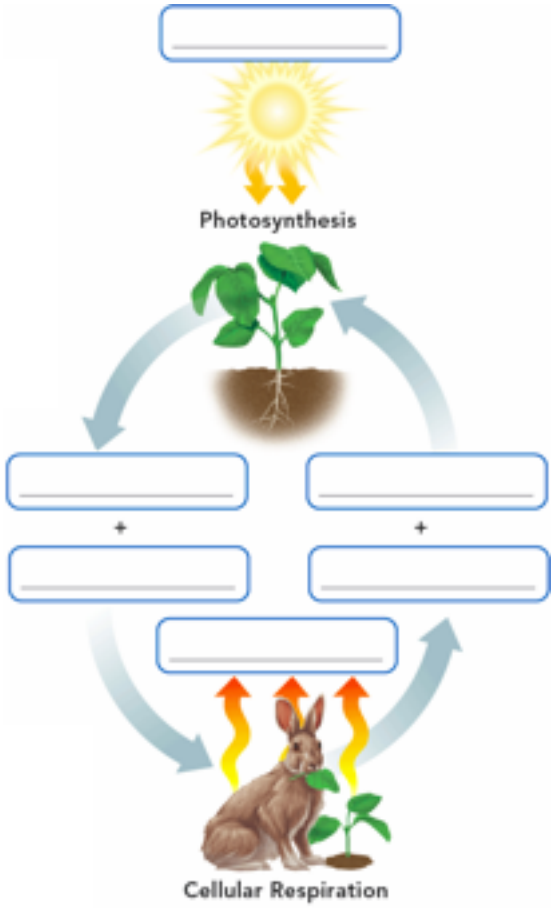
1. Why did the BTB solution in Jar A turn yellow?
2. Why did the BTB solution in Jar B stay blue?
3. Why did the BTB solution in Jar C stay blue?
4. Which jar showed what happens during the carbon and oxygen cycles in nature? Describe the process that occurred in that jar.

Learning Extension

Photosynthesis and respiration can be thought of as opposite processes. Together, these two processes form a cycle that keeps the levels of oxygen and carbon dioxide fairly constant in Earth's atmosphere. Matter and energy move from producers to consumers. Eventually, matter cycles back to producers. The energy released through cellular respiration is used or lost as heat.

In the space below, fill in the model of the cycle that shows a plant going through photosynthesis and a rabbit going through cellular respiration. Then, draw the cycling of these two processes in something you observe in your home or outside. Include the words: *oxygen, carbon dioxide, water, energy (2), glucose.*

Model



Your example: