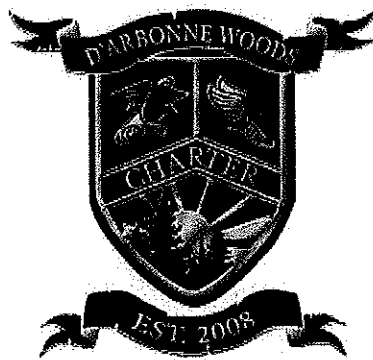


DWCS
6TH Grade



Distance
Learning Plan

May 4, 2020 – May 21, 2020

Weeks 4-6

Week 4

1. Read Figurative language review page.
2. Complete practice page for figurative language.
3. Create your onomatopoeia art page. (see example) Be creative and have fun! (send me a pic for a grade) I know the examples may be hard to see, but you can Google "onomatopoeia art" to find examples.
4. Complete Test for figurative language. (send me a picture of the completed test through Remind or Email at tmiller@darbonnewoods.com)

Week 5

ELA session 2 practice LEAP test

1. Read each story and answer questions on another sheet of paper. Take a picture of your answer page and send to me for a grade.

Week 6

Read and complete the Readworks pages in the science part of the packet. I will pick the one that you do the best on for a grade. Enjoy an easy week!

1. Why is the sky blue (in the science pack) (send a picture for a grade)
2. Heart sick (in science pack) (send a picture for a grade)

Onomatopoeia art



PERSONIFICATION

EXAMPLE

The roses wept for their smashed friends.

DEFINITION

giving human characteristics to inanimate things

HYPERBOLE

EXAMPLE

The townspeople say Grandma's flowers were the most exquisite flowers in the entire world!

DEFINITION

an exaggeration used to make or prove a point

IDIOM

EXAMPLE

It was only once in a blue moon that the flowers did not bloom.

DEFINITION

a word or phrase that means something other than what is actually being said

ALLITERATION

EXAMPLE

Stooping to the ground, Sarah smelled the sweet, scarlet flower.

DEFINITION

when two or more words begin with the same initial sound

CLICHE

EXAMPLE

With most of her flowers folded on the ground, only time would tell if the flowers would survive.

DEFINITION

a phrase or expression that is overused

ONOMATOPOEIA

EXAMPLE

...a bee's buzzing would break the silence.

DEFINITION
words that make sounds

SIMILE

EXAMPLE

Grandma would stand as proud as a peacock.

DEFINITION
a comparison of unlike things using 'like' or 'as'

METAPHOR

EXAMPLE

Towering above the other plants, the sunflowers were a fence protecting the petunias.

DEFINITION
a comparison of unlike things that says something is another thing

Figurative Language Practice Questions

Section 1: Matching.

Match each word to its definition

- | | |
|------------------------|---|
| 1. ___ Simile | a. Words that sound like their meaning |
| 2. ___ Metaphor | b. Exaggeration |
| 3. ___ Hyperbole | c. Comparing using like or as |
| 4. ___ Personification | d. Repeating sounds |
| 5. ___ Onomatopoeia | e. Giving human traits to nonhuman things |
| 6. ___ Alliteration | f. Comparing without using like or as |

Section 2: Multiple Choice

Read each question and choose the best answer

1. The snake slowly, silently, slithered towards its prey' is an example of:
A. Simile B. Metaphor C. Alliteration D. Personification E. Onomatopoeia
2. The words, 'bang', 'whoosh' and 'bark' are examples of:
A. Simile B. Metaphor C. Hyperbole D. Personification E. Onomatopoeia
3. 'Her hair is like gold' and 'as strong as an ox' are examples of:
A. Simile B. Metaphor C. Hyperbole D. Personification E. Alliteration
4. 'The cruel wind tore off the roof of the house' is an example of:
A. Simile B. Metaphor C. Hyperbole D. Personification E. Onomatopoeia
5. The students were like ants crowded around the pizza box.
A. Simile B. Metaphor C. Hyperbole D. Personification E. Onomatopoeia
6. The sign read, "Mr. Fox's Fantastic, Fabulous Fourth Graders!"
A. Alliteration B. Metaphor C. Hyperbole D. Personification E. Simile

7. I'd rather take a bath with man eating sharks than do my homework!
A. Simile B. Metaphor C. Hyperbole D. Personification E. Onomatopoeia
8. Georgia's face is a blooming flower when she is painting.
A. Simile B. Metaphor C. Hyperbole D. Alliteration E. Onomatopoeia
9. Splat! Sploosh! The kids were having a water balloon fight!
A. Simile B. Metaphor C. Hyperbole D. Personification E. Onomatopoeia
10. The car is a rhino with it's metal doors.
A. Simile B. Metaphor C. Hyperbole D. Personification E. Onomatopoeia
11. I ran so far that I ran to the moon and back 18 times.
A. Simile B. Metaphor C. Hyperbole D. Personification E. Onomatopoeia
12. The chair groaned and grumbled when the man sat down.
A. Simile B. Alliteration C. Hyperbole D. Personification E. Onomatopoeia
13. The strawberry cake whispered my name when I walked by.
A. Simile B. Metaphor C. Hyperbole D. Personification E. Alliteration
14. That tree is a statue in the forest.
A. Simile B. Metaphor C. Hyperbole D. Personification E. Onomatopoeia
15. Billy Bob bends over to button his big bulging bag.
A. Simile B. Metaphor C. Hyperbole D. Personification E. Alliteration
16. Sleepy Susan stands still near superstars.
A. Alliteration B. Metaphor C. Hyperbole D. Simile E. Onomatopoeia

Figurative Language Practice Questions ANSWER KEY

Section 1: Matching.

Match each word to its definition

- | | |
|-----------------------------|---|
| 1. <u>c</u> Simile | a. Words that sound like their meaning |
| 2. <u>f</u> Metaphor | b. Exaggeration |
| 3. <u>b</u> Hyperbole | c. Comparing using like or as |
| 4. <u>e</u> Personification | d. Repeating sounds |
| 5. <u>d</u> Onomatopoeia | e. Giving human traits to nonhuman things |
| 6. <u>d</u> Alliteration | f. Comparing without using like or as |

Section 2: Multiple Choice

Read each question and choose the best answer.

1. The snake slowly, silently, slithered towards its prey' is an example of:
A. Simile **B.** Metaphor **C.** Alliteration **D.** Personification **E.** Onomatopoeia

2. The words, 'bang', 'whoosh' and 'bark' are examples of:
A. Simile **B.** Metaphor **C.** Hyperbole **D.** Personification **E.** Onomatopoeia

3. 'Her hair is like gold' and 'as strong as an ox' are examples of:
A. Simile **B.** Metaphor **C.** Hyperbole **D.** Personification **E.** Alliteration

4. 'The cruel wind tore off the roof of the house' is an example of:
A. Simile **B.** Metaphor **C.** Hyperbole **D.** Personification **E.** Onomatopoeia

5. The students were like ants crowded around the pizza box.
A. Simile **B.** Metaphor **C.** Hyperbole **D.** Personification **E.** Onomatopoeia

6. The sign read, "Mr. Fox's Fantastic, Fabulous Fourth Graders!"
A. Alliteration **B.** Metaphor **C.** Hyperbole **D.** Personification **E.** Simile

7. I'd rather take a bath with man eating sharks than do my homework!

A. Simile B. Metaphor **C. Hyperbole** D. Personification E. Onomatopoeia

8. Georgia's face is a blooming flower when she is painting.

A. Simile B. Metaphor C. Hyperbole D. Alliteration E. Onomatopoeia

9. Splat! Sploosh! The kids were having a water balloon fight!

A. Simile B. Metaphor C. Hyperbole D. Personification **E. Onomatopoeia**

10. The car is a rhino with it's metal doors.

A. Simile **B. Metaphor** C. Hyperbole D. Personification E. Onomatopoeia

11. I ran so far that I ran to the moon and back 18 times.

A. Simile B. Metaphor **C. Hyperbole** D. Personification E. Onomatopoeia

12. The chair groaned and grumbled when the man sat down.

A. Simile B. Alliteration C. Hyperbole **D. Personification** E. Onomatopoeia

13. The strawberry cake whispered my name when I walked by.

A. Simile B. Metaphor C. Hyperbole **D. Personification** E. Alliteration

14. That tree is a statue in the forest.

A. Simile B. Metaphor C. Hyperbole D. Personification E. Onomatopoeia

15. Billy Bob bends over to button his big bulging bag.

A. Simile B. Metaphor C. Hyperbole D. Personification **E. Alliteration**

16. Sleepy Susan stands still near superstars.

A. Alliteration B. Metaphor C. Hyperbole D. Simile E. Onomatopoeia

Test next 2 pages
Labeled: Session 3
Passage for
Figurative language

Section 3: Passage

Read the passage and answer the questions.

'Drip, drop, drip, drop.' Daija and Walter could hear the water fountain. They were statues in the hallway listening and waiting for their boss. He was coming back from an important meeting and they were supposed to give him some information. They were so nervous they thought they might explode into tiny pieces. Just then, they heard a door slam. 'BAM!' The noise was as loud as thunder. They heard the footsteps on the stairs. The footsteps seemed to be calling their names louder and louder... When the door opened, Daija and Walter were shaking like fall leaves on a tree.

1. What does 'loud as thunder' mean?

- A. dangerous
- B. very loud
- C. with rain
- D. quite soft

2. 'Drip, drop, drip, drop' is an example of what type of figurative language?

- A. onomatopoeia
- B. rhyme scheme
- C. metaphor
- D. personification

3. What does 'They were statues waiting in the hallway for their boss' mean?

- A. They were not moving like statues.
- B. They were in a museum like statues.
- C. They were worth a million dollars like statues.
- D. They were brightly colored like statues.

4. They were statues in the hallway is an example of what type of figurative language?

- A. Alliteration
- B. Personification
- C. Metaphor
- D. Simile

5. They were so nervous they thought they might explode into tiny pieces is an example of what type of figurative language?

- A. Alliteration
- B. Idiom
- C. Metaphor
- D. Hyperbole

6. The footsteps seemed to be calling their names louder and louder is an example of what type of figurative language?

- A. Personification
- B. Onomatopoeia
- C. Simile
- D. Hyperbole

7. 'Shaking like fall leaves on a tree' means that:

- A. They were so excited that their bodies were shaking
- B. They were in a milkshake and their bodies were shaking
- C. They were in an earthquake so their bodies were shaking
- D. They were scared and their bodies were shaking

8. Which sentence from the passage contains onomatopoeia?

- A. Daija and Walter were shaking like fall leaves on a tree.
- B. They were so nervous they thought they might explode into tiny pieces.
- C. Just then, they heard a door slam. 'BAM!'
- D. They were statues in the hallway.

9. Which sentence from the passage contains a simile?

- A. Daija and Walter were shaking like fall leaves on a tree.
- B. They were so nervous they thought they might explode into tiny pieces.
- C. Just then, they heard a door slam. 'BAM!'
- D. They were statues in the hallway.

10. Which sentence from the passage contains a metaphor?

- A. Daija and Walter were shaking like fall leaves on a tree.
- B. They were so nervous they thought they might explode into tiny pieces.
- C. Just then, they heard a door slam. 'BAM!'
- D. They were statues in the hallway.

Today you will research the impact zoos have on animals. You will read one passage titled “The Stripes Will Survive.” Then you will read the passages “The Zoos Go Wild” from *No More Dodos* and “Our Beautiful Macaws and Why They Need Enrichment.” As you review these sources, you will gather information and answer questions so you can write an essay on the impact zoos have on animals.

Read the article “The Stripes Will Survive.” Then answer questions 12 through 14.

The Stripes Will Survive

by Jacqueline Adams

- 1 Danya nips his mother’s furry back over and over, as if he’s trying to see how many times he can get away with it. It doesn’t seem like a very smart game, considering Mom is a Siberian tigress! But Danya and his twin sister, Dasha, know how special they are to their mother.
- 2 They’re also special to visitors who travel to Cleveland Metroparks Zoo in Ohio for a glimpse of these rare cubs. But if Siberian tigers weren’t so rare, Danya and Dasha would never have been born.
- 3 A hundred years ago, no one worried that the world might run out of tigers. One hundred thousand tigers belonging to eight different subspecies prowled the forests and jungles of the world. But today three subspecies—the Balinese, Caspian, and Javan tigers—are now extinct, and a fourth—the South China tiger—is almost extinct. Fewer than 5,000 tigers roam the wild. Only about 400 of those are Siberian tigers, which are the largest, lightest-colored, and longest-furred tigers. And only 500 Siberian tigers live in zoos.
- 4 In 1981, the American Zoo and Aquarium Association started the Species Survival Plan (SSP) to make sure that threatened and endangered animal species don’t disappear. The members of the Tiger SSP teach the public about the plight of tigers and do research. They keep a computerized family tree of zoo tigers that helps match males and females for breeding.
- 5 The Tiger SSP’s computer program matched four-year-old Gaia, from the Minnesota Zoo, with fifteen-year-old Tatja, from the Milwaukee Zoo. The tigers met at Cleveland Metroparks Zoo, and Danya and Dasha were born a few months later. When the twins entered the world on April 4, 2001, each was a two-pound ball of woolly, striped fur.
- 6 Tiger fathers in the wild don’t help care for their cubs and sometimes try to kill them. Tatja, whom zookeeper Steve Gove describes as “a mellow tiger,” gets along well with Gaia and likes watching his cubs play. Although the zoo staff members keep Tatja in a separate area, they don’t think he would hurt the cubs.

GO ON ►

- 7 Gaia had never had cubs before, but Gove says, “She’s been an absolutely perfect mother—tolerant, loving, and protective.” In the wild, tiger mothers teach their cubs to hunt. Danya and Dasha won’t need to hunt, but Gaia teaches them chasing and stalking techniques, as well as how to swim and groom themselves.
- 8 These lessons are pure fun for the twins. As soon as his sister’s back is turned, Danya crouches, then pounces, and the two roll across the grass in a wrestling ball of stripes and teeth. But she’ll get him back later, maybe when he’s splashing in the pool during his swimming lesson or struggling to carry the piece of log he’s turned into a toy. “They’ll make a toy out of anything,” says Gove.
- 9 Grooming lessons come in handy for playful cubs who can’t resist rolling in the mud. Gove explains, “Sometimes they’re so black you can hardly see their stripes when they come in at night, but they’re completely clean by morning.” Mom has taught them to wash their fur with their tongues, and swallowing a couple pounds of mud doesn’t seem to bother them a bit.
- 10 If mud doesn’t sound very tasty to you, how about raw horse meat? Tatja would tell you (if he could) that nothing’s more delicious. On some nights he lets supper sit for a while, but on horse-meat night he cares about nothing else until he’s eaten every bite. Danya crouches jealously over his slab of meat. If Mom or Sis wanders too close, he lets out a deep growl that sounds as if it should have come from his 500-pound father.
- 11 With supper over, everyone in the tiger building is content. “Gaia and the cubs are pretty friendly,” says zookeeper Curt Gindlesperger. Proving him right, Gaia strolls to the fence and rubs against his hand like a 300-pound house cat.
- 12 The tiger family seems comfortable in Cleveland, where the weather is similar to that of their natural habitat in eastern Russia. But the time may come to move on. Tatja, who has cubs at two other zoos, will probably leave. The Tiger SSP may also transfer one or both cubs to zoos where they will raise their own families. Then Danya and Dasha will help make sure Siberian tigers are around for a long, long time.
- 13 But what about the 400 Siberian tigers left in their natural habitat? How will they survive?
- 14 The World Wildlife Fund (WWF) and other organizations are working with the Russian government to set aside protected areas for these big cats. Rangers patrol for poachers, and educational programs help the local people understand the need to protect Siberian tigers. These efforts seem to be working. The WWF believes that the number of Siberian tigers in the wild has doubled since the antipoaching patrols began, bringing the tiger numbers from around 200 in 1994 to about 400 today.

12. Part A

What does the word **plight** mean as it is used in paragraph 4 of “The Stripes Will Survive”?

- A. desperate situation
- B. hiding place
- C. movement
- D. recovery

Part B

Which sentence from the article supports the answer to Part A?

- A. “One hundred thousand tigers belonging to eight different subspecies prowled the forests and jungles of the world.”
- B. “Fewer than 5,000 tigers roam the wild.”
- C. “The tigers met at Cleveland Metroparks Zoo, and Danya and Dasha were born a few months later.”
- D. “Although the zoo staff members keep Tatja in a separate area, they don’t think he would hurt the cubs.”

13. Part A

What is the author’s **main** purpose in “The Stripes Will Survive”?

- A. to describe the different lessons Gaia teaches her cubs
- B. to explain recent changes in how zoos raise Siberian tigers
- C. to explain the efforts being made to preserve Siberian tigers
- D. to describe how Danya and Dasha interact with their parents

Part B

Which sentence from the article supports the answer to Part A?

- A. “It doesn’t seem like a very smart game, considering Mom is a Siberian tigress!”
- B. “Only about 400 of those are Siberian tigers, which are the largest, lightest-colored, and longest-furred tigers.”
- C. “And only 500 Siberian tigers live in zoos.”
- D. “Rangers patrol for poachers, and educational programs help the local people understand the need to protect Siberian tigers.”

14. The author makes the claim that steps have been taken to help endangered tigers. First, write **one** main strategy in the chart that is used throughout the article to develop the claim. Then write **three** pieces of evidence in the chart that demonstrate the strategy being used.

Strategy:

The author explains a problem and then presents solutions.

The author details the cause and effect of an event or action.

The author shares important events or actions in the order of appearance.

Evidence:

“They’re also special to visitors who travel to Cleveland Metroparks Zoo in Ohio for a glimpse of these rare cubs.”

“But today three subspecies—the Balinese, Caspian, and Javan tigers—are now extinct, and a fourth—the South China tiger—is almost extinct.”

“They keep a computerized family tree of zoo tigers that helps match males and females for breeding.”

“Although the zoo staff members keep Tatja in a separate area, they don’t think he would hurt the cubs.”

“Grooming lessons come in handy for playful cubs who can’t resist rolling in the mud.”

“The World Wildlife Fund (WWF) and other organizations are working with the Russian government to set aside protected areas for these big cats.”

Strategy

Evidence

Evidence

Evidence

Read the passage “The Zoos Go Wild,” from the book *No More Dodos*. Then answer question 15.

The Zoos Go Wild from *No More Dodos*

by Nicholas Nirgiotis and Theodore Nirgiotis

- 1 The small lowland gorilla was just three years old when he was caught by poachers, people who illegally kill or capture wild animals. He was taken away from his mother and out of his African rainforest home. Few gorillas that age could survive such an ordeal, but this one was lucky. Soon after his capture in 1961, an animal trader sold him to Zoo Atlanta. He spent the next 27 years of his life alone in an indoor cage. Zoo personnel named him Willie B. after William B. Hartsfield, the mayor of Atlanta.
- 2 Willie’s keepers wanted him to be happy. They hung an old tire from a wall of his cage and put a television set in one corner. They hoped these toys would keep Willie from being bored. But the tire and the television set were hardly the playthings a growing gorilla needed.
- 3 By age 12, Willie had grown into a magnificent 460-pound, 6-foot-tall silverback, a mature male with a distinguishing streak of silver hair on his back. His broad chest and powerful arms made people think of King Kong. They crowded in front of his cage to see him.
- 4 Gorillas are gentle, shy creatures, despite their size and fearsome appearance. But confinement in a cramped cage and lack of exercise had made Willie restless and bad-tempered. He grew fat and lazy, paced in his cage, and ignored visitors. His cage was a real prison, and Willie B. was a very unhappy gorilla.
- 5 A turning point in Willie’s life came in 1988. That year, Zoo Atlanta opened the Ford African Rainforest, a brand-new home for Willie and the zoo’s other lowland gorillas. It was a large open-air enclosure designed to resemble the rainforest of Willie’s native central Africa.

The Way Willie Likes It

- 6 Willie’s rainforest home is just one example of the far-reaching changes that have taken place in zoos in recent years. Zoos no longer feel their primary mission is simply to collect and display as many different species of animals from around the world as they possibly can. They no longer believe that the more unusual animals a zoo has, the better it is. Instead, zoos are changing into conservation parks that cooperate to help save animals threatened with extinction. The first step toward this goal was to get rid of the cages and change the way zoo animals lived.

