6th Grade Summer Enrichment Packet

Due: 9/3/19

Name
POSTCARD DIRECTIONS

Did you have a scientific summer? The answer may surprise you. Most likely, you did not build a solar panel, or go digging for fossils. However, you did something over the summer that relates to science. How do I know this? Because... science is everywhere! Science doesn't just live in a laboratory. You are surrounded by science in your everyday life, all the time.

For this assignment, you will create a postcard to your classmates which describes one activity you did over the summer and how science was involved. The requirements for this assignment are listed below.

Your postcard must include:

1. An illustration or real picture of the summer activity
   - Color required
   - Add detail to illustrated pictures
   - Sorry, no stick figures are allowed. Do your best to draw out the scene

2. A two paragraph written response
   - 1st Paragraph - a detailed description of one activity you did over the summer
   - 2nd Paragraph - a full scientific explanation telling the reader how this activity relates to science + key vocabulary words explained
     - Assume the reader has no prior knowledge of the terms

Remember:
- ★ This is a letter format, so you must include a salutation and a closing.
- ★ Proper spelling and grammar are required.
- ★ You will be reading your postcard to your fellow classmates (in small groups). So, please create a thoughtful postcard worthy of sharing.

Struggling with ideas on what to write about? Here are just a few of the endless possibilities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Branch of Science</th>
<th>Example of Keywords to Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooking</td>
<td>Chemistry</td>
<td>chemical reaction, chemical change, energy, heat, fire</td>
</tr>
<tr>
<td>Hiking/Camping</td>
<td>Ecology</td>
<td>food chain, heterotroph, autotroph, producer, consumer, decomposer, predator, prey</td>
</tr>
<tr>
<td>Amusement Park</td>
<td>Physics</td>
<td>force, energy (potential and kinetic), gravity, inertia</td>
</tr>
<tr>
<td>Watching TV</td>
<td>Physics</td>
<td>electromagnetic waves, electricity, pixels</td>
</tr>
<tr>
<td>Got a tan?</td>
<td>Biology</td>
<td>skin, UV radiation, pigment, melanin</td>
</tr>
<tr>
<td>Star Gazing</td>
<td>Astronomy</td>
<td>star, planet, galaxy, nuclear fusion</td>
</tr>
<tr>
<td>Gardening</td>
<td>Botany</td>
<td>photosynthesis, soil, flower, fruit, xylem, phloem</td>
</tr>
</tbody>
</table>

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### Postcard Grading Rubric

<table>
<thead>
<tr>
<th>Category</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description of Summer Activity</strong></td>
<td>You have sufficient detail. The reader can clearly visualize the activity.</td>
<td>Your description includes detail, but needs to be more specific.</td>
<td>Your description includes some detail, but not enough to easily visualize the activity.</td>
<td>Your description is extremely lacking. The reader only gets a vague idea of what occurred.</td>
</tr>
<tr>
<td><strong>Science Vocabulary</strong></td>
<td>Relevant vocabulary is present/explained. It is clear that you thoroughly researched the topic.</td>
<td>Relevant vocabulary is present/explained. The explanation may be somewhat lacking in clarity.</td>
<td>Relevant vocabulary is present, but some vocabulary terms are insufficiently explained.</td>
<td>Very little (if any) vocabulary words are present/explained.</td>
</tr>
<tr>
<td><strong>Science Explanation</strong></td>
<td>Your postcard demonstrates a thorough understanding of the science concepts.</td>
<td>Your postcard demonstrates an above average knowledge of the science concepts.</td>
<td>Your postcard demonstrates a partial understanding of the science concepts.</td>
<td>There is little, if any, explanation of the science concepts behind the activity.</td>
</tr>
<tr>
<td><strong>Illustration or Real Photo of Event</strong></td>
<td>Your illustrations are related to the topic. Your drawing detail and color application is exemplary.</td>
<td>Your illustrations are related to the topic. Your drawing detail and color application is above average.</td>
<td>Your illustrations are related to the topic. However, there is a lack of detail and/or color to your pictures.</td>
<td>Your illustrations are extremely incomplete.</td>
</tr>
<tr>
<td><strong>Grammar, Spelling, Mechanics</strong></td>
<td>You have 0-1 errors in grammar, spelling, or mechanics.</td>
<td>You have 2-3 errors in grammar, spelling, and/or mechanics.</td>
<td>You have 4-5 errors in grammar, spelling, and/or mechanics.</td>
<td>You have 6 or more errors in grammar, spelling, and/or mechanics.</td>
</tr>
</tbody>
</table>