English Language Arts—Session 2

- 7 When Willie was let out of his cage into his new home, he found himself in a large grassy area leading to a gradually rising, rock-covered slope. All around the edges of the slope were trees and plants similar to those in his African home.
- 8 In no time, Willie acted like a different animal. He was no longer bored or easily angered. There were tree branches he could pull to test his strength or bend into a nest for his afternoon siesta, and there was a rocky hillside he could climb. More important, he had company. He shared his new home with three females, and other groups of gorillas lived nearby. Willie could finally act like the silverback he was. He could have his own family and be the dominant male.
- 9 Willie had not lost the instinct for peaceful family life that gorillas live by in the wild. He watched over his family when it was feeding or resting, ever alert for danger. His companions could chase each other and wrestle, knowing he was there to protect them. Every so often, he would cup his hands and thump his chest to show the females and nearby rival males who was boss. Willie B. had finally become a real gorilla. In February 1994, he became a father as well.
- 10 Three other gorilla groups share Zoo Atlanta’s African Rainforest enclosure with Willie’s family. They are kept apart from each other by trees and small hills that mark their territories, just the way it would be in Africa. The gorillas spend their time looking for bamboo shoots and leaves to eat, grooming each other, napping between meals, or just resting.
- 11 Willie’s story has a happy ending. But the best part is that he is not alone in his good fortune. Thousands of other zoo animals throughout the world have been moved into new homes that replaced the old, cramped cages in which they lived before.

Lessons from Germany

- 12 Housing animals in open-air, natural enclosures is not a new idea. The first to use such a setting was Karl Hagenbeck at the Hamburg Zoo, Germany, in 1907. He moved antelopes into a grassy, open area. To add a touch of drama, he placed a pride of lions just behind them. Visitors to the zoo were startled to find lions living next to antelopes. They could not see the moat that separated the predators from their prey.
- 13 Hagenbeck’s novel idea of allowing animals to move about freely in large open spaces caught on. He was asked to redesign the Detroit Zoo in the 1930s. His ideas were also used in New York’s Bronx Zoo, Chicago’s Brookfield Zoo, and the San Diego Zoo.

- 14 But large-scale redesigning of zoos didn't begin until the 1960s, when natural habitats of wild animals around the world began to shrink in size, and scores of species dwindled to the point of vanishing. Zoo designers traveled to the animals' natural habitats in faraway places to study not only what the habitats looked like but how the animals used the space and behaved in it. Housing animals in spaces that were as close to the animals' habitats as the designers could make them was an important step in the struggle to save endangered species.

Excerpt from *NO MORE DODOS: HOW ZOOS HELP ENDANGERED WILDLIFE* by Nicholas Nirgiotis and Theodore Nirgiotis, copyright © 1996 by Nicholas Nirgiotis and Theodore Nirgiotis. Used by permission of the authors.

15. Part A

Which detail from the passage “The Zoos Go Wild” supports the idea that Willie changed after being moved into his new home?

- A. the comparison of the grassy area to Willie’s African home
- B. the mention of Willie’s large size and magnificent appearance
- C. the description of Willie’s behavior with his companions
- D. the comparison of Willie to gorillas that live in the wild

Part B

Which paragraph from the passage **best** supports the answer to Part A?

- A. paragraph 7
- B. paragraph 9
- C. paragraph 10
- D. paragraph 11

Refer to the article “The Stripes Will Survive” and the passage “The Zoos Go Wild,” from the book *No More Dodos*. Then answer question 16.

16. Part A

Choose a central idea that is developed in both “The Stripes Will Survive” and “The Zoos Go Wild.”

- A. Zoos are constantly changing exhibits to keep visitors interested in the animals.
- B. Zoos are sometimes responsible for caring for animals that people have abandoned.
- C. One responsibility of a zoo is to prevent the extinction of species by breeding them.
- D. Zoos are changing their approaches to caring for their animals.

Part B

Circle **one** detail from **each** passage that supports the answer to Part A.

- A. “But Danya and his twin sister, Dasha, know how special they are to their mother.” (“The Stripes Will Survive”)
- B. “In 1981, the American Zoo and Aquarium Association started the Species Survival Plan (SSP) to make sure that threatened and endangered animal species don’t disappear.” (“The Stripes Will Survive”)
- C. “Gaia had never had cubs before, but Gove says, ‘She’s been an absolutely perfect mother—tolerant, loving, and protective.’” (“The Stripes Will Survive”)
- D. “They hung an old tire from a wall of his cage and put a television set in one corner.” (“The Zoos Go Wild”)
- E. “His companions could chase each other and wrestle, knowing he was there to protect them.” (“The Zoos Go Wild”)
- F. “Thousands of other zoo animals throughout the world have been moved into new homes that replaced the old, cramped cages in which they lived before.” (“The Zoos Go Wild”)

Read the passage from the article “Our Beautiful Macaws and Why They Need Enrichment.” Then answer questions 17 and 18.

from “Our Beautiful Macaws and Why They Need Enrichment”

by Alicia Powers

- 1 Oakland Zoo’s Animal Care, Conservation, and Research team has the privilege and challenge of providing our animal residents with an enriching, well-balanced life and advocating for the conservation of their wild counterparts.
- 2 The zoo’s flock of Blue and Gold Macaws recently got a healthy dose of extra enrichment. The ACCR¹ team combed through a handful of creative ideas to give the Macaw Exhibit a new, fresh look. In addition to replacing some of the wood perching that had suffered significant wear-and-tear from years of the macaws using them to keep their beaks sharp and strong, the team also added two twenty-foot sections of rope. The rope is a novel perching surface in this exhibit. It will not only give our Blue and Gold Macaws something new and fun to play with, but it will also help keep their little feet healthy. With some resourceful alterations to the ends of the rope, the keepers are able to move the ropes to different angles whenever they please. This way the birds get a bit of a “different look” with their perching without the keepers having to make any permanent rearrangements.
- 3 The fun doesn’t stop there, though! The team recycled some cargo netting and stretched it out between some perching to support brand new bird baths. Just like the native songbirds that like to bathe in the little puddles in your yard, Macaws and other parrots love to keep themselves clean too.
- 4 But one may wonder . . . why? Why do our Blue and Gold Macaws deserve this special treatment?
- 5 Macaws are smart. Macaws are REALLY smart and curious. It is this very characteristic that makes them coveted as pets. Ironically, it is also what makes them inappropriate as a pet. Meeting the behavioral and enrichment needs of these incredibly smart birds is difficult. A behaviorally unhealthy bird may become aggressive, destructive, or even sick.

¹ ACCR—Animal Care, Conservation, and Research

- 6 Add to this the fact that Blue and Gold Macaws can live for over 60 years, and the bird often becomes an unbearable burden even for well-intentioned owners. In fact, the four Blue and Gold Macaws in the zoo's collection came from such circumstances. The keepers responsible for the daily care of our Macaws are tasked with keeping them behaviorally and medically sound. Having flexible and varied perching options will help immensely with this goal.

© Alicia Powers, Oakland Zoo

17. Part A

What is the meaning of **novel** as it is used in paragraph 2?

- A. lengthy
- B. unique
- C. solid
- D. textured

Part B

Which phrase from paragraph 2 supports the answer to Part A?

- A. “wear-and-tear”
- B. “twenty-foot sections”
- C. “new and fun”
- D. “little feet healthy”

18. Part A

What is the author’s **main** purpose in “Our Beautiful Macaws and Why They Need Enrichment”?

- A. to describe the different tasks zookeepers are required to perform
- B. to explain why some pet macaws eventually live in zoos
- C. to explain how a zoo is providing a stimulating environment for macaws
- D. to describe why zookeepers include specific equipment in new exhibits

Part B

Which sentence from the article **best** supports the answer to Part A?

- A. “The ACCR team combed through a handful of creative ideas to give the Macaw Exhibit a new, fresh look.”
- B. “This way the birds get a bit of a ‘different look’ with their perching without the keepers having to make any permanent rearrangements.”
- C. “A behaviorally unhealthy bird may become aggressive, destructive, or even sick.”
- D. “Add to this the fact that Blue and Gold Macaws can live for over 60 years, and the bird often becomes an unbearable burden even for well-intentioned owners.”

Refer to the article “The Stripes Will Survive” and the passage from the article “Our Beautiful Macaws and Why They Need Enrichment.” Then answer question 19.

19. Part A

Which sentence describes how central ideas are introduced in “The Stripes Will Survive” and “Our Beautiful Macaws and Why They Need Enrichment”?

- A. “The Stripes Will Survive” provides details about a particular zoo habitat, while “Our Beautiful Macaws and Why They Need Enrichment” describes the daily duties of zookeepers.
- B. “The Stripes Will Survive” explains one animal’s background, while “Our Beautiful Macaws and Why They Need Enrichment” details the research carried out at one zoo.
- C. “The Stripes Will Survive” tells an anecdote about a particular animal family, while “Our Beautiful Macaws and Why They Need Enrichment” describes the zookeepers’ role in updating the habitat for the birds.
- D. “The Stripes Will Survive” explains the importance of the American Zoo and Aquarium Association in protecting animals in zoos, while “Our Beautiful Macaws and Why They Need Enrichment” describes the beautiful colors of the birds in a particular zoo.

Part B

Circle **one** detail from **each** text that supports the answer to Part A.

- A. “Danya nips his mother’s furry back over and over” (paragraph 1, “The Stripes Will Survive”)
- B. “They’re also special to visitors who travel to Cleveland Metroparks Zoo” (paragraph 2, “The Stripes Will Survive”)
- C. “A hundred years ago, no one worried that the world might run out of tigers.” (paragraph 3, “The Stripes Will Survive”)
- D. “The zoo’s flock of Blue and Gold Macaws recently got a healthy dose of extra enrichment.” (paragraph 2, “Our Beautiful Macaws and Why They Need Enrichment”)
- E. “With some resourceful alterations to the ends of the rope, the keepers are able to move the ropes to different angles” (paragraph 2, “Our Beautiful Macaws and Why They Need Enrichment”)
- F. “The keepers responsible for the daily care of our Macaws” (paragraph 6, “Our Beautiful Macaws and Why They Need Enrichment”)

Sixth Grade Math May 4–8, 2020

Exponents and Order of Operations

Monday, May 4:

- Review Expressions Unit Study Guide page 99
- Complete Order of Operations Notes page 30
- Complete Exponents Notes page 16
- Complete Warm-Up #1 and #2 page 14

Tuesday, May 5:

- Complete Warm-Up #3 and #4 page 15
- Complete Exponents Maze page 29

Wednesday, May 6:

- Complete Exponents Practice page 17

Thursday, May 7:

- Complete Exit Ticket #1 and #2: Exponents and Order of Operations page 39
- Complete Exit Ticket #3 and #4: Exponents and Order of Operations page 40

Friday, May 8:

Complete Test Attached: Order of Operations page 37

- If your test is modified, complete the modified test attached.
- You may not use a calculator **UNLESS** you have that accommodation.
- You know if you have accommodations, so use them. This test should be given to you exactly like you take it at school.
- Take a picture of the test and email it back to me on Remind.

Math

Mon. May 4

EXPRESSIONS UNIT STUDY GUIDE

PROPERTIES OF MATH.

The Associative Property

"Grouping doesn't affect the sum or product"

$$(4 + 3) + 1 = 4 + (3 + 1)$$

The Commutative Property

"Order doesn't affect the sum or product"

$$8 \cdot 3 \cdot 2 = 3 \cdot 2 \cdot 8$$

The Identity Property

"A number multiplied by one or added together with zero will result in the same number."

$$8 \cdot 1 = 8 \text{ and } 8 + 0 = 8$$

The Distributive Property

A single number on the outside of a set of parentheses must be multiplied by all terms inside the parenthesis.

$$4(3 + x) = 4 \cdot 3 + 4 \cdot x$$

ORDER OF OPERATIONS :

- P : Parenthesis
- E : Exponents
- MD : Multiplication or Division
- AS : Addition or Subtraction

OPERATIONS WITH EXPONENTS :

- The exponent (little number up top) tells you how many times to multiply the base (big number at the bottom) by itself.
 - $6^2 = 6 \cdot 6$
 - $4^5 = 4 \cdot 4 \cdot 4 \cdot 4 \cdot 4$

EVALUATING EXPRESSIONS:

1. Substitute the given value(s) for the variable(s) into the expression in place of the variable(s).
2. Simplify using the order of operations.

WRITING EXPRESSIONS KEY WORDS:

Addition

More than	Add
Increased by	Total
Greater than	Plus
	Sum

Subtraction

Decreased by	Subtract
Difference	Less than
Take away	Subtracted from
Less	

Multiplication

Product	Of
Times	Twice
Multiply	Triple
	Double

Division

Quotient	Divided by
Divide	Split
	Equally

Name _____

Date Mon. May 4

ORDER OF OPERATIONS NOTES

What's the Order?

THE ORDER	THE MATH	THE EXPLANATION
P	Parenthesis	Simplify any expressions within grouping symbols first.
E	Exponents	Once grouping symbols are eliminated, simplify any terms with an exponent.
MD	Multiplication OR Division	Multiply or divide from left to right. Whichever comes first between these two, is simplified first.
AS	Addition OR Subtraction	Add or subtract from left to right. Whichever comes first between these two, is simplified first.

Explain:

What would be the first step in simplifying the expression $36 \div 2 + 4 \cdot 2^2$? Explain.

Name Answer Key
Date _____

ORDER OF OPERATIONS NOTES

What's the Order?

THE ORDER	THE MATH	THE EXPLANATION
P	Parenthesis	Simplify any expressions within grouping symbols first.
E	Exponents	Once grouping symbols are eliminated, simplify any terms with an exponent.
MD	Multiplication OR Division	Multiply or divide from left to right. Whichever comes first between these two, is simplified first.
AS	Addition OR Subtraction	Add or subtract from left to right. Whichever comes first between these two, is simplified first.

Explain:

What would be the first step in simplifying the expression $36 \div 2 + 4 \cdot 2^2$? Explain.

$36 \div 2 + 4 \cdot 2^2$

Simplifying 2^2 would be first because there are no grouping symbols, so exponents are simplified first.

Name _____

Date Mon. May 4

EXPONENTS NOTES

Define It:

- Base : _____

- Exponent : _____

- Factor : _____

Read It:

- 5^1 is read as : _____
- 5^2 is read as : _____
- 5^3 is read as : _____

Write It:

- 5^1 is written as : _____
- 5^2 is written as : _____
- 5^3 is written as : _____

Link & Write :

Is 8^2 the same as 8×8 ? Explain why or why not and provide proof.

Name Answer key
Date _____

EXPONENTS NOTES

Define It:

- Base: The "bottom" number in an exponential term. The factor.
- Exponent: The "small" number that tells how many times the base is multiplied by itself.
- Factor: A number multiplied by another number.

Read It:

- 5^1 is read as: Five to the first power.
- 5^2 is read as: Five to the second power OR five squared
- 5^3 is read as: Five to the third power OR five cubed

Write It:

- 5^1 is written as: 5
- 5^2 is written as: 5×5
- 5^3 is written as: $5 \times 5 \times 5$

Think & Write:

Is 8^2 the same as 8×8 ? Explain why or why not and provide proof.

Yes! The 2 tells how many times 8 is multiplied by itself.

← exponent

$$8^2 = 8 \times 8$$

↑
Base

↑ factors

Name _____

Date Mon. May 4

WARM UP #1

Lesson 1 : Exponents and Order of Operations

Skill : Evaluating Whole Number Exponents

1. Simplify 5^2 . Show your work.	2. Simplify 2^4 . Show your work.
3. Simplify 3^3 . Show your work.	4. Simplify 1^6 . Show your work.

©2016/2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name _____

Date Mon. May 4

WARM UP #2

Lesson 1 : Exponents and Order of Operations

Skill : Evaluating Expressions with Whole Number Exponents

1. Simplify $2 + 4^2$. Show your work.	2. Simplify $3^2 - 4$. Show your work.
3. Simplify $2^3 \cdot 2$. Show your work.	4. Simplify $5^2 \div 5$. Show your work.

©2016/2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name Answer Key
Date _____

WARM UP #1

Lesson I : Exponents and Order of Operations

Skill : Evaluating Whole Number Exponents

1. Simplify 5^2 . Show your work. 5×5 25	2. Simplify 2^4 . Show your work. $2 \times 2 \times 2 \times 2$ 4×4 16
3. Simplify 3^3 . Show your work. $3 \times 3 \times 3$ 9×3 27	4. Simplify 1^6 . Show your work. $1 \times 1 \times 1 \times 1 \times 1 \times 1$ $1 \times 1 \times 1$ $1 \times 1 = 1$

©2016/2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name Answer Key
Date _____

WARM UP #2

Lesson I : Exponents and Order of Operations

Skill : Evaluating Expressions with Whole Number Exponents

1. Simplify $2 + 4^2$. Show your work. $2 + 4 \times 4$ $2 + 16$ 18	2. Simplify $3^2 - 4$. Show your work. $3 \times 3 - 4$ $9 - 4$ 5
3. Simplify $2^3 \cdot 2$. Show your work. $2 \times 2 \times 2 \times 2$ 4×4 16	4. Simplify $5^2 \div 5$. Show your work. $5 \times 5 \div 5$ $25 \div 5$ 5

©2016/2018 Lindsay Perro. All rights reserved.

Name _____

Date Tues. May 5

WARM UP #3

Lesson 1 : Exponents and Order of Operations

Skill : Evaluating Expressions with the Order of Operations

1. Simplify $2^2 + 4 \cdot 3$. Show your work.	2. Simplify $12 - 10 \div 2$. Show your work.
3. Simplify $4^3 \div 2 - 1$. Show your work.	4. Simplify $3 + 6 \div 2 \cdot 3$. Show your work.

©2016/2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name _____

Date Tues. May 5

WARM UP #4

Lesson 1 : Exponents and Order of Operations

Skill : Evaluating Expressions with the Order of Operations

1. Simplify $(5 \cdot 2^2 - 2) \div 9$. Show your work.	2. Simplify $(14 \div 2)(2^2 - 1)$. Show your work.
3. Simplify $5 + 2 - (6 - 2) - 1$. Show your work.	4. Simplify $4 \div ((5 - (5 - 1))) \cdot 2$. Show your work.

©2016/2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name Answer Key
Date _____

WARM UP #3

Lesson 1 : Exponents and Order of Operations

Skill : Evaluating Expressions with the Order of Operations

1. Simplify $2^2 + 4 \cdot 3$. Show your work. $4 + 4 \times 3$ $4 + 12$ 16	2. Simplify $12 - 10 \div 2$. Show your work. $12 - 5$ 7
3. Simplify $4^3 \div 2 - 1$. Show your work. $64 \div 2 - 1$ $32 - 1$ 31	4. Simplify $3 + 6 \div 2 \cdot 3$. Show your work. $3 + 3 \times 3$ $3 + 9$ 12

©2016/2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name Answer Key
Date _____

WARM UP #4

Lesson 1 : Exponents and Order of Operations

Skill : Evaluating Expressions with the Order of Operations

1. Simplify $(5 \cdot 2^2 - 2) \div 9$. Show your work. $(5 \times 4 - 2) \div 9$ $(20 - 2) \div 9$ $18 \div 9$ 2	2. Simplify $(14 \div 2)(2^2 - 1)$. Show your work. $7(4 - 1)$ $7(3)$ 21
3. Simplify $5 + 2 - (6 - 2) - 1$. Show your work. $5 + 2 - 4 - 1$ $7 - 4 - 1$ $3 - 1$ 2	4. Simplify $4 \div (5 - (5 - 1)) \cdot 2$. Show your work. $4 \div (5 - 4) \times 2$ $4 \div 1 \times 2$ 4×2 8

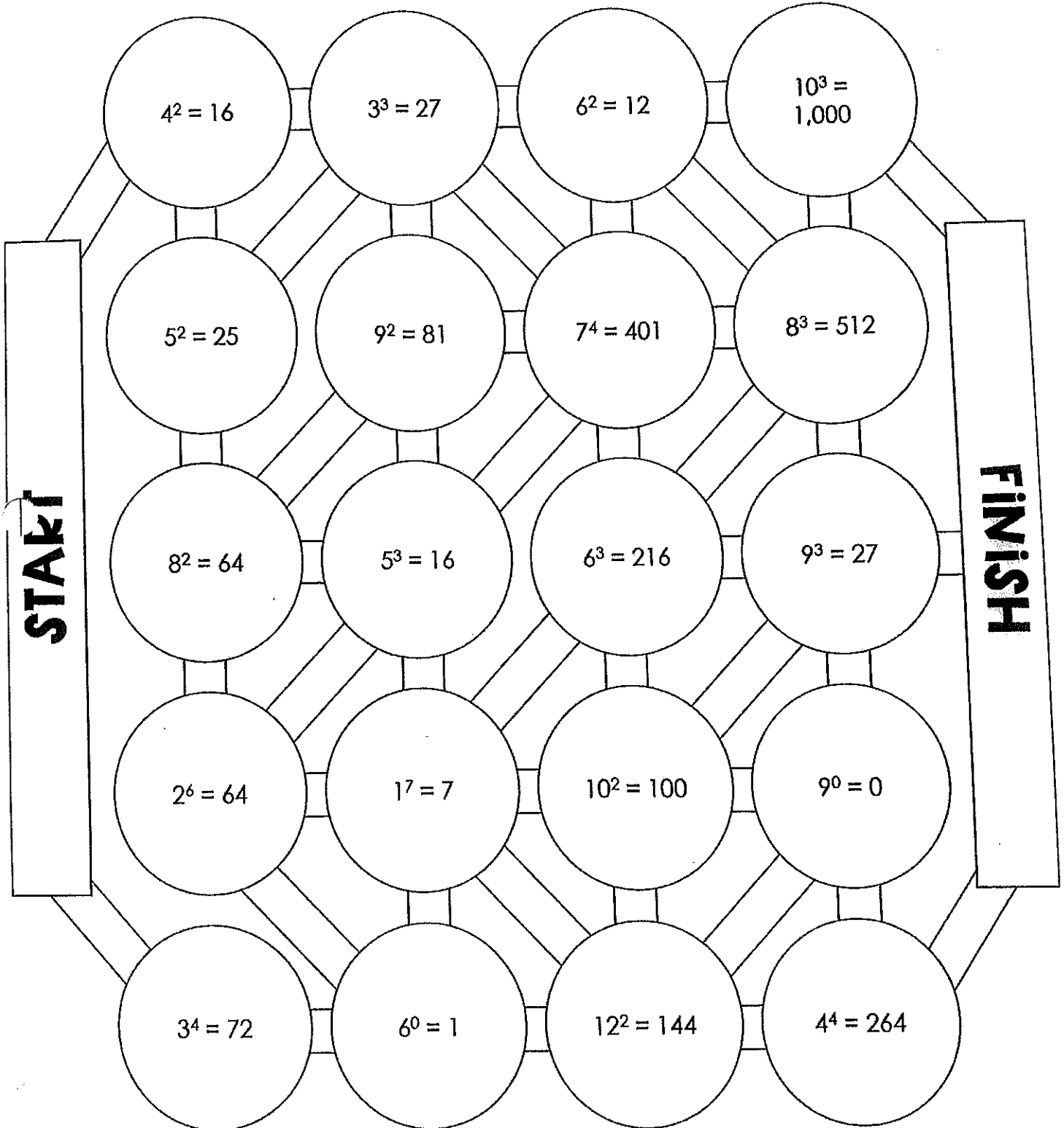
©2016/2018 Lindsay Perro. All rights reserved.

Name _____

Date Tues. May 5

EXPONENTS MAZE

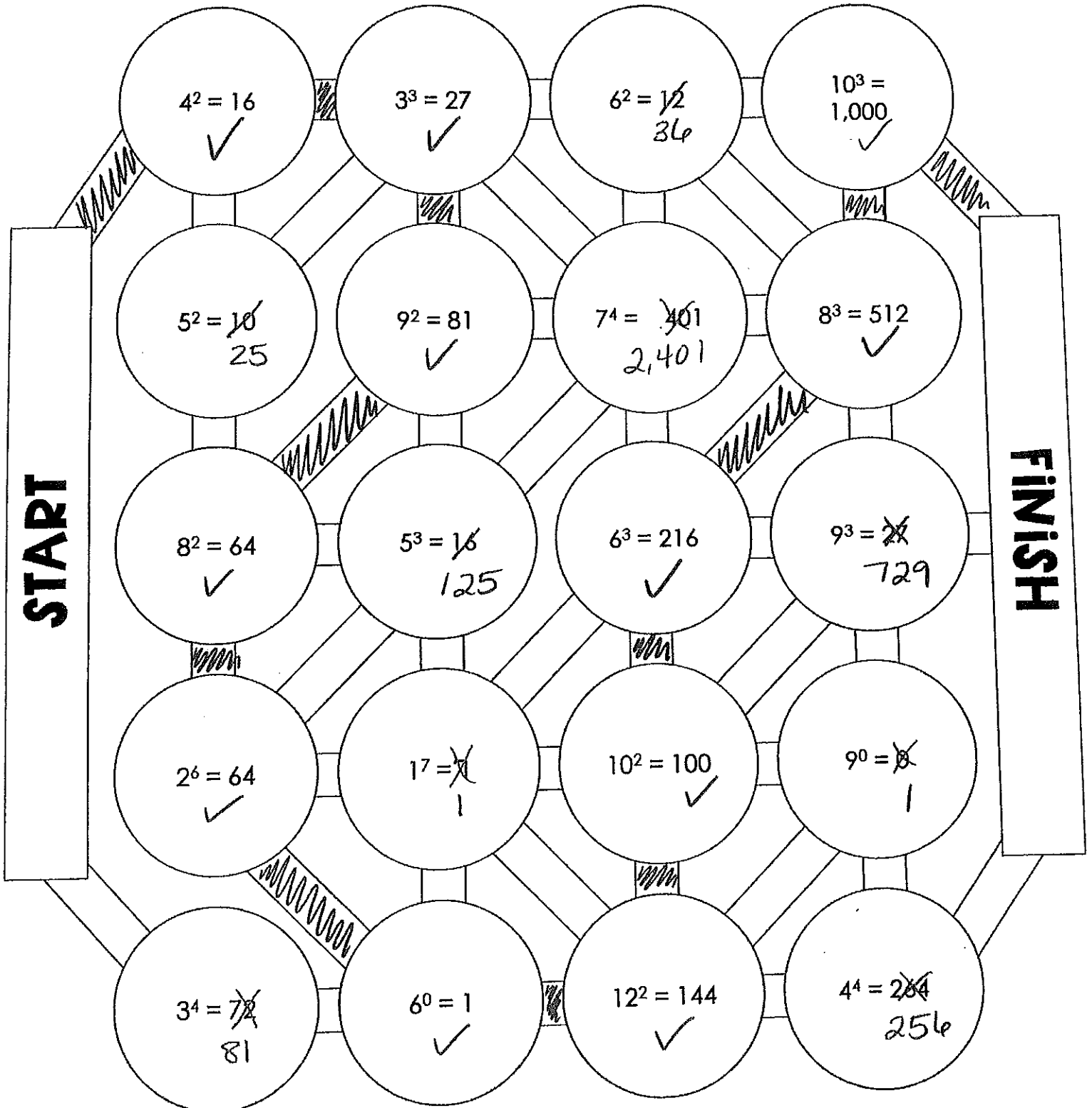
Find your way through the maze by moving through the circles with correct answers.



Name Answer Key
Date _____

EXPONENTS MAZE

Find your way through the maze by moving through the circles with correct answers.



Name _____

Date Wed. May 6

EXPONENTS PRACTICE

Write in exponential form.

1) $8 \times 8 \times 8 \times 8 =$ _____

2) $5 \times 5 \times 5 =$ _____

3) $10 \times 10 =$ _____

4) $20 =$ _____

5) $2 \times 2 \times 2 \times 2 \times 2 =$ _____

6) $3 \times 3 \times 3 \times 3 \times 3 =$ _____

Identify the equal factors.

7) $7^5 =$ _____

8) $12^4 =$ _____

9) $9^8 =$ _____

10) $3^8 =$ _____

11) $10^2 =$ _____

12) $5^0 =$ _____

Simplify.

13) $6^2 =$ _____

14) $11^2 =$ _____

15) $4^3 =$ _____

16) $2^5 =$ _____

17) $9^2 =$ _____

18) $3^4 =$ _____

Write each number in exponential form.

19) $49 =$ _____

20) $16 =$ _____

21) $1,000 =$ _____

22) $144 =$ _____

Name Answer key
Date _____

EXPONENTS PRACTICE

Write in exponential form.

1) $8 \times 8 \times 8 \times 8 = 8^4$

2) $5 \times 5 \times 5 = 5^3$

3) $10 \times 10 = 10^2$

4) $20 = 20^1$

5) $2 \times 2 \times 2 \times 2 \times 2 = 2^5$

6) $3 \times 3 \times 3 \times 3 \times 3 = 3^5$

Identify the equal factors.

7) $7^5 = 7 \times 7 \times 7 \times 7 \times 7$

8) $12^4 = 12 \times 12 \times 12 \times 12$

9) $9^8 = 9 \times 9 \times 9 \times 9 \times 9 \times 9 \times 9 \times 9$

10) $3^8 = 3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3$

11) $10^2 = 10 \times 10$

12) $5^0 = 1$

Simplify.

13) $6^2 = 6 \times 6 = 36$

14) $11^2 = 11 \times 11 = 121$

15) $4^3 = 4 \times 4 \times 4 = 64$

16) $2^5 = 2 \times 2 \times 2 \times 2 \times 2 = 32$

17) $9^2 = 9 \times 9 = 81$

18) $3^4 = 3 \times 3 \times 3 \times 3 = 81$

Write each number in exponential form.

19) $49 = 7^2$

20) $16 = 4^2$ or 2^4

21) $1,000 = 10^3$

22) $144 = 12^2$

Name _____

Date Thurs. May 7

EXIT TICKET 1

Lesson 1: Exponents and Order of Operations

Write in exponential form.

1) $4 \times 4 \times 4 \times 4 =$ _____	2) $11 \times 11 \times 11 \times 11 \times 11 =$ _____
3) $8 \times 8 =$ _____	4) $1 =$ _____
5) $12 \times 12 \times 12 =$ _____	6) $7 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7 =$ _____
7) $18 =$ _____	7) $3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 =$ _____

©2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name _____

Date Thurs. May 7

EXIT TICKET 2

Lesson 1: Exponents and Order of Operations

Simplify. Show your work.

1) $13^2 =$ _____	2) $9^3 =$ _____
3) $6^4 =$ _____	4) $1^{15} =$ _____
5) $32^0 =$ _____	6) $8^2 =$ _____

©2018 Lindsay Perro. All rights reserved.

39

www.beyondtheworksheet.com

Name Answer Key
Date _____

EXIT TICKET 1

Lesson I : Exponents and Order of Operations

Write in exponential form.

1) $4 \times 4 \times 4 \times 4 =$ <u>4^4</u>	2) $11 \times 11 \times 11 \times 11 \times 11 =$ <u>11^5</u>
3) $8 \times 8 =$ <u>8^2</u>	4) $1 =$ <u>Any #⁰ or 1^{any #}</u>
5) $12 \times 12 \times 12 =$ <u>12^3</u>	6) $7 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7 =$ <u>7^7</u>
7) $18 =$ <u>18^1</u>	7) $3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 =$ <u>3^7</u>

©2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name Answer Key
Date _____

EXIT TICKET 2

Lesson I : Exponents and Order of Operations

Simplify. Show your work.

1) $13^2 =$ <u>169</u> 13×13	2) $9^3 =$ <u>729</u> $9 \times 9 \times 9$ 81×9
3) $6^4 =$ <u>$1,296$</u> $6 \times 6 \times 6 \times 6$ 36×36	4) $1^{15} =$ <u>1</u>
5) $32^0 =$ <u>1</u>	6) $8^2 =$ <u>64</u> 8×8

©2018 Lindsay Perro. All rights reserved.

Name _____

Date Thurs. May 7

EXIT TICKET 3

Lesson 1: Exponents and Order of Operations

Simplify each expression using the order of operations. Show your work.

1) $(15 \div 3 + 1) \cdot 6$	2) $2(6 - 5) \cdot 4$
3) $18 \div 3(6 - 5)$	4) $(6^2 \cdot 2) \div (3 \cdot 2)$

©2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name _____

Date Thurs. May 7

EXIT TICKET 4

Lesson 1: Exponents and Order of Operations

Simplify each expression using the order of operations. Show your work.

1) $3 \div (7 - 4) + 6 \div 5$	2) $16 \div 4(6 \cdot 2 - 5)$
3) $8 \div (4 - (10 - 9) - 1)$	4) $(5^2 + 6 - 10) \div (2^3 - 5)$

©2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name Answer key
Date _____

EXIT TICKET 3

Lesson 1 : Exponents and Order of Operations

Simplify each expression using the order of operations. Show your work.

1) $(15 \div 3 + 1) \cdot 6$ $(5 + 1) \times 6$ 6×6 (36)	2) $2(6 - 5) \cdot 4$ $2(1) \times 4$ 2×4 (8)
3) $18 \div 3(6 - 5)$ $18 \div 3(1)$ $18 \div 3$ (6)	4) $(6^2 \cdot 2) \div (3 \cdot 2)$ $(36 \times 2) \div (3 \times 2)$ $72 \div 6$ (12)

©2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name Answer key
Date _____

EXIT TICKET 4

Lesson 1 : Exponents and Order of Operations

Simplify each expression using the order of operations. Show your work.

1) $3 \div (7 - 4) + 6 + 5$ $3 \div 1 + 6 + 5$ $3 + 6 + 5$ $9 + 5$ (14)	2) $16 \div 4(6 \cdot 2 - 5)$ $16 \div 4(12 - 5)$ $16 \div 4(7)$ 4×7 (28)
3) $8 \div (4 - (10 - 9) - 1)$ $8 \div (4 - 1 - 1)$ $8 \div (3 - 1)$ $8 \div 2$ (4)	4) $(5^2 + 6 - 10) \div (2^3 - 5)$ $(25 + 6 - 10) \div (8 - 5)$ $(31 - 10) \div 3$ $21 \div 3$ (7)

©2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

* TEST! ! Due Friday, May 8 *

ORDER OF OPERATIONS

Name _____

Date _____

1

Directions: Simplify each expression using the order of operations. Show all steps.

1) $5 + 4 \cdot 2 + 10 - 4 \cdot 2$

2) $12 + 10 + 2 \cdot 4 - 1$

3) $60 \div 6 + 8 \cdot 2 - 6$

4) $45 \div 9 \cdot 4 + 2 - 4 + 25$

5) $(4^2 + 8) \div 2 + 9$

6) $26 \div (4 - 2) \cdot 4$

7) $(6^2 \div 2) \div 2 + 3$

8) $2^4 \div 2 + (4 - 1) + 11$

12/1 : Due Friday, May 0

Name _____

Date _____

ORDER OF OPERATIONS



1

Directions: Simplify each expression using the order of operations. Show all steps.

1) $5 + 4 \cdot 2 + 10 - 4 \cdot 2$

2) $12 + 10 + 2 \cdot 4 - 1$

3) $60 \div 6 + 8 \cdot 2 - 6$

4) $45 \div 9 \cdot 4 + 2 - 4 + 25$

TESTING ACCOMMODATIONS

- Test Read Aloud
 - Extended Time
 - Small Group Testing
 - Calculator/Math Manipulatives
 - Other _____
- Signed _____

Modified
TEST

Sixth Grade Math May 11-15, 2020

Properties of Math

Monday, May 11:

- Complete Properties of Math Notes page 44
- Complete Warm-Up #1 and #2 Properties of Math page 42

Tuesday, May 12:

- Complete Exit Ticket #1 and #2 Properties of Math page 55

Wednesday, May 13:

- Complete The Distributive Property Notes page 63
- Complete Warm-Up #1 and #2 The Distributive Property page 58

Thursday, May 14:

- Complete The Distributive Property Practice page 64
- Complete Exit Tickets #3 and #4 (for extra practice if needed)

Friday, May 15:

Complete test attached: The Distributive Property page 66

- If your test is modified, complete the modified test attached.
- You may **NOT** use a calculator unless you have that accommodation.
- You know if you have accommodations, so use them. This test should be given to you exactly like you take it at school.
- Take a picture of the test and email it back to me on Remind.

Name _____

Date Mon. May 11th

PROPERTIES OF MATH NOTES

Think About It:

What does the word "property" mean to you?

Define It:

• Associative Property - _____

• Commutative Property - _____

• Identity Property of Addition - _____

• Identity Property of Multiplication - _____

Label It: Identify each property.

$$8 + 4 + 3 = 4 + 8 + 3$$

$$8 + 0 = 8$$

$$4 \cdot 1 = 4$$

$$(8 \cdot 4) \cdot 3 = 4 \cdot (8 \cdot 3)$$

$$(8 \cdot 4) \cdot 3 = (4 \cdot 8) \cdot 3$$

$$(8 + 4) + 3 = 8 + (4 + 3)$$

Name Answer Key
Date _____

PROPERTIES OF MATH NOTES

Think About It:

What does the word "property" mean to you?

Answers will vary.
Discuss all responses

Define It:

- Associative Property - The way addends/factors are grouped does not change the sum/product.
- Commutative Property - The order in which addends/factors are arranged does not change the sum/product.
- Identity Property of Addition - The sum of a number and zero is the number.
- Identity Property of Multiplication - The product of a number and 1 is the number.

Label It: Identify each property.

$$8 + 4 + 3 = 4 + 8 + 3$$

commutative

$$8 + 0 = 8$$

Identity

$$4 \cdot 1 = 4$$

Identity

$$(8 \cdot 4) \cdot 3 = 4 \cdot (8 \cdot 3)$$

associative

$$(8 \cdot 4) \cdot 3 = (4 \cdot 8) \cdot 3$$

Commutative

$$(8 + 4) + 3 = 8 + (4 + 3)$$

Associative

Name _____

Date Mon. May 11th

WARM UP #1

Lesson 2 : Properties of Math

Skill : Evaluating Expressions with the Order of Operations

1. Simplify $2^2 + 4 - 3 \cdot 2$. Show your work.	2. Simplify $5^2 - 4 \cdot 2$. Show your work.
3. Simplify $4^2 \cdot 2 - 10 \div 5$. Show your work.	4. Simplify $3^3 + 4 \cdot 3$. Show your work.

©2016/2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name _____

Date Mon. May 11th

WARM UP #2

Lesson 2 : Properties of Math

Skill : Properties of Mathematics

1. Give an example of the associative property of addition.	2. Give an example of the commutative property of multiplication.
3. Write an equivalent expression using the commutative property of addition. $5 + (2 + 6) =$ _____	4. Write an equivalent expression using the associative property of multiplication. $7 \cdot (3 \cdot 12) =$ _____

©2016/2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name Answer Key
Date _____

WARM UP #1

Lesson 2 : Properties of Math

Skill : Evaluating Expressions with the Order of Operations

1. Simplify $2^2 + 4 - 3 \cdot 2$. Show your work. $4 + 4 - 3 \times 2$ $4 + 4 - 6$ $8 - 6$ (2)	2. Simplify $5^2 - 4 \cdot 2$. Show your work. $25 - 4 \times 2$ $25 - 8$ (17)
3. Simplify $4^2 \cdot 2 - 10 \div 5$. Show your work. $16 \times 2 - 10 \div 5$ $32 - 10 \div 5$ $32 - 2$ (30)	4. Simplify $3^3 + 4 \cdot 3$. Show your work. $27 + 4 \times 3$ $27 + 12$ (39)

©2016/2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name Answer Key
Date _____

WARM UP #2

Lesson 2 : Properties of Math

Skill : Properties of Mathematics

1. Give an example of the associative property of addition. $(5+6)+2 = 5+(6+2)$	2. Give an example of the commutative property of multiplication. $10 \times 9 \times 6 = 9 \times 10 \times 6$
3. Write an equivalent expression using the commutative property of addition. $5 + (2 + 6) = \underline{(2 + 6) + 5}$	4. Write an equivalent expression using the associative property of multiplication. $7 \cdot (3 \cdot 12) = \underline{(7 \times 3) \times 12}$

©2016/2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name _____

Date Tues. May 12

EXIT TICKET 1

Lesson 2 : Properties of Math

1. Define the associative property.

2. Define the commutative property.

3. Define the identity property.

©2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name _____

Date Tues. May 12

EXIT TICKET 2

Lesson 2 : Properties of Math

1. Name the property shown.

$$9 \times 1 = 9$$

2. Name the property shown.

$$8 + 7 + 6 + 4 = 4 + 8 + 6 + 7$$

3. Name the property shown.

$$(3 \times 5) \times 11 = 11 \times (3 \times 5)$$

4. Name the property shown.

$$(9 + 7) + 2 = 9 + (7 + 2)$$

©2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name Answer Key
Date _____

EXIT TICKET 1

Lesson 2 : Properties of Math

1. Define the associative property.

The grouping of addends / factors does not change the sum / product.