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Lafayette Street School

Summer 2019

Mathematics Practice For

Students Entering

The 6th Grade

Due September 3, 2019

__ Did you complete all the questions?

__ Did you show all your work?

__ Did you check your answers?

__ Did you try your best and use websites to help improve?

This Packet Will Be Scored

And Count As A Test Grade
Welcome to 6th Grade Mathematics! Our 6th Grade Mathematics Course is a comprehensive course that will provide you with the fundamental tools of mathematical understanding that will support you in all your Middle School courses. Since you will be taking 6th grade mathematics after the successful completion of 5th Grade mathematics, the Middle School 6th Grade Summer Packet contains review material of the 5th grade concepts, skills and procedures that should be mastered BEFORE entering 6th grade in the fall. Essentially, this packet provides a review of the major 5th grade topics as well as a preview of 6th grade topics. The test is based on the common core and New jersey state standards.

Here are some websites that you will find very useful:

http://www.khanacademy.org
http://www.ixl.com/math/
http://mobyMax.com
https://www.mathplayground.com/

This collection of problems will identify those concepts that you have mastered as well as those you will need to practice and review. You are expected to seek extra help immediately on those concepts with which you have not demonstrated proficiency. Be resourceful- use the online resources!

**SOLVE THESE PROBLEMS WITHOUT THE USE OF A CALCULATOR AND SHOW ALL WORK**

You will be responsible for handing in the completed packet with all work shown ON THE FIRST DAY OF SCHOOL. It will count as your first grade of cycle 1. The problems here are very representative of the types of problems you will need to have mastered BEFORE entering 6th grade.

Good Luck and Enjoy!

I know I am responsible for the completion of this packet

Student Signature: _______________________________________________________

Parent Signature: _______________________________________________________
1. Round 2,321.4762 to the nearest hundredth.

A: 2,321.47
B: 2,321.48
C: 2,321.476
D: 2,321.477

2. Which has a value greater than \( \frac{1}{5} \)?

F: \( \frac{1}{3} \)
G: \( \frac{1}{6} \)
H: \( \frac{1}{8} \)
J: \( \frac{1}{10} \)

3. Which of the following shows the numbers listed from least to greatest?

A: 0.5, \( \frac{3}{5} \), 0.9, \( \frac{11}{3} \), \( \frac{13}{4} \)
B: \( \frac{11}{3} \), \( \frac{3}{4} \), \( \frac{3}{5} \), 0.5, 0.9
C: 0.9, \( \frac{11}{3} \), \( \frac{3}{5} \), \( \frac{13}{4} \), 0.5
D: \( \frac{3}{5} \), 0.5, \( \frac{11}{3} \), 0.9, \( \frac{13}{4} \)

4. Which of the fractions shown below has the same value as 0.7?

F: \( \frac{1}{7} \)
G: \( \frac{7}{100} \)
H: \( \frac{7}{10} \)
J: \( \frac{3}{4} \)

5. Which fraction goes in the blank so that this list is in order from least to greatest?

\( \frac{1}{4} \), 0.4, _____, 3, 0.75

A: \( \frac{1}{5} \)
B: \( \frac{1}{2} \)
C: \( \frac{5}{6} \)
D: \( \frac{7}{8} \)

6. Which statement is true?

F: \( \frac{1}{8} = 0.12 \)
G: \( \frac{1}{2} = 0.2 \)
H: \( \frac{3}{5} = 0.8 \)
J: \( \frac{3}{4} = 0.75 \)
7. Which mixed number is equivalent to $\frac{16}{3}$?