2. Define the commutative property.

The order of addends / factors does not change the sum / product.

3. Define the identity property.

When a number is multiplied by 1 or added to zero, the answer is the number.

©2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name Answer Key
Date _____

EXIT TICKET 2

Lesson 2 : Properties of Math

1. Name the property shown.

$$9 \times 1 = 9$$

Identity

2. Name the property shown.

$$8 + 7 + 6 + 4 = 4 + 8 + 6 + 7$$

commutative

3. Name the property shown.

$$(3 \times 5) \times 11 = 11 \times (3 \times 5)$$

commutative

4. Name the property shown.

$$(9 + 7) + 2 = 9 + (7 + 2)$$

associative

©2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name _____

Date Wed. May 13

THE DISTRIBUTIVE PROPERTY NOTES

Notes:

- Distribute means to _____.
- When you use the distributive property, you are GIVING the number or variable on the _____ of the parenthesis to both of the numbers or variables on the _____ of the parenthesis.
- Giving = _____ (operation?)

Examples:

1. $5(4 + 2)$



$$5(4 + 2)$$

Step 1: Draw arrows from the 5 to the 4 and 2.

Each arrow represents multiplication.

$$(5 \cdot 4) + (5 \cdot 2)$$

Step 2: Multiply

$$20 + 10$$

Step 3: Simplify if possible.

$$30$$

2. $2(6 + 3)$



$$2(6 + 3)$$

Step 1: Draw arrows from the 2 to the 6 and 3.

$$(2 \cdot 6) + (2 \cdot 3)$$

Step 2: Multiply.

$$12 + 6$$

$$18$$

Step 3: Simplify if possible.

Guided Practice:

$$4(2 + 8)$$

Step 1: Draw arrows from the 4 to the 2 and 8.

Each arrow represents multiplication.



$$4(2 + 8)$$

Step 2: Multiply

$$(_ \cdot _) + (_ \cdot _)$$

Step 3: Simplify if possible. Remember the rules for combining

like terms. You cannot combine them if they do not have the same ending.

Name Answer
Date _____


THE DISTRIBUTIVE PROPERTY NOTES

Notes:

- Distribute means to give.
- When you use the distributive property, you are GIVING the number or variable on the outside of the parenthesis to both of the numbers or variables on the inside of the parenthesis.
- Giving = multiplying (operation?)

Examples:

1. $5(4 + 2)$



$5(4 + 2)$

Step 1: Draw arrows from the 5 to the 4 and 2.

Each arrow represents multiplication.

$(5 \cdot 4) + (5 \cdot 2)$


Step 2: Multiply

$20 + 10$

Step 3: Simplify if possible.

30

2. $2(6 + 3)$



$2(6 + 3)$

Step 1. Draw arrows from the 2 to the 6 and 3.

$2(6 + 3)$

Step 2: Multiply.

$(2 \cdot 6) + (2 \cdot 3)$


$12 + 6$

18

Step 3: Simplify if possible.

Guided Practice:

$4(2 + 8)$ Step 1. Draw arrows from the 4 to the 2 and 8.



$4(2 + 8)$

Each arrow represents multiplication.

$(4 \cdot 2) + (4 \cdot 8)$

Step 2: Multiply

$8 + 32$

Step 3: Simplify if possible. Remember the rules for combining

40

like terms. You cannot combine them if they do not have the same ending.

Name _____

Date Wed. May 13

WARM UP #1

Lesson 3 : The Distributive Property

Skill : Properties of Mathematics

1. Give an example of the associative property of multiplication.	2. Give an example of the identity property of multiplication.
3. Write an equivalent expression using the associative property of addition. $5 + (2 + 6) = \underline{\hspace{2cm}}$	4. Write an equivalent expression using the commutative property of multiplication. $5 \cdot (2 \cdot 6) = \underline{\hspace{2cm}}$

©2016/2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name _____

Date Wed. May 13

WARM UP #2

Lesson 3 : The Distributive Property

Skill : Simplify Numerical Expressions Using the Distributive Property

1. Simplify $5(2 + 6)$. Show your work.	2. Simplify $8(7 - 2)$. Show your work.
3. Simplify $9(4 + 3)$. Show your work.	4. Simplify $6(5 - 3)$. Show your work.

©2016/2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name Answer Key
Date _____

WARM UP #1

Lesson 3 : The Distributive Property

Skill : Properties of Mathematics

1. Give an example of the associative property of multiplication. $(9 \times 6) \times 2 = 9 \times (6 \times 2)$	2. Give an example of the identity property of multiplication. $10 \times 1 = 10$
3. Write an equivalent expression using the associative property of addition. $5 + (2 + 6) = (5 + 2) + 6$	4. Write an equivalent expression using the commutative property of multiplication. $5 \cdot (2 \cdot 6) = (2 \times 6) \times 5$

©2016/2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name Answer Key
Date _____

WARM UP #2

Lesson 3 : The Distributive Property

Skill : Simplify Numerical Expressions Using the Distributive Property

1. Simplify $5(2 + 6)$. Show your work. $5 \times 2 + 5 \times 6$ $10 + 30$ 40	2. Simplify $8(7 - 2)$. Show your work. $8 \times 7 - 8 \times 2$ $56 - 16$ 40
3. Simplify $9(4 + 3)$. Show your work. $9 \times 4 + 9 \times 3$ $36 + 27$ 63	4. Simplify $6(5 - 3)$. Show your work. $6 \times 5 - 6 \times 3$ $30 - 18$ 12

©2016/2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name _____

Date Thurs. May 14

THE DISTRIBUTIVE PROPERTY PRACTICE

1

Practice. Show your steps:

1) $6(1 + 5)$

3) $3(4 + 3)$

Step 1 – Draw Arrows
Step 2 – Multiply
Step 3 – Simplify if necessary

2) $7(2 + 10)$

4) $8(7 + 2)$

Step 1 – Draw Arrows
Step 2 – Multiply
Step 3 – Simplify if necessary

Time for a challenge:

$2(3 + 6) + 4$



$2(3 + 6) + 4$

Step 1: Draw arrows from the 2 to the 3 and 6.

Each arrow represents multiplication.

Step 2: Multiply

Step 3: Simplify if possible.

$2 \cdot 3 + (2 \cdot 6) + 4$

$6 + 12 + 4$

$18 + 4$

22

Practice! Show your steps:

1) $9(2 + 5)$

3) $3(4 + 5)$

Step 1 – Draw Arrows
Step 2 – Multiply
Step 3 – Simplify if necessary

2) $2(2 + 8)$

4) $6(4 + 3) + 2$

Step 1 – Draw Arrows
Step 2 – Multiply
Step 3 – Simplify if necessary

Name Answer Key
 Date _____

THE DISTRIBUTIVE PROPERTY PRACTICE

1

Practice. Show your steps:

1) $6(1+5)$
 $6 \times 1 + 6 \times 5$
 $6 + 30$
 36

3) $3(4+3)$
 $3 \times 4 + 3 \times 3$
 $12 + 9$
 21

Step 1 – Draw Arrows
 Step 2 – Multiply
 Step 3 – Simplify if necessary

2) $7(2+10)$
 $7 \times 2 + 7 \times 10$
 $14 + 70$
 84

4) $8(7+2)$
 $8 \times 7 + 8 \times 2$
 $56 + 16$
 72

Step 1 – Draw Arrows
 Step 2 – Multiply
 Step 3 – Simplify if necessary

Time for a challenge:

$2(3+6)+4$



$2(3+6)+4$

Step 1: Draw arrows from the 2 to the 3 and 6.

Each arrow represents multiplication.

$(2 \cdot 3) + (2 \cdot 6) + 4$

Step 2: Multiply

$6 + 12 + 4$
 $18 + 4$
 22

Step 3: Simplify if possible.

Practice! Show your steps:

1) $9(2+5)$
 $9 \times 2 + 9 \times 5$
 $18 + 45$
 63

3) $3(4+5)$
 $3 \times 4 + 3 \times 5$
 $12 + 15$
 27

Step 1 – Draw Arrows
 Step 2 – Multiply
 Step 3 – Simplify if necessary

2) $2(2+8)$
 $2 \times 2 + 2 \times 8$
 $4 + 16$
 20

4) $6(4+3)+2$
 $6 \times 4 + 6 \times 3 + 2$
 $24 + 18 + 2$
 $42 + 2$
 44

Step 1 – Draw Arrows
 Step 2 – Multiply
 Step 3 – Simplify if necessary

Extra Practice

Name _____

Date Thurs. May 14 - If needed**EXIT TICKET 3**

Lesson 3 : The Distributive Property

Simplify each numerical expression using the distributive property.

$3(7 - 1)$	$5(8 + 7)$
$11(11 - 5)$	$2(7 + 10)$
$7(1 + 9)$	$10(12 - 5)$

©2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name _____

Date Thurs. May 14 - If needed**EXIT TICKET 4**

Lesson 3 : The Distributive Property

Simplify each expression using the distributive property.

$12(1 + 2x)$	$6(2 + 7x)$
$9(4 + 5x)$	$7(11x - 9)$
$13(x - 2)$	$8(3x - 2)$

©2018 Lindsay Perro. All rights reserved.

69

www.beyondtheworksheet.com

Name Answer key
Date _____

EXIT TICKET 3

Lesson 3 : The Distributive Property

Simplify each numerical expression using the distributive property.

$3(7 - 1)$ $21 - 3$ 18	$5(8 + 7)$ $40 + 35$ 75
$11(11 - 5)$ $121 - 55$ 66	$2(7 + 10)$ $14 + 20$ 34
$7(1 + 9)$ $7 + 63$ 70	$10(12 - 5)$ $120 - 50$ 70

©2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name Answer key
Date _____

EXIT TICKET 4

Lesson 3 : The Distributive Property

Simplify each expression using the distributive property.

$12(1 + 2x)$ $24x + 12$	$6(2 + 7x)$ $42x + 12$
$9(4 + 5x)$ $45x + 36$	$7(11x - 9)$ $77x - 63$
$13(x - 2)$ $13x - 26$	$8(3x - 2)$ $24x - 16$

©2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

* TEST Due Friday, May 15 *

Name _____

Date _____

THE DISTRIBUTIVE PROPERTY

3

Directions: Use the distributive property to simplify each expression. Show your work.

1) $5(2 + 4)$

2) $9(15 - 5)$

3) $7(8 - 4)$

4) $4(3 + 6)$

5) $2(5 + 2)$

6) $8(6 - 2)$

7) $5(3 + 8)$

8) $12(5 + 3)$

9) $4(3 - 2)$

10) $14(6 + 12)$

TEST Due Friday, May 15

Name _____

Date _____

THE DISTRIBUTIVE PROPERTY

3

Directions: Use the distributive property to simplify each expression. Show your work.

1) $5(2 + 4)$

2) $9(15 - 5)$

3) $7(8 - 4)$

4) $4(3 + 6)$

5) $2(5 + 2)$

6) $8(6 - 2)$

TESTING ACCOMMODATIONS

- _____ Test Read Aloud
- _____ Extended Time
- _____ Small Group Testing
- _____ Calculator/Math Manipulatives
- _____ Other _____

Signed _____

Modified Test
Due Friday, May 15

Sixth Grade Math May 18-21, 2020

Writing Algebraic Expressions

Monday, May 18:

- Complete Writing Algebraic Expressions Notes page 73

Tuesday, May 19:

- Complete Warm-Up #1 and #2 page 71

Wednesday, May 20:

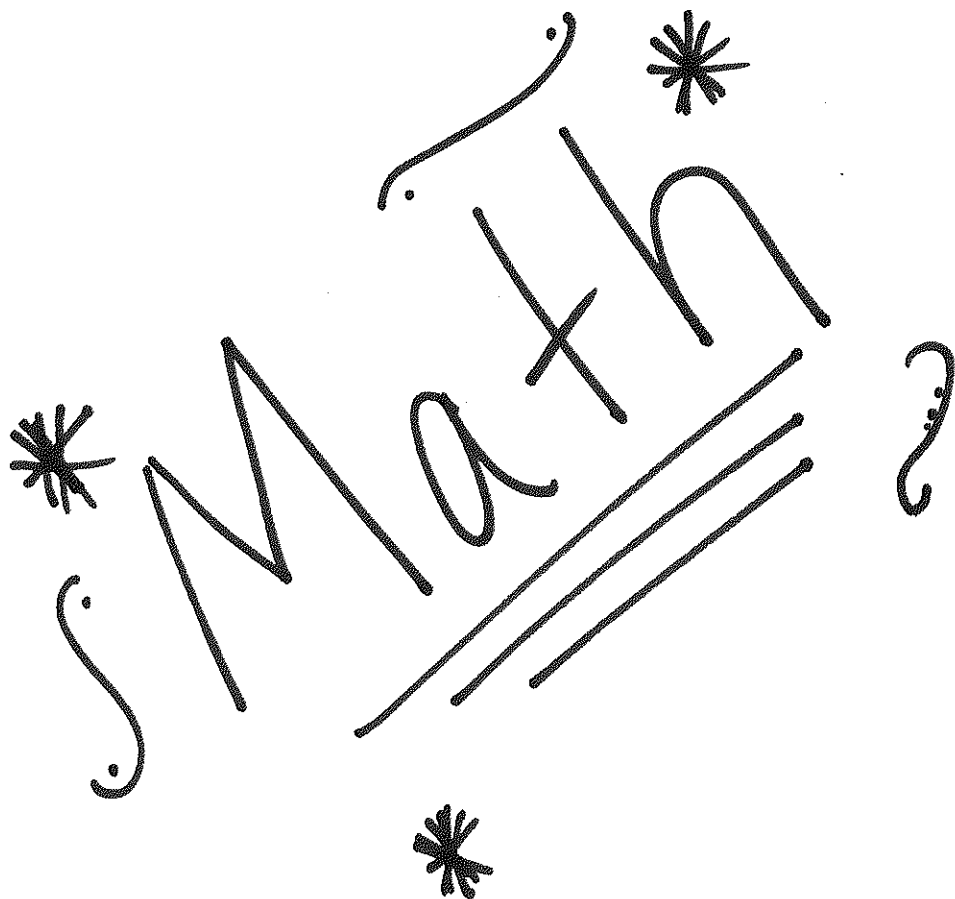
- Complete Warm-Up #3 page 72
- Review Study Guide - **Writing Expressions: Key Words**

Thursday, May 21:

- Complete test page 78 – **Writing Algebraic Expressions**
- Email the completed test back to me using Remind.

Have a great summer!!!!

Love, Mrs. Garrett



Name _____

Date *Monday*

WRITING ALGEBRAIC EXPRESSIONS NOTES

Key Words : Before you can translate phrases into expressions, you need to know some key words first. Complete the table below with words or phrases that signal each operation.

Addition	Subtraction
Multiplication	Division

➤ Identify which operation is indicated based on the key words and/or context.

	+	-	X	÷
Bruce is four times taller than Alice.				
Mrs. Jay has 12 bags of candy that she will split equally among her students.				
Myles has 10 fewer stickers than Arturo.				
Kaylin spent \$40 more than Mark at the store.				
Hank ate twice as much ice cream as Kenny.				
The number of students decreased by 120.				

Name Answer Key
 Date _____

WRITING ALGEBRAIC EXPRESSIONS NOTES

Key Words — SAMPLES : Before you can translate phrases into expressions, you need to know some key words first. Complete the table below with words or phrases that signal each operation.

Addition sum increased more than plus more	Subtraction difference decreased minus less than fewer
Multiplication times twice product double of triple times	Division quotient half split

➤ Identify which operation is indicated based on the key words and/or context.

	+	-	x	÷
Bruce is four <u>times</u> taller than Alice.			✓	
Mrs. Jay has 12 bags of candy that she will <u>split</u> equally among her students.				✓
Myles has 10 <u>fewer</u> stickers than Arturo.		✓		
Kaylin spent \$40 <u>more than</u> Mark at the store.	✓			
Hank ate <u>twice</u> as much ice cream as Kenny.			✓	
The number of students <u>decreased</u> by 120.		✓		

Name _____

Date Tuesday, May 19th

WARM UP #1

Lesson 4 : Writing Algebraic Expressions

Skill : Simplify Expressions Using the Distributive Property

1. Simplify $8(2x + 3)$. Show your work.	2. Simplify $10(2 + 5x)$. Show your work.
3. Simplify $4(4x + 3)$. Show your work.	4. Simplify $2(10x - 2)$. Show your work.

©2016/2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name _____

Date Tue. May 19th

WARM UP #2

Lesson 4 : Writing Algebraic Expressions

Skill : Writing Numerical Expressions

1. Write an expression to represent "three less than ten".	2. Write an expression to represent "the product of four and two."
3. Write an expression to represent "Eight divided by four."	4. Write an expression to represent "The sum of eight, nine and ten."

©2016/2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name Answer Key
Date _____

WARM UP #1

Lesson 4 : Writing Algebraic Expressions

Skill : Simplify Expressions Using the Distributive Property

1. Simplify $8(2x + 3)$. Show your work. $16x + 24$	2. Simplify $10(2 + 5x)$. Show your work. $50x + 20$
3. Simplify $4(4x + 3)$. Show your work. $16x + 12$	4. Simplify $2(10x - 2)$. Show your work. $20x - 4$

©2016/2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheef.com

Name Answer Key
Date _____

WARM UP #2

Lesson 4 : Writing Algebraic Expressions

Skill : Writing Numerical Expressions

1. Write an expression to represent "three less than ten". $10 - 3$	2. Write an expression to represent "the product of four and two." $4(2)$
3. Write an expression to represent "Eight divided by four." $8 \div 4$	4. Write an expression to represent "The sum of eight, nine and ten." $8 + 9 + 10$

©2016/2018 Lindsay Perro. All rights reserved.

71

www.beyondtheworksheet.com

Name _____

WARM UP #3

Date Wed. May 20th

Lesson 4 : Writing Algebraic Expressions

Skill : Writing Algebraic Expressions

1. Write an expression to represent "three more than half a number".	2. Write an expression to represent "the product of twice a number and five."
3. Write an expression to represent "The quotient of triple a number and two"	4. Write an expression to represent "The sum of four times a number and six."

©2016/2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

Name Answer Key to Above

WARM UP #3

Date _____

Lesson 4 : Writing Algebraic Expressions

Skill : Writing Algebraic Expressions

1. Write an expression to represent "three more than half a number". $\frac{1}{2}n + 3$	2. Write an expression to represent "the product of twice a number and five." $2n(5)$
3. Write an expression to represent "The quotient of triple a number and two" $3n \div 2$	4. Write an expression to represent "The sum of four times a number and six." $4n + 6$

©2016/2018 Lindsay Perro. All rights reserved.

www.beyondtheworksheet.com

WRITING EXPRESSIONS: KEY WORDS

* STUDY GUIDE *

Addition:

sum, plus, more than,
total, increased by...

Write an expression to represent
"thirteen more than a number"

$$x + 13$$

Subtraction:

difference, less than,
minus, decreased by...