A: $4\frac{1}{3}$
B: $4\frac{2}{3}$
C: $5\frac{1}{3}$
D: $5\frac{2}{3}$

8. Which decimal is equivalent to $\frac{3}{5}$?

F: 0.3
G: 0.4
H: 0.6
J: 0.8

9. Which decimal below has the same value as $\frac{6}{10}$?

A: 6.10
B: 6.0
C: 0.6
D: 0.06

10. Which of the following fractions does NOT equal 0.6?

F: $\frac{2}{3}$
G: $\frac{60}{100}$
H: $\frac{6}{10}$
J: $\frac{3}{5}$

11. The model below is shaded to represent a decimal.

![Fraction Model](image)

Which fraction model is shaded to represent an equivalent value?

A: 
B: 
C: 
D: 

Which fraction model is shaded to represent an equivalent value?
Rising 6th Grade Summer Math Packet

16. Which of the following is not a prime number?

F: 2
G: 5
H: 17
J: 121

20. Which product would be in the 200 to 300 range?

F: $9 \times 16$
G: $15 \times 12$
H: $17 \times 11$
J: $19 \times 13$

17. Which is the prime factorization of 36?

A: $4 \times 9$
B: $3 \times 3 \times 4$
C: $2 \times 2 \times 3 \times 3$
D: $2 \times 3 \times 6$

21. Look at the table.

<table>
<thead>
<tr>
<th>Store</th>
<th>Neon Sign</th>
<th>Wood Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>$589</td>
<td>$227</td>
</tr>
<tr>
<td>B</td>
<td>$534</td>
<td>$285</td>
</tr>
</tbody>
</table>

What would be the least amount of money Jeremy’s dad could spend if he bought one of each type of sign?

A: $512
B: $761
C: $816
D: $819

22. $9 \div 8245 =$

F: 916 R1
G: 916
H: 915 R1
J: 905

18. Which of the following groups of numbers is NOT made up of composite numbers?

F: 7, 29, 53, 89
G: 8, 35, 46, 80
H: 12, 27, 63, 93
J: 33, 48, 57, 70

19. Which is the prime factorization of 175?

A: $5^2 \times 7$
B: $5 \times 7^5$
C: $5 \times 7^2$
D: $5^2 \times 3^2$
12. Look at the shaded portions of the fraction and decimal models below. Which of the following pairs does not represent an equivalent fraction and decimal?

F: 

G: 

H: 

13. Compare using <, >, =.

5.2

5.198

A: >

B: <

C: =

14. Using the number line below, which fraction is best represented by A?

F: \( \frac{1}{2} \)

G: \( \frac{4}{5} \)

H: \( \frac{7}{8} \)

J: \( \frac{8}{9} \)

15. Which group contains only prime numbers?

A: 5, 13, 29, and 47

B: 7, 11, 27, and 43

C: 7, 19, 33, and 41

D: 11, 17, 37, and 39
Rising 6th Grade Summer Math Packet

23. These signs show the population of two different towns.

Woodburn
Population: 58,097

Peltin
Population: 31,648

How much greater is the population of Woodburn than Peltin?

A: 26,449
B: 27,651
C: 89,745
D: 90,645

24. To prepare for a regional competition, Keith practiced on his skateboard 12 hours each week for 18 weeks. How many hours did Keith practice in all?

F: 216
G: 192
H: 116
J: 30

25. Which of the following is the best estimate of the solution to $25 \times 101$?

A: 250
B: 2,500
C: 25,000
D: 250,000

26. The sum of $32,796 + 47,580$ is best described as:

F: about 60,000
G: about 70,000
H: about 80,000
J: about 90,000

27. The table below shows the number of tickets sold to different events at the county fair.

<table>
<thead>
<tr>
<th>Event</th>
<th>Number Sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dog Show</td>
<td>2,260</td>
</tr>
<tr>
<td>Craft Booth</td>
<td>3,031</td>
</tr>
<tr>
<td>Whirly Ride</td>
<td>928</td>
</tr>
<tr>
<td>Ferris Wheel</td>
<td>1,415</td>
</tr>
</tbody>
</table>

What was the total number of tickets sold for these four events?