Write an expression to represent
"the difference of ten and a
number"

$$10 - x$$

Multiplication:

times, product,
multiplied by, of...

Write an expression to represent
"the product of two and a number"

$$2 \cdot y$$

Division:

quotient, divided by,
divided into...

Write an expression to represent
"a number divided by three"

$$m \div 3$$

Grouping Symbols:

difference, sum,
product, quotient

Write an expression to represent
"four times the difference of a
number and three"

$$4 \cdot (n - 3)$$

* TEST ! Due Thursday, May 21. *

WRITING ALGEBRAIC EXPRESSIONS

Name _____

Date _____

1

Directions: Write an expression for each phrase.

1. Three more than a number.

2. The product of four and a number.

3. A number decreased by four.

4. The quotient of thirty and a number.

5. You spend \$30 per gallon for gas. .

6. A given number of feet converted into inches.

7. Emily weighs five pounds more than Allie.

8. There are three fewer tigers than lions.

9. Four more than twice a number.

10. Six minus the quotient of a number and two.

TEST!

Name _____

Date _____

WRITING ALGEBRAIC EXPRESSIONS

1

Directions: Write an expression for each phrase.

1. Three more than a number.

2. The product of four and a number.

3. A number decreased by four.

4. The quotient of thirty and a number.

5. You spend \$30 per gallon for gas. .

TESTING ACCOMMODATIONS

- _____ Test Read Aloud
- _____ Extended Time
- _____ Small Group Testing
- _____ Calculator/Math Manipulatives
- _____ Other _____
- Signed _____

* Modified Test *

Due Thursday,
May 21

6TH GRADE SCIENCE (Mrs. Johnson)
COVID-19 LESSON PLANS FOR WEEKS 4-6

Dear Students & Parents, I hope that you are doing as well as possible during this time of isolation. I have missed all of you!! Students will complete assigned work. They will take a picture with a cellphone of their work and either send it to me using Remind (Code: @201819six) or school email (djohnson@darbonnewoods.com). If you have any questions, please feel free to email me or message me on Remind. I will check both regularly each weekday **8AM to 3PM**. I will also check 3PM to 8PM (as I get a chance) to allow parents who have to work time to ask questions. The work is mandatory. Grades will be given and entered into Parent Command. Three weeks of assignments are included. ****If you have the internet, you may complete ReadWorks assignments online.**

Week 4 (May 4-8)-Ecology

Day 1 (May 4)—Ecosystems

1. Read Ecology Notes and highlight important words. 2. Complete ReadWorks—**The Ecosystem of the Forest** by using RACE to answer questions.

Day 2 (May 5)—Ecosystems

1. Complete ReadWorks—**Calling All Spiders**. Remember to use RACE to answer questions that aren't multiple choices. 2. Take pictures of your answers from Day 1 and Day 2 ReadWorks worksheets and send to Remind or my teacher email. These two ReadWorks will count as 1 test grade. 3. Read over Ecology Notes each day so you will be ready to use them for your test.

Day 3 (May 6)— Ecosystems-Producers

1. Use Ecology notes to answer questions on **Energy through an Ecosystem—Producers** Worksheets. 2. Take pictures of your answers and send to me either by Remind or to my school email. I will check these and let you know what you missed. This will not count as a grade.

Day 4 (May 7)—Ecosystems

1. Complete ReadWorks—**All the Pieces Matter**. Remember to use RACE when answering questions. 2. Read over Ecology Notes to become more familiar with them for later use.

Day 5 (May 8)—Ecosystems

1. Complete ReadWorks—**Eco Pyramid** by using RACE. (Take pictures of answers from Day 4 & Day 5 ReadWorks and send to Remind/my email.) These will count as 1 test grade. 2. Look over Ecology Notes.

Week 2 (May 11-15)-Ecology

Day 1 & Day 2 (May 11 & 12)-Energy through an Ecosystem-Consumers & Food Webs

1. Read over Ecology Notes.
2. You will have 2 days to complete **Energy through an Ecosystem-Consumers and Food Webs** worksheets for a test grade. Be sure to check over your answers. Use RACE when you have to write the answer to a question.

Day 3 (May 13)—Food Chains/Food Webs

1. Think about Food Chains and Food Webs. Look over your notes in your Science notebook if you need a little extra help. 2. On a sheet of paper, create at least 3 food chains. Use the food chains that you wrote/drew to draw a food web. Once you have finished, take a picture of your paper and send it to me.

Day 4 (May 14)—Ecosystems

1. Review Ecology Notes. 2. Complete Ecosystems worksheet for a test grade. Once you have finished, take a picture of your test and send to me either thru Remind or by email.

Day 5 (May 15)—Ecology

1. Look over Ecology Notes. 2. Read ReadWorks-**Zebra Mussels and the Hudson River**. 3. Complete the worksheets by using RACE.

Week 3 (May 18-21) -Finish Ecosystems then Waves-Sound and Light

Day 1 (May 18)—Ecosystems

1. Use Ecology notes to complete test on Ecosystems. 2. Take a picture of test with answers and send to Remind/my school email.

Day 2 (May 19)—Light Waves

1. Read ReadWorks—**Light the Way**. 2. Complete Light the Way worksheets by using RACE to answer written questions.

Day 3 (May 20)—Light Waves

1. Read ReadWorks—**Light waves-Gamma Rays**. 2. Answer questions about Gamma Rays.

Day 4 (May 21)—Light Waves

1. Read ReadWorks—**Why is the Sky Blue?** 2. Complete the ReadWorks worksheets. 3. Take pictures of your answers to ReadWorks—Light Waves for Days 1 thru 3 then send either by Remind or my school email. All 3 worksheets will be combined for 1 test grade.

6TH GRADE SCIENCE (Mrs. Johnson)
COVID-19 LESSON PLANS FOR WEEKS 1-3

Dear Students & Parents, I hope that you are doing as well as possible during this time of isolation. I have missed all of you!! Beginning April 14, students will complete assigned work. They will take a picture with a cellphone of their work and either send it to me using Remind (Code: @201819six) or by my school email (djohnson@darbonnewoods.com). If you have any questions, please feel free to email me or message me on Remind. I will check both regularly each weekday 8AM to 3PM. I will also check 3PM to 8PM (as I get a chance) to allow parents who have to work time to ask questions. The work is mandatory. Grades will be given and entered into Parent Command. The first three weeks of assignments are included.

Week 1-Ecology

Day 1—Ecosystems

1. Read Ecology Notes and highlight important words.
2. Complete ReadWorks—**The Ecosystem of the Forest** by using RACE to answer questions.

Day 2—Ecosystems

1. Complete ReadWorks—**Calling All Spiders**. Remember to use RACE to answer questions that aren't multiple choices.
2. Take pictures of your answers from Day 1 and Day 2 ReadWorks worksheets and send to Remind or my teacher email. These two ReadWorks will count as 1 test grade.
3. Read over Ecology Notes each day so you will be ready to use them for your test.

Day 3— Ecosystems-Producers

1. Use Ecology notes to answer questions on **Energy through an Ecosystem—Producers** Worksheets.
2. Take pictures of your answers and send to me either by Remind or to my school email. I will check these and let you know what you missed. This will not count as a grade.

Day 4—Ecosystems

1. Complete ReadWorks—**All the Pieces Matter**. Remember to use RACE when answering questions.
2. Read over Ecology Notes to become more familiar with them for later use.

Day 5—Ecosystems

1. Complete ReadWorks—**Eco Pyramid** by using RACE. (Take pictures of answers from Day 4 & Day 5 ReadWorks and send to Remind/my email.) These will count as 1 test grade.
2. Look over Ecology Notes.

Week 2-Ecology

Day 1 & Day 2-Energy through an Ecosystem-Consumers & Food Webs

1. Read over Ecology Notes.

2. You will have 2 days to complete **Energy through an Ecosystem-Consumers and Food Webs** worksheets for a test grade. Be sure to check over your answers. Use RACE when you have to write the answer to a question.

Day 3—Food Chains/Food Webs

1. Think about Food Chains and Food Webs. Look over your notes in your Science notebook if you need a little extra help.
2. On a sheet of paper, create at least 3 food chains. Use the food chains that you wrote/drew to draw a food web. Once you have finished, take a picture of your paper and send to me.

Day 4—Ecosystems

1. Review Ecology Notes.
2. Complete Ecosystems worksheet for a test grade. Once you have finished, take a picture of your test and send to me either thru Remind or by email.

Day 5—Ecology

1. Look over Ecology Notes.
2. Read ReadWorks-**Zebra Mussels and the Hudson River**.
3. Complete the worksheets by using RACE.

Week 3-Finish Ecosystems then Waves-Sound and Light

Day 1—Ecosystems

1. Use Ecology notes to complete test on Ecosystems.
2. Take a picture of test with answers and send to Remind/my school email.

Day 2—Light Waves

1. Read ReadWorks—**Light the Way**.
2. Complete Light the Way worksheets by using RACE to answer written questions.

Day 3—Light Waves

1. Read ReadWorks—**Light waves-Gamma Rays**.
2. Answer questions about Gamma Rays.

Day 4—Light Waves

1. Read ReadWorks—**Why is the Sky Blue?**
2. Complete the ReadWorks worksheets.
3. Take pictures of your answers to ReadWorks—Light Waves for Days 1 thru 3 then send either by Remind or my school email. All 3 worksheets will be combined for 1 test grade.

Day 5—Sound Waves

1. Read ReadWorks—**Sound Waves—Heart Sick** to answer questions using RACE.
2. Use RACE to answer written questions.

WEEK 1 & 2-COVID PLANS

Ecology Notes

Ecology – the scientific study of interactions among/between organisms and their environment.

Levels of ecological organization (from smallest to largest):

- **Species** – group of similar organisms that breed and produce fertile offspring.
- **Population** – group of individuals that belong to the same species and live in the same area.
- **Community** – different populations living together in a defined area.
- **Ecosystem** – all the organisms that live in a place together with their physical environment.
- **Biome** – group of ecosystems that share similar climates and typical organisms.
- **Biosphere** – all life on Earth and all parts of Earth in which life exists.

Components of ecosystems:

- **Biotic factors** – any living part of an environment with which an organism might interact. **Ex.** Animals, plants, mushrooms, bacteria, etc.
- **Abiotic factors** – nonliving part of the environment that influence the organism. **Ex.** Sunlight, heat, precipitation, humidity, wind, water current, soil type, etc.
- **Producers Autotrophs** – organisms that capture energy from sunlight or chemicals and convert it into forms living cells can use.
- **Producers** – make their own food.
- **Primary producers** – the first producers of energy-rich compounds that are later used by other organisms.
- **Autotrophs** are primary producers! Most engage in the process of photosynthesis.

- **Chemosynthesis** – chemical energy is used to produce carbohydrates in dark conditions (like the deep oceans).
- **Consumers Heterotrophs** – can not make their own food; acquire energy from other organisms by ingesting them.
- **Consumers** – organisms that rely on other organisms for energy and nutrients.
- **Carnivores** – kill and eat other animals.
- **Scavengers** – consume the carcasses of dead animals.
- **Decomposers** – chemically break down organic matter (bacteria and fungi are examples).
- **Herbivores** – eat plants.
- **Omnivores** – diets include both plant and animal matter.
- **Detritivores** – feed on detritus (small pieces of decaying matter) by grinding them into smaller pieces (earthworms and snails are examples). Often digest the decomposers living on the detritus.

Energy flows in ecosystems

Remember: energy flows through an ecosystem in one direction, from primary producers to consumers!

- **Food chain** – series of steps in which organisms transfer energy by eating and being eaten. Energy flows in ecosystems
- **Food web** – Networks of feeding interactions involving multiple producers, herbivores, producers, and consumers

The Ecosystem of the Forest

by ReadWorks



Even if it doesn't look like it, all living things constantly interact with their environment. For instance, every time you take a breath, you get oxygen from the air, and every time you breathe back out, you release carbon dioxide into the world around you. Both oxygen and carbon dioxide are vital gases that different organisms can use. You, a human, need the oxygen for energy and need to get rid of the carbon dioxide, because it's a waste matter.

Just like us, all other organisms take something from their environment while putting waste back into it. When several kinds of organisms interact with each other in one particular area, it's called an ecosystem. In the forest, living beings (plants, animals, insects, fungi and bacteria) all interact with each other and with the soil and water to form the forest's specific kind of ecosystem.

So, how does it work? Every organism in the forest can be put in one of three categories. Depending on which category they're in, they'll interact with each other and the forest's resources in a different way. The categories are producer, decomposer and consumer. Let's look at each one.

Producers are living things that can make their own energy out of non-living resources all around them like, oxygen and water. They're also known as autotrophs. Autotrophs do not need to kill anything in order to eat. Plants and algae, for example, are producers. In the forest's ecosystem, the trees, shrubs and moss are all producers. They turn water and sunlight into the energy they need to live and grow, through a process called photosynthesis. And remember that carbon dioxide you expelled as waste matter? Well, for plants, carbon dioxide is a vital gas. It is used to help aid with the process of photosynthesis.

Like producers, decomposers don't need to kill another living being to obtain food. However, they differ

from producers because they still need to get their nutrients from other organisms or from waste matter expelled by other organisms. Usually they eat dead animals and plants. Bacteria and certain kinds of fungi are examples of decomposers. They're very important because by helping break down dead organisms, they actually provide energy to living ones.

Consumers are the living beings that need to eat other organisms to survive. You may have heard about this group as being "at the top of the food chain." They're also known as heterotrophs. Humans are heterotrophs who eat both plants and animals to live. In the forest, a deer eating plants, a wolf hunting deer, a hawk eating rodents, and rodents eating both bugs and plants, are all examples of the ecosystem's consumers. As you can see, carnivores, omnivores and herbivores are all different kinds of heterotrophs. It doesn't matter which kind of organism they eat; as long as they eat other organisms to survive, they're consumers/heterotrophs.

So, now that you know each type of player, how does the ecosystem's cycle work? Well, when an organism dies and its body decomposes, bacteria go to work. Let's imagine the dead organism is a deer. Bacteria obtain energy from the deer's body, while helping it decompose efficiently. When the deer's body breaks down, because of the work done by the bacteria, it returns to the soil. This is important for the earth, because the carcass actually gives vital energy back to the environment. It makes the soil rich in nutrients for plants to grow there. Grasses, flowers and trees then grow in that soil and get the energy they need, along with energy from the sun and water. The water also filters through the soil, which is necessary for the forest's flowers and trees to be able to take it up through their roots. Heterotrophs, like deer, eat those plants to get their energy, and other heterotrophs, like wolves, eat the deer for their energy.

As you can see, in a forest ecosystem or any kind of ecosystem, every being interacts with other beings. What's important to remember is that each part of the ecosystem is as important as another. Without soil, there'd be no plants. With no plants, there'd be no deer, rodents or certain kinds of insects. And without tiny microbes (remember, the decomposers), animals and plants would die without their bodies being returned to the earth. Because forests cover about a quarter of the total land surface of the world, keeping their ecology balanced is important for the entire earth.

Name: _____ Date: _____

1. What is an ecosystem?

- A. a living being, such as a human, that eats other living beings in order to survive
- B. the process by which the body of a living thing is broken down by decomposers
- C. one particular area where several kinds of organisms interact with each other
- D. an organism that breathes in oxygen and then breathes out carbon dioxide

2. What does this passage explain?

- A. This passage explains what the difference between plants and fungi is.
- B. This passage explains what an ecosystem is and how it works.
- C. This passage explains how oxygen is used by the human body after it is breathed in.
- D. This passage explains what happens when a decomposer dies in the forest.

3. In an ecosystem, different organisms interact with each other.

What evidence from the passage supports this statement?

- A. Plants use sunlight, water, and carbon dioxide in a process called photosynthesis.
- B. Forest ecosystems cover about a quarter, or one-fourth, of the total land surface in the world.
- C. Producers are living things that can make their own energy out of non-living resources.
- D. A deer decomposing in the soil provides food for bacteria and nutrients for plants to grow.

4. Based on the information in the passage, what do all ecosystems have in common?

- A. All ecosystems are home to living beings that interact with each other.
- B. All ecosystems are home to trees, deer, humans, rodents, wolves, hawks, and bacteria.
- C. All ecosystems have an equal number of consumers, decomposers, and producers.
- D. All ecosystems have a few consumers that do not interact with decomposers and producers.

5. What is this passage mainly about

- A. the differences between oxygen and carbon dioxide
- B. different kinds of consumers and the reasons they are "at the top of the food chain"
- C. different organisms in a forest ecosystem and how they interact
- D. what happens when the ecology of a forest is thrown off-balance

6. Read the following sentence: "Consumers are the living beings who need to eat other **organisms** to survive."

What does the word **organisms** mean?

- A. environments
- B. waste matter
- C. categories
- D. living things

7. Choose the answer that best completes the sentence below.

Every organism in the forest can be put in one of three categories, _____ producer, decomposer, or consumer.

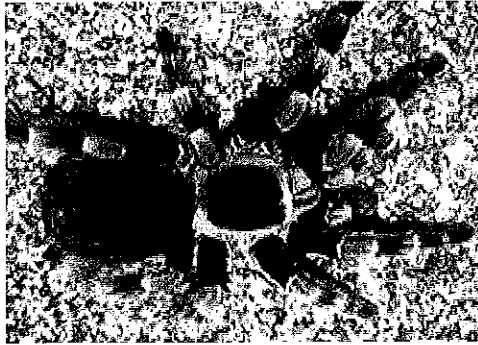
- A. namely
- B. although
- C. as a result
- D. earlier

8. What is a decomposer?

9. How do decomposers interact with their ecosystem? Be sure to name one example of them taking from the ecosystem and one example of them giving to the ecosystem.

10. The author writes that each part of the ecosystem is as important as another. Based on the information in the passage, do you agree or disagree? Explain your reasons for agreeing or disagreeing using evidence from the passage.

Calling All Spiders!



David Roberts/Photo Researchers

Tarantulas are found in warm regions, including the southwestern United States.

Does thinking about spiders and their hairy bodies, long legs, and sticky webs make your skin crawl? Many people shiver at the thought of spiders.

That is not the case for Rich Bradley, a real-life Spider-Man. He can't get enough of the creepy crawlers. Bradley is an **arachnologist** (ah-rak-NAH-luh-jist). That is a scientist who studies spiders. Bradley has spent the last 10 years identifying and studying spiders in his home state of Ohio.

Spider Seekers

So far, Bradley has uncovered 583 **species**, or types, of spiders living in the Buckeye State. He and his team of volunteers have a sharp eye when it comes to collecting the creatures indoors and outdoors. "They move really fast," he told *Weekly Reader*.

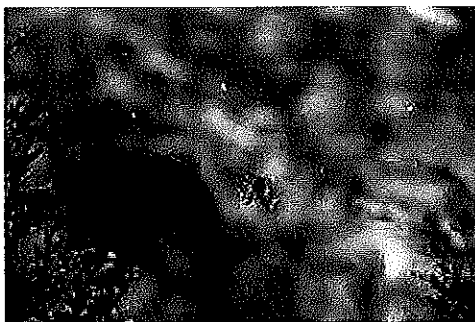
Scientists say about 3,500 species of spiders live in North America, and nearly 35,000 live worldwide. Spiders live in different places, including gardens, water, deserts, and caves.

Hairy Hunters

Many people think spiders are insects, but they are actually **arachnids** (ah-RAK-nidz). Ticks and scorpions are also arachnids.

Along with fangs and eight hairy legs, a spider has two body parts--a head and an abdomen. The abdomen contains **spinnerets**, organs that produce silk. A spider uses its silk for many

purposes, including weaving webs, protecting its eggs, and catching food.



Damon Hart-Davis/DHD Multimedia Gallery

A spider uses its silk to weave a web.

Spiders are **predators**, or hunters that eat other animals. They dine mostly on insects. Some larger spiders also eat lizards, frogs, and even snakes.

To capture their food, some spiders spin webs. Other types of spiders chase down their **prey**. The **venom**, or poison, from their fangs helps paralyze their food.

Fear Factor

Although the hairy creatures spook many people, there isn't much reason to be afraid of spiders. "Most spiders are not very dangerous," said Bradley.