A: 7,634
B: 7,624
C: 6,634
D: 6,524

28. The Smiths are planning to drive the 1,038 miles from their home to the Grand Canyon. They plan to drive 689 miles the first day. How many miles will they have left to drive to reach the Grand Canyon?

F: 349
G: 368
H: 451
J: 527
Dear Parents,

Reading is one of the most important life skills. We want to provide reading experiences that will continue to reinforce those skills that will allow your child to continue to make even greater progress in reading during the year. In order to ensure that this happens, you will find **two reading selections and questions that are Common Core Aligned**. These summer reading assignments are mandatory. Students will be graded on these assignments and they will count towards the first cycle report card. The completed summer reading assignments are due on the first day the students return to school in September. We hope that you will find these assignments enjoyable.

Thank you for your support. Have a wonderful summer and see you all in September!

Sincerely,

6th Grade Reading Teacher
The Lionfish Invasion!
What is as graceful and beautiful as a butterfly,
As ferocious as the most dangerous predator,
And delivers a painful sting with its poisonous spines?

It is the lionfish, a fish from the coral reefs in the tropical waters of the South Pacific and Indian Oceans. But you don’t have to travel half way around the world to see a lionfish.

Perhaps you have seen one in a friend’s home aquarium?
Lionfish are popular saltwater aquarium fish all over the world, but especially in the United States. Nowadays, they also live in Atlantic waters off the East Coast of the United States. These lionfish are what scientists call an invasion species or an “alien invader.”

Lionfish invade U.S. waters
Local divers off the coast of North Carolina were not expecting to see what they found one day in August 2002—they spotted the exotic and beautiful lionfish, common to the warm waters of the western Pacific, but unknown at that time as residents of the Carolina coast. They provided the first solid evidence that lionfish were in the Atlantic—an actual specimen that they collected there. A year later, scientists had documented 19 lionfish sightings at 8 locations along the North Carolina continental shelf. By then, lionfish were also being observed off the coasts of Florida, Georgia, and South Carolina. Juvenile lionfish were also showing up off of Bermuda, about 650 miles away from the north Carolina coast, and even as far north as Long Island, New York! Since then, many more United States divers have reported sightings of the distinctive fish. Between 2000 and 2003, lionfish sightings were reported at 16 different shipwrecks and natural hard bottom locations. During a summer 2004 research expedition, NOAA scientists collected 155 lionfish at 19 different locations off the North Carolina coast alone. The jump in numbers and distributions over such a short time, plus sightings of juveniles smaller than those sold for aquaria, strongly indicates that the lionfish is reproducing in the Atlantic Ocean. If this is true, it’s the first time that a western Pacific fish has populated the U.S. Atlantic coast.

How did lionfish get into the Atlantic Ocean?
Lionfish are a popular ornamental aquarium fish that were likely released on purpose when people no longer want them as aquarium pets! The swift and warm Gulf Stream, which likely transported buoyant lionfish eggs and larvae from Florida northward, helped the lionfish’s Atlantic journey.

It’s pretty unusual for non-native, tropical marine fishes, like the lionfish, to establish themselves at this latitude. In Florida waters and along the continental shelf near the Gulf Stream the temperatures are very similar to the lionfish’s native waters.
However, from north Florida upward, the waters along the coastline are too cold in the winter for lionfish to survive. Scientists expect them to survive the winter only at water depths greater than 120 ft because this is where the Gulf Stream has influence all year long. Very importantly, the types of predators and competitors present in the marine community in the Atlantic are very different from the native range of the lionfish. Generally, species like the lionfish have not been perceived to pose a significant threat to marine ecosystems because they were not likely to survive long.

Lionfish swimming near the wreck of the "Cedar Pride," a Lebanese freighter purposely sunk in 1986. This popular dive site is located in the Sea of Aquaba, which is in the northern part of the Red Sea (Jordan). Click on image for larger view and further details.
The Lionfish Invasion

1. Which statement best reflects the central idea of the article?
   A. In 2002, divers looking for other species of fish discovered the lionfish off the coast of North Carolina.
   B. The beautiful and exotic lionfish, a native of tropical waters, has been populating the waters of the Atlantic Ocean.
   C. While dangerous to other forms of marine life, the lionfish has become a popular aquarium pet because of its unique appearance.
   D. The warm waters of the Gulf Stream extend from the Gulf of Mexico toward Europe and provide a habitat for the lionfish.

2. Scientists call the lionfish an alien invader (line 6) because lionfish
   A. attack other species with their poisonous spines.
   B. have overtaken the habitats of other marine species.
   C. came from one place and spread to another.
   D. are able to live in hostile environments.

3. Why does the author include lines 12-16 ("A year later...as far north as Long Island, New York!") in the article?
   A. to list all the places lionfish can be found.
   B. to track the movements of lionfish and their habitats.
   C. to warn people living in certain locations about poisonous fish.
   D. to describe how widespread lionfish sightings have become.

4. Which of these words is closest in meaning to expedition (line 19)?
   A. a display
   B. a contest
   C. a trip
   D. a report
THE HORSE OF WOOD

The Greeks besieged the city of Troy for nearly ten years. They could not take it because the walls were so high and strong—some said that they had been built by the hands of gods—but they kept the Trojans inside. This had not always been so. There had been a time when the Trojans had gone out and fought with their enemies on the plain, sometimes they had beaten them in battle, and once they had very nearly burnt their ships. But this was all changed. They had lost some of the bravest of their chiefs, such as Hector, the best of the sons of Priam, and Paris the great archer, and many great princes, who had come from the countries round about to help them.

We can easily believe then that Priam, King of Troy, and his people were very glad to hear that one day the Greeks had gone home. Two Trojans, who had left the city two weeks or so before on a message from King Priam to one of his allies, came back saying that they had gone to the camp of the Greeks and had found it empty, and that there were no ships to be seen. Every one who was not ill or too old to move about made all the haste they could to get out of the city. The gates were opened wide for the first time during ten years, and men, women, and children hurried out to see the plain where so many battles had been fought, and the camp in which the enemy had lived, and the place where the ships had been dragged up on the shore. As you may suppose, those who had fought in the battles had a great deal to say about what they had done and what they had seen. There were many things to see, but the strangest one of all was a great Horse of Wood, which was standing not far from the walls of the city. No one was quite sure what it was, or what it meant. One man said: "It is a very curious thing. Let us drag it into the city that it may be a monument of all that we have suffered for the last ten years." Others said: "Not so; we had better burn it, or drag it down to the sea that the water may cover it, or cut it open to see whether there is anything inside." Of these no one was more vehement than Laocoön, priest of Neptune. "Take heed what you do, men of Troy," he cried. "Who knows whether the Greeks have really gone away? It may be that there are armed men inside this Horse; it may be that it has been made so big to overtop the walls of the city. Anyhow I am afraid of these Greeks, even when they give us gifts." And as he spoke, he threw the spear which he had in his hand at the Horse of Wood, and struck it on the side. A great rattling sound was heard, and the Trojans, if they had not been very blind and foolish, might have known that there was something wrong.

While the dispute was going on, some shepherds came up, bringing with them a man whose hands were bound behind his back. He had come out from a hiding-place, they said, of his own accord, when they were in the field. The young Trojans crowded round him, and began to mock at him, but he cried out in a very piteous voice: "What shall I do? Where shall I go? The Greeks will not let me live, and the Trojans cry out for vengeance upon me." Then they began to pity him, and they bade him say who he was and what he had to tell.