In fact, most are timid creatures that are unable to give humans more than a harmless bite. Although spider venom is deadly to insects, it often has little effect on humans because of our larger size.

Myth-Conceptions

Spiders may have a bad reputation for being scary, but they are important to us. Bradley hopes his work shatters some **myths** about spiders. (A myth is a false idea that many people believe is true.)

Spiders eat mosquitoes and other insects that harm farmers' crops and carry diseases. Bradley's research is teaching scientists more about how spiders help control **ecosystems**, or communities of plants and animals. If spiders didn't exist, there would be a lot more insects!

"Spiders are your friends," Bradley said. "They make our life more pleasant."

Spider Mania

Get caught up on some different types of spiders. Spiders come in all shapes and sizes. Crab spiders, jumping spiders, and orb weavers have made Rich Bradley's Ohio count. Find out more about them and other spiders.

- Crab Spider

Can you guess how this spider got its name? It may not live in the ocean, but it looks like a crab. The crab spider lives on flowers. It can match its body color to the flower's color. That allows it to sneak up on insects.

- Jumping Spider

What a leap! The jumping spider can jump between 10 and 40 inches. To catch an insect, this hunting spider sneaks up on its prey and pounces.

- Trapdoor Spider

The trapdoor spider lives in a tunnel. The spider, common in the southwestern United States, lines the tunnel with silk and fashions a door made of silk and dirt. It peeks out of the slightly open door and grabs passing insects.

- Tarantula

The tarantula is a large, hairy spider found mainly in warm regions, including the southwestern United States. Although the tarantula's bite is painful, it is not very poisonous to humans. Tarantulas hunt insects, lizards, mice, toads, and frogs.

- Orb-Weaving Spider

E. B. White's famous spider Charlotte was an orb weaver. The orb-weaving spider spins a wheel-shaped web. When an insect flies into the web, the spider races toward its meal.

Name: _____ Date: _____

1. Which action was NOT described in the passage as a spider's use for its silk?
 - A. weaving webs
 - B. protecting its eggs
 - C. making clothes
 - D. catching food

2. Which of the following *describes* a type of spider that Rich Bradley has found in Ohio?
 - A. a spider that can jump between 10 and 40 inches
 - B. a spider that lives in a tunnel it lines with silk and grabs passing insects
 - C. a spider that creates the world's largest and strongest webs
 - D. a large, hairy spider with a painful bite that is found in warm regions

3. According to the passage, spiders have a bad reputation for being scary. Why might people be afraid of spiders?
 - A. They don't think spiders have enough legs.
 - B. They don't know how spiders are important to humans.
 - C. They know spider silk is good for catching insects.
 - D. They think spiders are soft and furry.

4. Read the following sentences and answer the question below:

"Most spiders are not very dangerous," said Bradley. In fact, most are timid creatures that are unable to give humans more than a harmless bite."

In this context, what does the word **timid** mean?

- A. helpful
- B. shy
- C. happy
- D. dangerous

5. The primary purpose of this passage is to

- A. list all types of spider species in Ohio
- B. describe the personalities of scientists that study spiders
- C. inform the reader about different kinds of spiders
- D. persuade the reader that spiders are scary

6. According to the passage, why are spiders important to humans?

7. Review the photo of the spider weaving a web. How could the web help this spider catch food?

8. The question below is an incomplete sentence. Choose the word that best completes the sentence.

People should not be afraid of spiders _____ most spiders are shy and can't hurt humans.

- A. so
- B. although
- C. but
- D. because

Name: _____

Date: _____

Energy through an Ecosystem - Producers

1. Which statement about energy is TRUE?
 - a. Energy is not recycled, but it is converted from one form to another.
 - b. Producers eat other organisms to obtain energy.
 - c. Consumers make sugar through photosynthesis.
 - d. Some types of bacteria can form carbon dioxide that plants and animals need.

2. What organisms make their own food with sunlight or chemical energy?
 - a. producers
 - b. consumers
 - c. decomposers
 - d. scavengers

3. Which kind of organisms have the greatest amount of potential energy?
 - a. consumers
 - b. producers
 - c. herbivores
 - d. carnivores

4. In the energy pyramid, which group forms the bottom and also has the largest number of organisms?
 - a. carnivores
 - b. herbivores
 - c. producers
 - d. consumers

5. Which organism is an example of a producer? (Select all that apply.)
 - a. mountain lion
 - b. green alga
 - c. mushroom
 - d. maple tree
 - e. green bacterium
 - f. sea anemone

6. What is another term for producers, or organisms that make their own energy?
 - a. heterotrophs
 - b. autotrophs
 - c. carnivores
 - d. decomposers

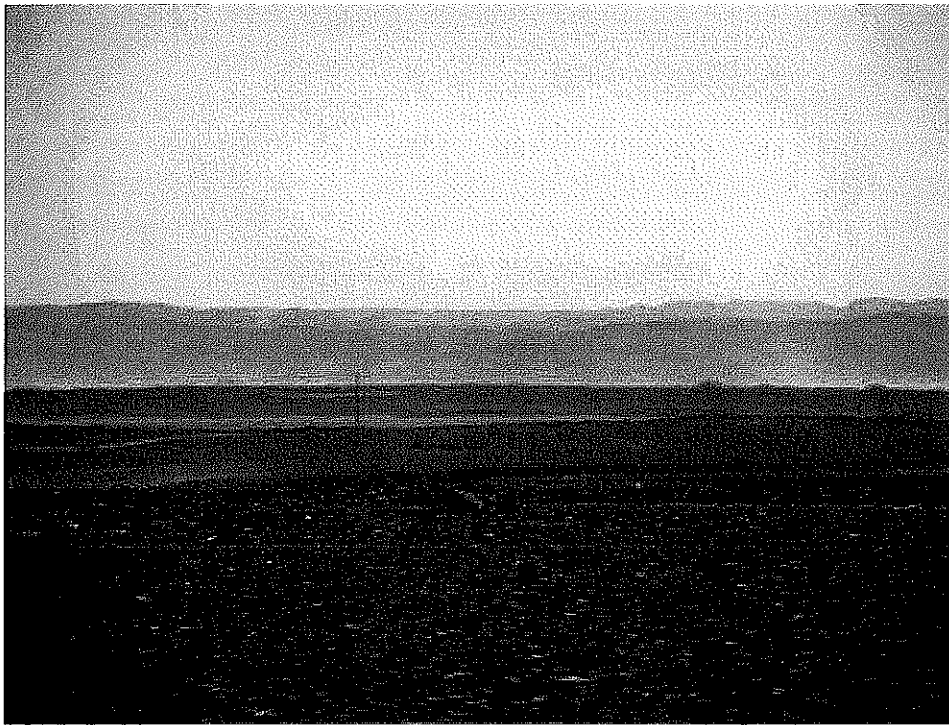
7. Organisms that use _____ do not need sunlight to make their own energy. Instead they harness energy from inorganic molecules.

8. What is the main product made by producers that provides them with their energy?
 - a. lipids
 - b. proteins
 - c. carbohydrates
 - d. nucleic acids

9. Producers are always unicellular organisms and occupy the lowest levels on every food chain.
- a. True
 - b. False
10. Primary productivity is an essential part of an aquatic ecosystem. Organisms such as algae form the basis of every food chain in this type of environment. Explain what primary productivity is and how a disruption to it would impact the largest fish in a lake.

All the Pieces Matter

by A.P. Raj



Jason stared at the whiteboard at the front of the classroom, trying to make sense of what he saw there. Mr. Freamon had drawn a complicated diagram of all the creatures living in the nearby Ho Tep Wildlife Reserve. Every type of living thing, from trees and insects to mammals and birds, was written down and circled on the board. Arrows snaked around the board, connecting the circles, showing which creatures depended on which other creatures to survive.

Though he had been hiking out in Ho Tep plenty of times, Jason had never given much thought to the animals and other wildlife he had seen out there. He'd never thought about how the amount of rainfall affected the amount of moisture in the soil, which affected how well plants could grow, which affected the ability of the animals that ate those plants to survive. It was enough to make his head swim a little.

Jason wasn't the only one who was confused. Mr. Freamon could tell that his students were all struggling to make sense of the mess of connections drawn out on the board. He smiled and stopped drawing for a moment to speak to the class.

"Take a deep breath," Mr. Freamon said. "You don't need to memorize what's on the board. If you're going to take away one thing from this lesson, let it be this: All the pieces matter. Every ecosystem on Earth depends on a delicate balance among all of the different forms of life within it."

Adriana raised her hand and asked why that was.

"Well," Mr. Freamon said, "in any ecosystem, all of the creatures within it are competing for the same

resources: food, water and shelter-the basic needs of every living thing. There's only so much to go around, so creatures have to compete with other creatures to get what they need. And since they all go about it in a unique way, all of the creatures in an ecosystem end up depending on one another. Let me give you an example.

"Remember that video we watched last week? With the wolves killing the elk at Yellowstone National Park?"

Everyone nodded.

"And how many of you thought that the wolves were mean for killing those elk?"

About half the students raised their hands, but Jason kept his hand down. Wild animals will do what they do, he thought. The idea of meanness never enters into it. They act on instinct.

"Consider this, then," Mr. Freamon continued. "Without the wolves in the park to keep the elk population in check, the elk would have eaten all of the aspen and willow in the park. Not only would those plants be gone, but the other animals that depend on them to survive, would have been out of luck too. All the pieces matter."

After class that day, Jason went home and looked up "ecosystem resilience" on the Internet. He found a lot of interesting links about different ecosystems that had changed rapidly because one of the pieces had been taken out of the puzzle, as Mr. Freamon would have put it.

In Africa, people hunted lions and leopards and reduced their population, leading to higher populations of a certain type of baboon. That had led, somehow, to higher rates of parasites in baboons and people. And along some coasts, human activity had reduced the sea otter population. The sea otters ate sea urchins that ate kelp from massive kelp forests. Without the sea otters to keep them in check, the kelp started to disappear.

The whole idea was starting to make sense to Jason. It was basically like dominoes-all the pieces lined up, and if you knocked one down, it would knock down the next one, which would knock down the one after that, until they all went down. Of course, it was a lot more complicated than that, but that was the basic idea.

The next time Jason went to Ho Tep Wildlife Reserve, on a camping trip with his dad, he made a point of observing the wildlife. He spent twenty minutes watching a copperhead snake slither across the forest floor, wondering about its role in the larger system. Through his binoculars, he watched a robin build its nest near the top of an oak tree. He imagined the robin catching insects to bring back to the nest to feed her chicks. He thought about how the roots of the tree reached way down into the soil to drink the moisture there. It really was fascinating how everything fit together.

Later, when he was back at school, he asked Mr. Freamon about the ecosystem at Ho Tep. He mentioned how he thought about the trees and how they were rooted in the soil.

"It's funny you should mention that, Jason," Mr. Freamon said. "You know, without those trees to anchor the soil, Ho Tep would still be a desert, like it was thousands of years ago."

"You mean Ho Tep hasn't always been a forest?"

"No, it hasn't. For a long time it was a desert—a totally different ecosystem. But over time, things changed," Mr. Freamon said.

"What things?" Jason asked.

"Weather patterns, for one. There probably wasn't a lot of rain falling on that area for a long time. But as that changed, there was more moisture in the soil. Enough for flowering plants to begin to take root, and eventually trees," replied Mr. Freamon.

"And once there are trees, there's shelter for birds and other animals," Jason said.

"Exactly right," Mr. Freamon said. "You've got the idea."

"Does that mean that we can deliberately change an ecosystem? Turn a desert into a forest, or something like that?"

Mr. Freamon smiled. "Well, it isn't that simple. Nature has a way of changing itself, but it takes a very long time, and it doesn't have an end goal in mind. Ecosystems fall apart, and then eventually find a new way to rebuild. But that's not quite the same as planning out a change.

"There are so many variables to consider— not only things like trees and birds, but the bacteria and other creatures you can only see with a microscope. Not to mention, we haven't exactly figured out how to change the weather."

"So we've never changed an ecosystem?" Jason asked.

"Oh, I wouldn't say that," Mr. Freamon said. "We've changed plenty of ecosystems all right. Except when humans change an ecosystem, it's usually not deliberate. Usually it's because clearing out land to build things drives out other creatures."

"Well, it's like you always say: humans are a part of nature too, right?"

"Exactly right, Jason," Mr. Freamon said. "That's exactly right."

Name: _____ Date: _____

1. According to Mr. Freamon, creatures within an ecosystem compete for which resources?

- A. shelter and plants
- B. water and animals
- C. food, water, and shelter
- D. plants and animals

2. What is the setting at the beginning of the story?

- A. Jason's school
- B. Ho Tep Wildlife Reserve
- C. a desert
- D. Africa

3. When Jason gets home he looks up "ecosystem resilience" on the Internet.

Which conclusion can you draw from this evidence?

- A. All the students looked up "ecosystem resilience" when they got home from school.
- B. Jason is trying to understand the concept Mr. Freamon introduced in class.
- C. Jason is rarely allowed to use the Internet at home.
- D. Jason has an assignment on "ecosystem resilience" in another class.

4. Based on the passage, what is an ecosystem?

- A. the living things and environment of a certain area
- B. only the living things of a certain area
- C. only the environment of a certain area
- D. a forest

5. What is the passage mainly about?

- A. the ecosystem in the Ho Tep Wildlife Reserve
- B. Jason learning about how everything in nature is connected
- C. the relationship that develops between Jason and his dad on their camping trip
- D. how Ho Tep changed from a desert to a forest

6. Read the following sentences from the second paragraph of the story: "He'd never thought about how the amount of rainfall affected the amount of moisture in the soil, which affected how well plants could grow, which affected the ability of the animals that ate those plants to survive. It was enough to make his head swim a little."

What does the author mean when he writes that all the new information **"was enough to make his head swim a little"**?

- A. Jason loves swimming.
- B. Jason does not like learning about nature.
- C. Jason understands the new information perfectly.
- D. Jason is confused.

7. Choose the answer that best completes the sentence below.

Everything in nature is connected; _____, sea otters, sea urchins, and kelp populations all affect each other.

- A. on the other hand
- B. earlier
- C. for example
- D. but

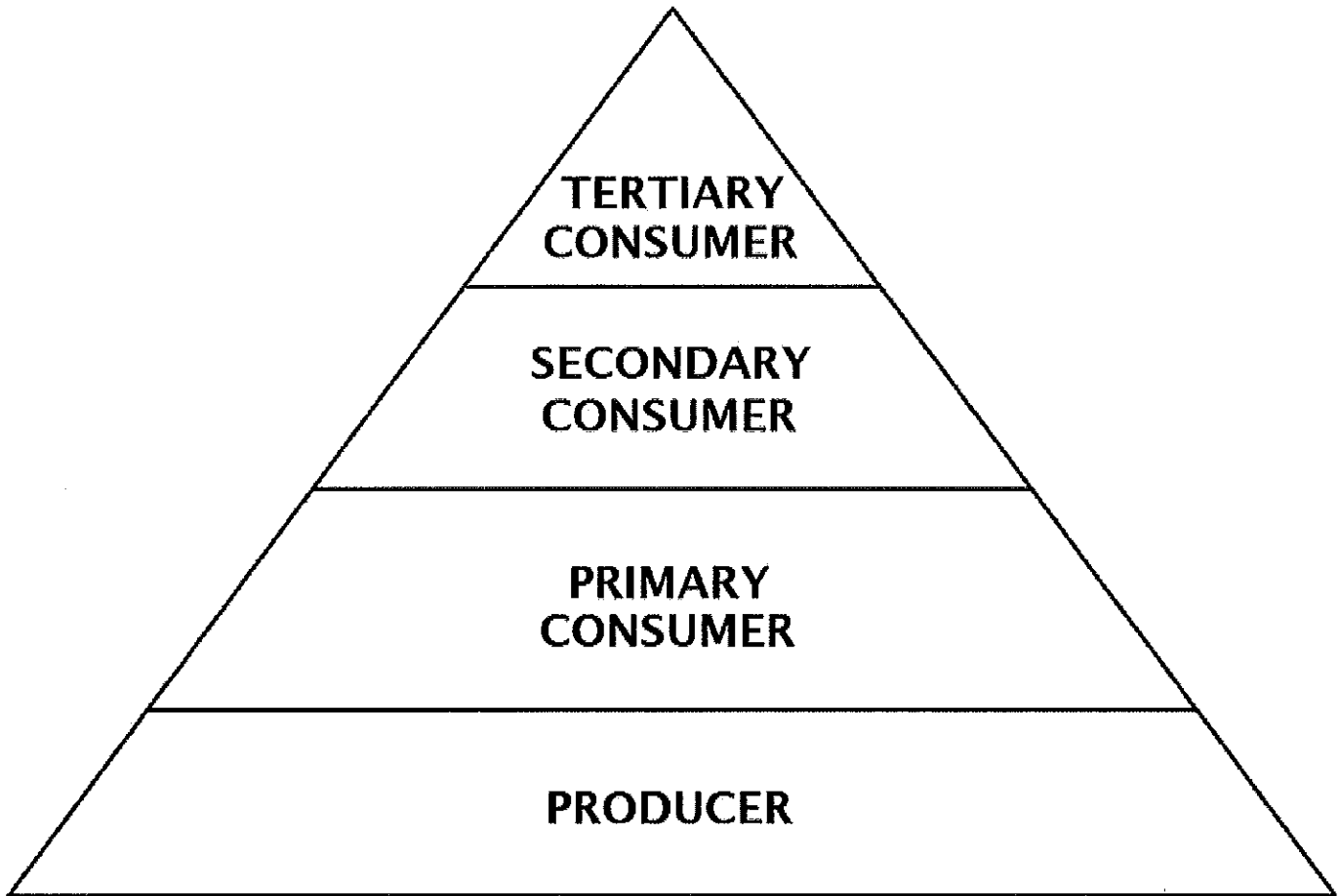
8. According to Mr. Freamon, what does every ecosystem on earth depend on?

9. Give an example from the passage of how two or more animals are connected to each other, and why the connection is important for the ecosystem.

10. Explain what Mr. Freamon means when he says "all the pieces matter." Use information from the passage to support your answer.

The Eco Pyramid

by Michael Stahl



An ecosystem is a community of living organisms interacting with one another as well as with nonliving things. One very important aspect of an ecosystem is the energy that flows through it. Energy is exchanged between members of an ecosystem, creating an energy flow and assisting in the continuation of life. However, not all of the organisms living in an ecosystem absorb equal amounts of energy. An eco pyramid effectively illustrates the amounts of energy that are absorbed by the different types of organisms in an ecosystem.

The power of the earth's sun gets the energy flow of most ecosystems going. Solar rays enter the earth's atmosphere and reach the surface where plants utilize the energy from them. Through a process called photosynthesis, plants like trees, grass, and bushes, create food for themselves. Plants are able to take in carbon dioxide from the atmosphere, and their roots absorb water from the surrounding soil. Plants then use the solar energy and the hydrogen from water to transform the carbon dioxide into a nourishing carbohydrate. With photosynthesis complete and food and energy absorbed, the plants release the oxygen part of the water that they had taken from the soil back out into the atmosphere. Other living things, like human beings, take in oxygen in the breathing process. The plants of an ecosystem are called "autotrophs," which means "self-feeders." They are also called "producers" in an ecosystem.

The carbohydrates that were produced by the photosynthesis process give the plant energy to continue on living. Herbivores are animals that eat mostly, if not strictly, plant life. Termites, koalas, field mice, and deer are a few examples of herbivores. Deer feed on leaves and grass, consuming the green plant life's energy. To consume means to eat something and absorb its nutrients for survival. After eating the plants of their choice, deer will then digest the plants and use whatever nutrients the plant had stored inside to create energy so that they can continue to live. The herbivores of an ecosystem are called "primary consumers." Some of the energy that the herbivores use is lost in the ecosystem when they create body heat. For example, when deer run and their bodies warm up, the excess heat within their bodies escapes into the atmosphere. If that did not happen, the deer's bodies would get too hot and their organs would fail to work any longer.