Then King Priam had pity on him and bade them unbind his hands, saying: "Forget your own people; from to-day you are one of us. But tell us now, why did the Greeks make this great Horse of Wood that we see?"
Then Sinon lifted up his hands to the sky and said: "O sun and moon and stars, I call you to witness that I have a good right to tell the secrets of my countrymen. Listen, O King. From the beginning, when the Greeks first came to this place, their hope has been in the help of Minerva. But she was angry with them for this cause. Ulysses and Diomed made their way into your city, and climbed into the citadel, and killed the guards. And then with hands all bloody from the slaughter, they laid hold of her image and carried it away. It was this that made the goddess angry, that they should dare to touch her with hands stained with blood. I saw with my own eyes how the eyes of the image, when these two brought it into the camp, flashed with anger, and how the drops of sweat stood upon it; yes, and how it leapt three times from the ground, shaking shield and spear. Then the prophet said: 'You must go back to Greece, and come again, and begin the war again, if you wish to take the city of Troy'—and this they are doing now; they have gone back to Greece, and they will soon return. Furthermore, he said: 'You must make a Horse of Wood to be a peace-offering to Minerva. Make it, I advise you, very great, so that the Trojans may not take it within their walls. For, if they do so take it, then you will never conquer their city. Nay, they will come to our own land, and lay siege to our cities, and our children will suffer the things which we have sought to bring on them. But if they hurt the thing, then they themselves shall perish.'

Then they all cried out together that the Horse of Wood should be drawn into the citadel. So they opened the great gate of the city, pulling down part of the wall that there might be more room, and they put rollers under the feet of the Horse, and they fastened ropes to it. Then they drew it into the city, boys and girls laying hold of the ropes, and singing songs with great joy. And every one thought it a great thing if he could put his hand to a rope. But there were not wanting signs of evil to come. Four times did the Horse halt as they dragged it, before it passed through the gate, and each time there might have been heard a great clashing of arms within. Also Cassandra opened her mouth, and prophesied the fate of the city; but no one took any heed of her words, for it was her doom that she should speak the truth and not be believed. So the Trojans drew the Horse of Wood into the city. That night they kept a feast to the gods with great joy, not knowing that the end of their city was now close at hand.
The Horse of Wood

By: Alfred J. Church

1. According to lines 1-5, what was one problem with Troy’s defense against the Greeks?
A. They had lost many of the bravest chiefs.
B. They had not tested the strategy for very long.
C. They were not able to leave their city.
D. They could not keep the Greeks out of Troy.

2. How does Laocoon’s opinion differ from those of the other Trojans?
A. He thinks they should keep the horse.
B. He thinks they shouldn’t trust the Greeks.
C. He thinks the Greeks have gone away for good.
D. He thinks the horse is a gift from the Greeks.

3. As used in line 35 of the passage, the word dispute most closely means
A. search
B. disruption
C. work
D. argument

4. How did Sinon’s speech influence the Trojans?
A. It made them ignore the help of Minerva.
B. It convinced them to give the horse back to the Greeks.
C. It persuaded them to take the horse into the city.
D. It made them angry with him.

5. Which line or lines illustrate knowledge the narrator has that the characters in the story do not?
A. “There had been a time when the Trojans had gone out and fought with their enemies on the plain. (lines 4 & 5)
B. “We can easily believe then that Priam, King of Troy, and his people were very glad to hear that one day the Greeks had gone home.” (Lines 10 & 11)
C. “No one was quite sure what it (the horse) was, or what it meant.” (line 22)
D. “A great rattling sound was heard, and the Trojans, if they had not been very blind and foolish, might have known that there was something wrong.” (Lines 32-34)

Write a response to the open-ended question. The response needs to have the RACE format:
R-Restate the question
A-Answer the question in your own words
C-Cite text evidence using a quote
E-Explain and extend the answer
Open Ended Question:

6 Explain how Sinon was able to convince the Trojans to take the horse of wood inside their city gates.