Energy is transferred again in an ecosystem's energy flow from primary consumers to "secondary consumers." Carnivores, or meat eaters, act as secondary consumers. Lions, tigers, and polar bears are carnivorous. They eat the meat of the herbivores after a hunt. When tigers eat their prey's meat, they go on to digest it and use the energy from it for their own survival. Like the herbivores in the previous section of the energy flow, carnivores also give off heat energy when their bodies warm up from exercise. Unfortunately for the carnivorous secondary consumers, they too will eventually find themselves targeted for their energy by other members of their ecosystem: the tertiary consumers.

Secondary consumers are carnivorous predators, meaning that they hunt down other animals and kill them for food. However, these animals are not at the very top of the food chain and they too can be hunted and utilized as a meal. Tertiary consumers are predators who lie at the top of the food chain. Human beings are the most obvious example of a tertiary consumer. Unlike the secondary consumers, tertiary consumers are not normally preyed upon by other members of the ecosystem.

Like the primary and secondary consumers, the tertiary consumers give off body heat. That energy is released into the atmosphere. Even if consumers or producers aren't hunted or eaten, all living things eventually die. When they do, they decompose. Bacteria and fungi attach themselves to a dead producer or consumer and begin to break down the matter of the body, releasing nutrients into the soil. These nutrients are then used to give life to new plants so that new energy from the sun can flow through the eco pyramid.

Name: _____ Date: _____

1. What is an ecosystem?

- A. a process in which plants take carbon dioxide from the atmosphere and hydrogen from water, and release oxygen into the atmosphere
- B. a group of living organisms interacting with one another as well as with nonliving things
- C. a predator that lies at the top of the food chain and may feed on plants, primary consumers, or secondary consumers
- D. an organism that attaches itself to dead tertiary consumers and breaks down the matter of their bodies

2. What is a list of the types of organisms in an eco pyramid?

- A. nonliving things, bacteria, fungi, sunlight, water secondary consumers, tertiary consumers
- B. primary consumers, deer, bacteria, fungi, nonliving things, tertiary consumers
- C. producers, primary consumers, secondary consumers, tertiary consumers
- D. primary producers, primary consumers, secondary consumers, carbohydrates, water

3. In an ecosystem, primary consumers eat plants. Secondary consumers eat primary consumers. Tertiary consumers eat secondary consumers.

What can be concluded from this information?

- A. Plants need both carbon dioxide and water for photosynthesis to occur.
- B. Different types of organisms within an ecosystem need each other to live.
- C. Bacteria and fungi are needed to break down the dead bodies of producers and consumers.
- D. Light from the sun is necessary for most ecosystems on Earth to get going.

4. Which members of an ecosystem are part of the energy flow?

- A. ONLY the living things in the ecosystem
- B. ONLY the nonliving things in the ecosystem
- C. living and nonliving things in the ecosystem
- D. the energy flow is not dependent on any members of the ecosystem

5. What is this passage mostly about?

- A. the energy flow of an ecosystem and the different types of organisms within an ecosystem
- B. the function of secondary consumers and their importance to an ecosystem
- C. the problems for ecosystems that result from humans hunting animals such as deer and tigers
- D. the creation of body heat in primary consumers and the release of that heat into the atmosphere

6. Read the following sentences: "Energy is transferred again in an ecosystem's energy flow from primary consumers to 'secondary consumers.' Carnivores, or meat eaters, act as secondary consumers. Lions, tigers, and polar bears are carnivorous. They eat the meat of the herbivores after a hunt. When tigers eat their prey's meat, they go on to digest it and use the energy from it for their own survival."

What does the word **transferred** mean?

- A. stopped
- B. moved
- C. changed
- D. destroyed

7. Choose the answer that best completes the sentence below.

Living and nonliving things in an ecosystem interact with each other; _____, plants use energy from the sun.

- A. on the other hand
- B. in the end
- C. in particular
- D. previously

8. What are herbivores?

9. What do secondary consumers eat?

10. If one type of organism described in the passage were removed from an ecosystem, what would happen to the ecosystem? Explain your answer using evidence from the passage.

Name: _____

Date: _____

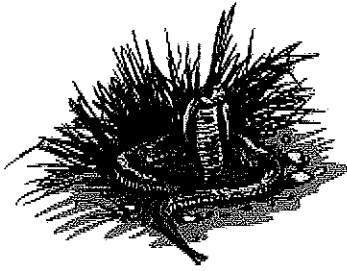
Energy through an Ecosystem - Consumers

1. What is another term for those organisms that are considered consumers in an ecosystem?
 - a. producers
 - b. autotrophs
 - c. decomposers
 - d. heterotrophs
2. Which organism occupies the top consumer position?



- a. mushrooms
 - b. hawk
 - c. mouse
 - d. snake
3. What type of consumer relies on dead carcasses for its energy requirements?
 - a. herbivore
 - b. scavenger
 - c. decomposer
 - d. omnivore

4. Which type of consumer is the organism shown in the picture?



- a. scavenger
 - b. carnivore
 - c. herbivore
 - d. detritivore
5. The word "autotroph" comes from the Greek words meaning "self" and "food." Based upon this information, what does the term "heterotroph" mean?
- a. "other feeder"
 - b. "food destroyer"
 - c. "energy maker"
 - d. "self energy"
6. Earthworms feed on rotting materials on the forest floor, making them _____ of an ecosystem.
7. Consumers that get energy from both plant and animal sources are called _____.
8. No matter how many steps a food chain contains, how many organisms there are, or where the food chain is located, every food chain will always end with
- a. predators.
 - b. detritivores.
 - c. carnivores.
 - d. decomposers.

9. Which consumer gets the most benefit from the energy of the Sun?



- a. mouse
- b. mushroom
- c. snake
- d. hawk

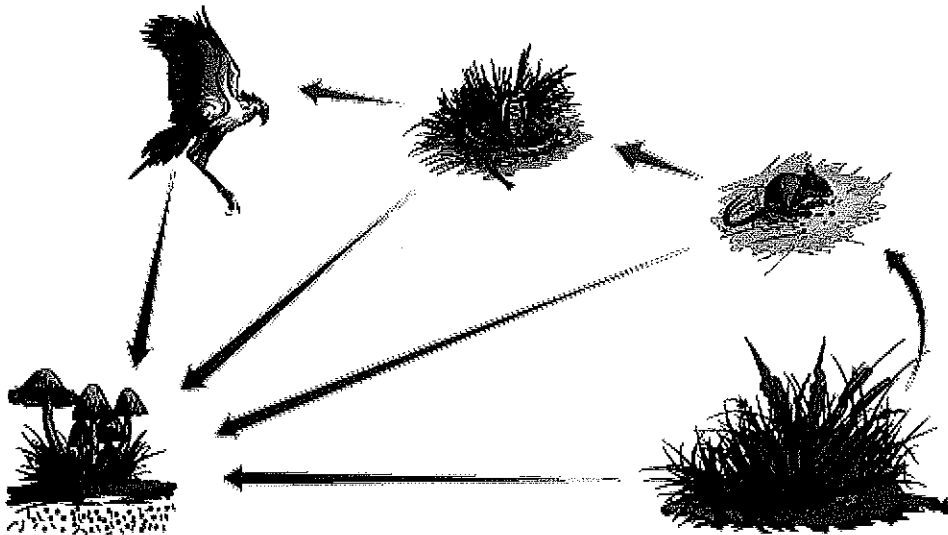
10. Carnivores kill and eat other animals. However, hunting and chasing prey takes a lot of energy. If carnivores are using so much energy to find and capture their food, it hardly seems worth all the effort. What is the advantage of eating meat instead of plants?

Name: _____

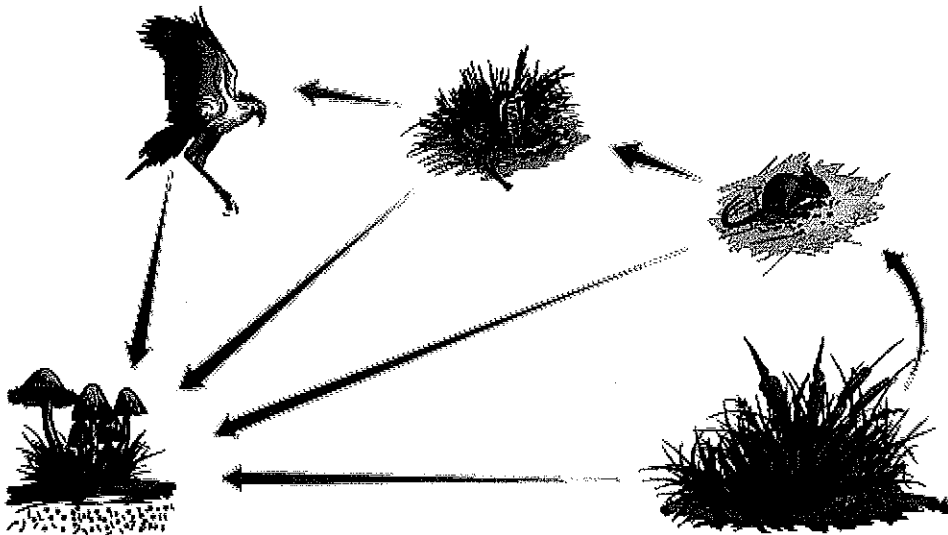
Date: _____

Energy through an Ecosystem - Food Webs

1. Which graphic best represents the flow of energy in a biome?
 - a. food chain
 - b. food web
 - c. energy pyramid
 - d. food circle
2. The diagram shows a typical food web in a forest ecosystem.

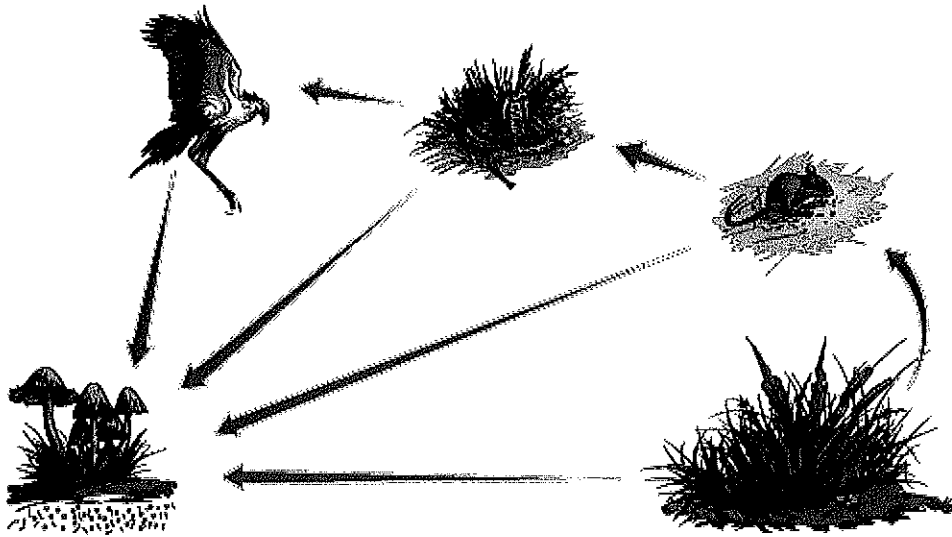


- A. In the food web, which organism would be considered a tertiary consumer?

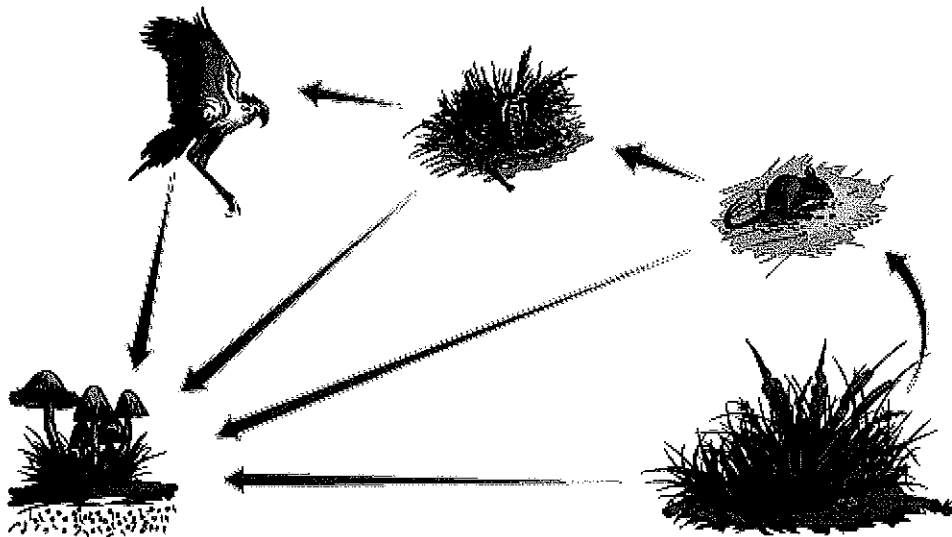


- a. mushroom
- b. mouse
- c. snake
- d. hawk

- B. Considering the food web, what would be the most likely impact on the ecosystem if a pesticide is applied to the grass, which causes the grass to die?



- a. The mouse population would increase from eating more mushrooms.
 - b. The snakes would change their feeding mechanisms from consumers to producers.
 - c. The hawk population would ultimately crash because there was nothing for them to eat.
 - d. The number of mushrooms would increase dramatically due to increased decomposition.
- C. Which position in the food web is occupied by mushrooms?



- a. primary consumers
 - b. decomposers
 - c. producers
 - d. tertiary consumers
- D. A mountain lion with an affinity for eating snakes has moved into this ecosystem. What is a possible outcome of this disturbance?

3. Choose whether 'biomagnification' or 'bioaccumulation' best completes the sentence. Write the correct term in the blank.

_____ describes the process by which toxins are taken up and held in an organism from either exposure to or by eating food containing the toxin. _____ occurs when concentrations of toxins in an organism increase due to transfer through the food chain, and specifically from energy loss across trophic levels.

4. Why are decomposers such an essential part of any food web and ecosystem?
- Decomposers recycle nutrients that keep the flow of energy going.
 - Decomposers provide the base of all energy production in the food web.
 - Decomposers are responsible for keeping the numbers of herbivores in check.
 - Decomposers prevent new species from coming into the system.
5. In a food web, the arrows that connect the organisms always point toward the organism that does the eating.
- True
 - False
6. The loss of energy from one trophic level to the next is called the _____.
7. Why is it very uncommon for a food chain in a food web to have more than five steps?

Zebra Mussels and the Hudson River

This article is provided courtesy of the American Museum of Natural History.



LOOK CLOSELY A scuba diver collected this rock from the bottom of the Hudson River. It's covered with zebra mussels! How many do you think there are?

A team of scientists at the Cary Institute of Ecosystem Studies has been researching the Hudson River ecosystem since 1986. Many changes have occurred along the river during this time, from economic development to the arrival of new species. Scientists have investigated how these changes affect the river and its aquatic life. Their research makes the Hudson River one of the most analyzed rivers in the world.

Zebra mussels were transported to the U.S. in the water in the bottom

POWERED BY THE SUN

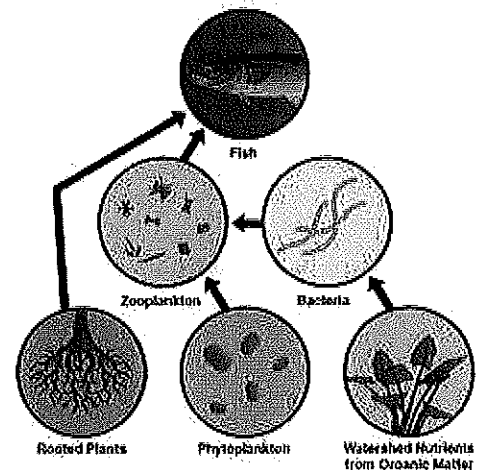
Photosynthesis is the chemical process in which green plants and phytoplankton make food from carbon dioxide and water using sunlight or light as an energy source.

compartments of cargo ships traveling from Europe to the Great Lakes. Waterways connect the Hudson River to the Great Lakes, so the Cary Institute scientists knew it was just a matter of time before zebra mussels would show up in the Hudson River. And since they had already begun collecting data on the river, they were in a unique position to understand the impact of the invasion. (Scientists don't usually have data about a lake or river until after the new species appears.) Their approach was to study the whole Hudson River ecosystem - both biotic (living) and abiotic (non-living) factors and the interactions between them.

See the chart below to learn more about biotic and abiotic factors in the river.

Making Predictions

Based on the Hudson's water chemistry, its river bottom, and other conditions, scientists predicted zebra mussels would thrive in the river. But the bigger question was: How would these zebra mussels affect the food web? Based on previous studies, scientists estimated how much plankton the zebra mussels could filter out of the water. (Phytoplankton and zooplankton are microscopic organisms that are two critical components of the river's food web.) The numbers suggested the impact of zebra mussels on the river could be huge.



Monitoring the River

Scientists have combined two approaches to studying the river's ecosystem:

- **A spatial approach**, in which water samples are taken from a transect of the river. A transect is a group of closely spaced locations along the river. This data helps scientists analyze how changes relate to geography.
- **A temporal approach**, in which samples are taken from the same six locations 4-6 times from May through October. (This is the "growing season" when organisms are most active.) Data is also collected from one location during winter months. By collecting data from the same locations for over 20 years, scientists can study changes over time.

HUDSON RIVER ECOSYSTEM FOOD WEB This web shows how different parts of the Hudson River ecosystem interact with one another. Anything that happens to part of the web has an effect on the whole ecosystem.

BIOTIC FACTORS



phytoplankton

These tiny drifting organisms use photosynthesis to make food. They form the base of the ecosystem's food web. Like other producers, phytoplankton use chlorophyll for photosynthesis. To determine the amount of phytoplankton, scientists measure the amount of chlorophyll in the water.



zooplankton

These tiny animals drift in water, feeding on phytoplankton and other zooplankton. Scientists measure their abundance by filtering river water through mesh nets and then counting them under a microscope. Different mesh sizes are used to sample small and large zooplankton.

watershed nutrients from organic matter

Organic particles from soil, dead leaves, and other materials wash into the river from the watershed (the surrounding land). This organic matter feeds many organisms, especially bacteria.



fish

Fish are the top predators of the river's food web. Fish eat zooplankton, invertebrates, or other fish. Scientists divide fish into two groups: pelagic fish, which live in open, deeper water; and littoral fish, which live in shallow water with plants.



plants

Some plants grow where water is shallow and clear enough for sunlight to reach the bottom. (Most of the river is too deep and turbid.) Scientists have found grass-like plants called water celery in 6 percent of the Hudson. They produce organic matter for the food web.



zebra mussels

Scuba divers collect rocks from hard areas of the river bottom. In the lab, zebra mussels are removed from the rocks, counted, and their shells measured. In "soft-bottom" areas, scientists use a device called a benthic grab to collect material. They count the mussels they find in these samples too. They combine data from both areas to estimate the total number of mussels in the river.

ABIOTIC FACTORS

water temperature

Temperature affects an organism's metabolism - the internal chemical reactions that affect its health and growth. Air and water temperatures vary with changes in weather, season, and the global climate. Scientists have found that temperature changes can also affect an organism's life cycle.

dissolved oxygen

Oxygen is dissolved in water, but water doesn't hold as much oxygen as air in the atmosphere. Dissolved oxygen refers to molecules of oxygen gas (O₂) -which is different from the oxygen in a water molecule (H₂O). Even though aquatic animals can survive on lower concentrations of oxygen (O₂), they are threatened when O₂ levels are too low. Both producers and consumers (like zebra mussels) take up oxygen during respiration, causing oxygen levels to drop. Zebra mussels also reduce oxygen levels by eating producers (like phytoplankton) that release O₂ during photosynthesis.

suspended solids

The solid particles suspended in water affect its clarity and quality. These particles - measured as total suspended solids (TSS) - can be both biotic (like phytoplankton) and abiotic (like silt and clay). Scientists measure water's TSS by pouring a sample through a filter. The suspended solids are any particles that are too large to pass through. Zebra mussels filter huge amounts of suspended solids, clearing large bodies of water. Since suspended solids block sunlight in the water, lower TSS means more light for producers.

The team gathers data from a small motorboat. They lower probes into the river to measure abiotic (chemical or physical) factors such as the water's temperature, oxygen and pH levels, current speed, and cloudiness of the water (called turbidity). They also collect water and zebra mussels to test back in the lab. There, they measure the amount of sediment in the water as well as biotic factors - the living organisms in the water. Along the Hudson, the key biotic factors are phytoplankton, zooplankton, bacteria, crabs, fish, and, of course, the zebra mussels.



SCIENTISTS AT WORK These scientists are collecting samples of tiny zooplankton from the river using long, fine mesh nets. They also collect data about each location using probes that measure temperature, oxygen, and other important factors.

Name: _____ Date: _____

1. This article discusses a group of scientists who are studying an ecosystem. What ecosystem are the scientists studying?

- A. the Great Lakes ecosystem
- B. the East River ecosystem
- C. the Hudson River ecosystem
- D. the Erie Canal ecosystem

2. What is one effect zebra mussels could have on the river's ecosystem?

- A. Oxygen levels in the river could drop.
- B. The river's water temperature could rise.
- C. The river's water temperature could drop.
- D. The amount of solids suspended in the river could rise.

3. Read these sentences from the text.

"Based on previous studies, scientists estimated how much plankton the zebra mussels could filter out of the water. (Phytoplankton and zooplankton are microscopic organisms that are two critical components of the river's food web.) The numbers suggested the impact of zebra mussels on the river could be huge."

What conclusion can be made about the amount of plankton zebra mussels could filter out of the water?

- A. Zebra mussels could probably filter out a very large amount of plankton.
- B. Zebra mussels could probably filter out a small amount plankton.
- C. Zebra mussels probably could not filter out any plankton at all.
- D. Zebra mussels could probably filter out a lot of zooplankton, but no phytoplankton.

4. In an ecosystem, what can have an impact on the food web?

- A. only biotic factors
- B. only some biotic factors
- C. only abiotic factors
- D. both biotic and abiotic factors

5. What is the main idea of this article?

- A. Scientists have been studying changes in the Hudson River ecosystem since before the arrival of zebra mussels.
- B. Phytoplankton and zooplankton are the most important parts of the food web in the Hudson River ecosystem.
- C. Scientists are studying biotic and abiotic factors in the Hudson River to see how zebra mussels affect the ecosystem.
- D. Scientists are combining two approaches to collecting data about different factors in the Hudson River's water.

6. Read these sentences from the text.

"Scientists have combined two approaches to studying the river's ecosystem:

A spatial approach, in which water samples are taken from a transect of the river. A transect is a group of closely spaced locations along the river. This data helps scientists analyze how changes relate to geography.

A temporal approach, in which samples are taken from the same six locations 4-6 times from May through October."

Based on these sentences, what does the word "approach" most nearly mean?

- A. a nearby location
- B. a reason to do something
- C. a way of doing something
- D. a measure of distance

7. Choose the answer that best completes the sentence.

Scientists were in a unique position to understand the impact of the zebra mussel invasion on the Hudson River _____ they had already begun collecting data on the river.

- A. however
- B. because
- C. as a result
- D. although

8. What are three biotic factors that scientists are monitoring in the Hudson River to study the impact of zebra mussels?

9. One abiotic factor that scientists are studying in the Hudson River is the amount of dissolved oxygen. Describe how two different factors can impact the amount of dissolved oxygen in the river.

10. Why might it be important for scientists to monitor so many different biotic and abiotic factors as they try to observe the impact of zebra mussels? Use evidence from the text to support your answer.

Name _____ Date _____ Block _____

Unit Test- Ecosystems

- 1) Which summarizes the order of energy flow in a food chain?
 - A. From the sun to decomposers to producers to consumers.
 - B. From the sun to consumers to decomposers to producers.
 - C. From the sun to producers to consumers to decomposers.
 - D. From the sun to producers to decomposers to consumers.

- 2) Scientists were completing a six-week study of the number of salmon living in a local stream. During the study, the stream was contaminated with a toxic waste. The chart below shows the weekly number of salmon living in the stream.

Weekly Salmon Number

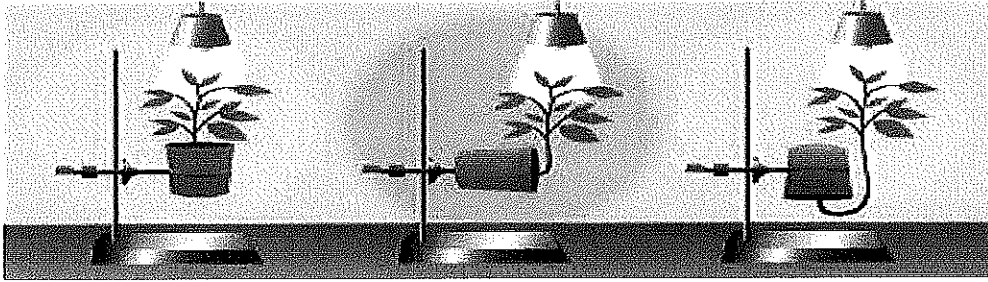
Week	Salmon Numbers
1	88
2	96
3	74
4	40
5	27
6	27

Which best summarizes the situation?

- A. The salmon population began to increase after week two.
 - B. The contamination of toxic waste occurred after week two.
 - C. The contamination of toxic waste occurred before week two.
 - D. The salmon population decreased from week one to week two.
-
- 3) How could acid rain affect the trees living in a forest?
 - A. It could strengthen the leaves of the trees in the forest.
 - B. It could alter the soil quality, adding toxins that harm the leaves.
 - C. It could remove chemicals in the soil that harm the trees in the forest.
 - D. It could change the soil quality, providing nutrients to the trees.

 - 4) Tulips are flowers that typically bloom in the Spring. How could tulips be forced to bloom in Winter?
 - A. By limiting pruning and trimming of the tulips.
 - B. By reducing water levels and nutrient uptake by the tulips.
 - C. By elevating oxygen levels and supplying organic matter to the tulips.
 - D. By increasing temperature and lengthening daylight for the tulips.

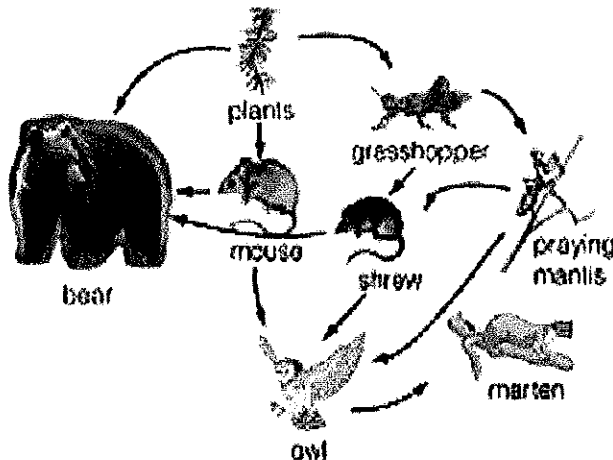
- 5) A plant begins to bend when a tall building is built near it. Why does this occur?
- It is adjusting to changes in temperature.
 - It is growing away from the light source.
 - It is adjusting to changes in the soil.
 - It is growing toward the light source.
- 6) This illustration shows the reaction of a plant when placed near a light source.



What happens as the plant is turned away from the light source?

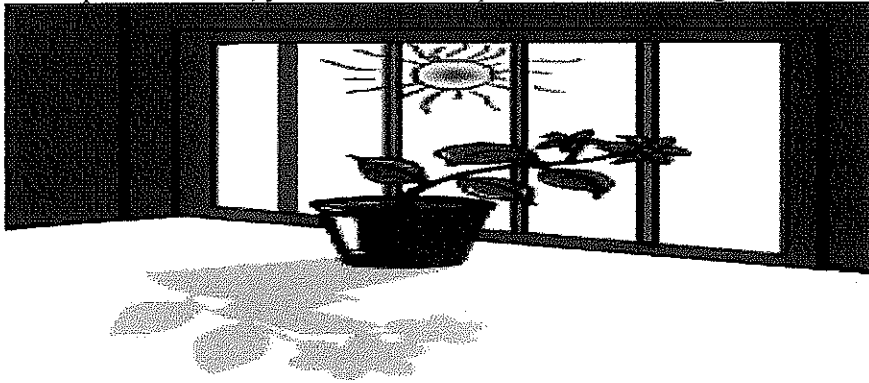
- The plant stops growing because it has no way to access light.
 - The plant is not affected because the light bends towards the plant.
 - The plant grows away from the light source.
 - The plant bends towards the light source.
- 7) Why do seeds go through a period of dormancy?
- It allows time for the right conditions to occur before the seed germinates.
 - It allows time for dry soil to accumulate before the seed germinates.
 - It allows time for sunlight to appear before the seed germinates.
 - It allows time for pollination to occur before the seed germinates.
- 8) Which is true of energy in ecosystems?
- It never changes form.
 - It is both created and destroyed.
 - It flows in one direction.
 - It follows a cycle pattern.
- 9) Which organism would most likely appear at the top of an energy pyramid?
- grass
 - hawk
 - mouse
 - snake
- 10) Which best represents a food chain?
- Sun → rabbit → fox → grass
 - Sun → grass → rabbit → fox
 - fox → grass → rabbit → Sun
 - grass → rabbit → fox → Sun

- 11) Which is true of the amount of matter in ecosystems?
- It decreases over time.
 - It increases over time.
 - It remains constant.
 - Scientists can not determine how it changes.
- 12) Which is a biotic factor in an ecosystem?
- A plant living near a stream
 - The amount of rainfall
 - The angle of the Sun
 - The types of minerals present in soil
- 13) What is the source of most energy on Earth?
- air
 - soil
 - The Sun
 - water
- 14) Which includes both an abiotic and a biotic factor?
- A chicken laying an egg
 - A deer drinking from a stream
 - A rock rolling down a hill
 - A squirrel eating an acorn
- 15) Below is the illustration of a food web.



- What does the praying mantis represent?
- A primary consumer
 - A secondary consumer
 - A producer
 - A decomposer

16) In the picture below, you will notice a plant that is bending towards the Sun.



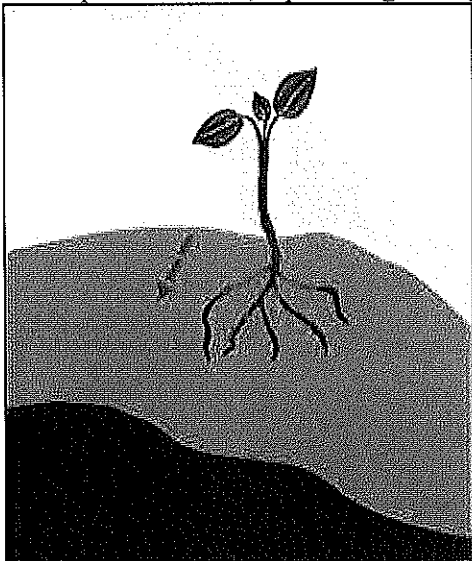
Which term describes the Sun in this picture?

- A. deterrent
- B. stimulus
- C. tropism
- D. consumer

17) Which term describes the process in which a plant bends towards the Sun?

- A. Gravitropism
- B. Phototropism
- C. Hydrotropism
- D. Photoperiodism

18) In the picture below, a plant is growing closer to a stream.



This is an example of:

- A. Gravitropism
- B. Phototropism
- C. Hydrotropism
- D. Photoperiodism

- 19) A plant growing inside a cave has branches that hang straight down from the ceiling of the cave. This is an example of:
- A. Hydrotropism
 - B. Phototropism
 - C. Photoperiodism
 - D. Geotropism
- 20) What is the relationship between food chains and food webs?
- A. Food webs are made of multiple food chains that are interconnected
 - B. Food chains are made of multiple food webs that are interconnected.
 - C. Food chains only include producers, while food webs include consumers.
 - D. Food webs only include producers, while food chains include consumers.
- 21) How do decomposers contribute to the cycling of matter?
- A. They produce the energy from the Sun to start the cycle.
 - B. They destroy matter so that it does not become more abundant.
 - C. They consume energy-rich organisms that are full of life.
 - D. They break down dead organisms to return matter to the soil.
- 22) Where would you find plants with stems that can store large amounts of water?
- A. desert
 - B. grassland
 - C. taiga
 - D. tundra
- 23) Which is not a freshwater ecosystem?
- A. oceans
 - B. ponds
 - C. rivers
 - D. streams
- 24) Which biomes have rich, fertile soil?
- A. Grassland and taiga
 - B. Grassland and tundra
 - C. Grassland and tropical rain forest
 - D. Grassland and temperate deciduous rainforest
- 25) In which of the following ecosystems does vegetation have difficulty growing?
- A. Tundra
 - B. Forest
 - C. Grassland
 - D. Ocean

Light the Way

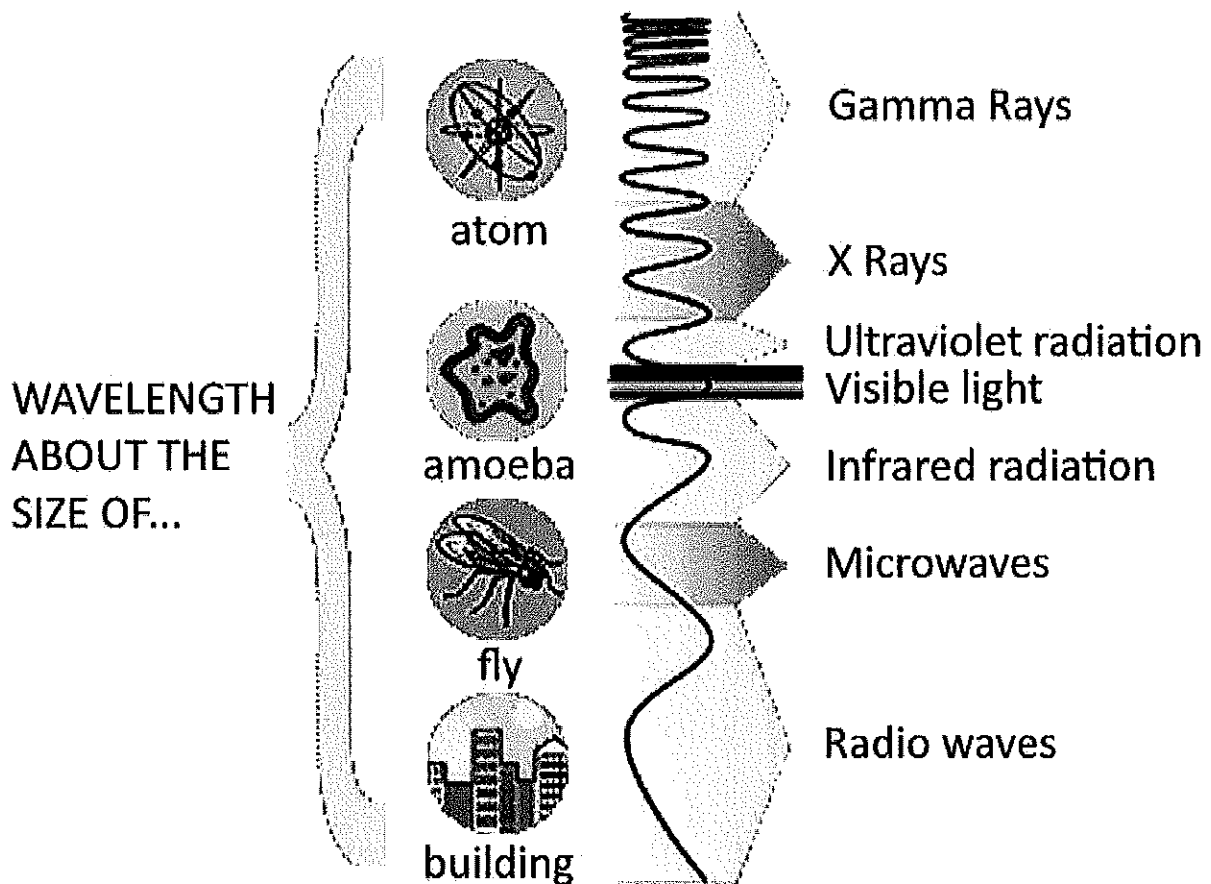
by American Museum of Natural History

This text is provided courtesy of OLogy, the American Museum of Natural History's website for kids.

What's the fastest thing in the universe? If you said light, you're right! It takes us about 6 hours to fly from New York to California. Light can go there - and back - in 1/30 of a second!

There's more to light than meets the eye!

It is a special kind of energy, called electromagnetic radiation, and it travels in waves.

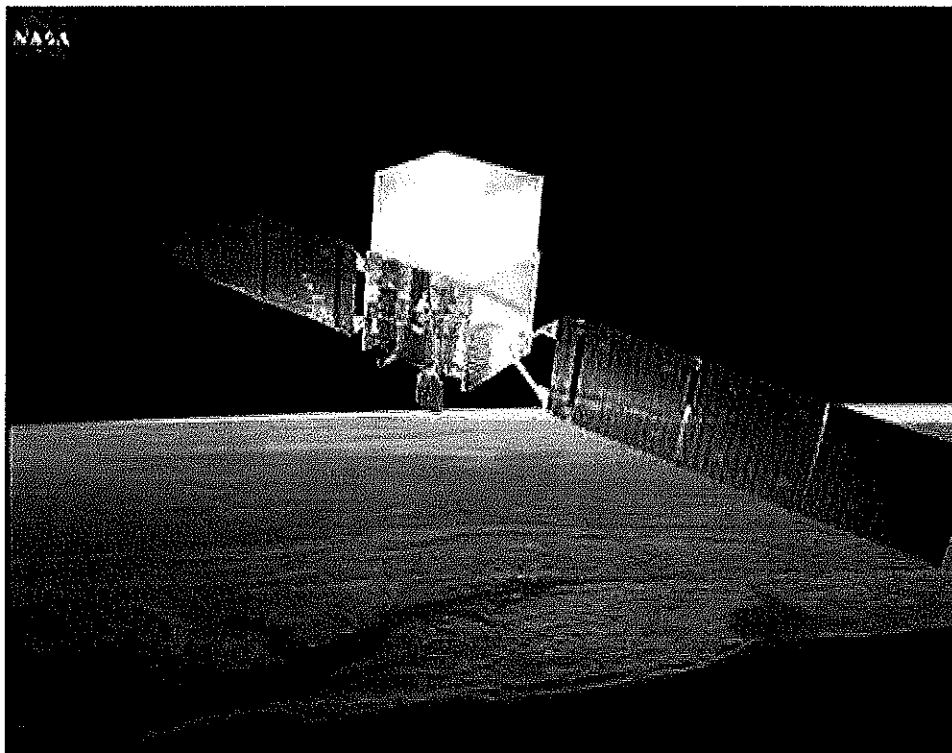


Visible light waves come in different sizes: short ones look blue and long ones look red. All other electromagnetic radiation is invisible to our eyes - like the very long waves that can carry signals to radios.

Whatever the size, you won't find anything that goes faster than light. Why not? That's a light mystery that's kept scientists in the dark - so far.

What Is the Fermi Gamma-ray Space Telescope?

This text is from the "NASA Knows!" series from NASA.

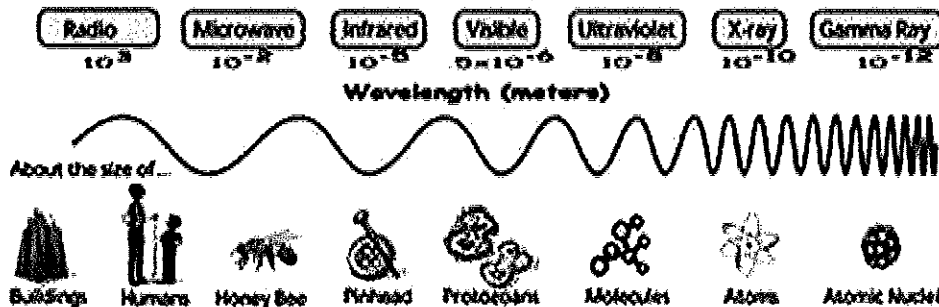


NASA E/PO, Sonoma State University, Aurore Simonnet

An artist's drawing shows the Fermi satellite orbiting Earth.

The Fermi Gamma-ray Space Telescope is a NASA spacecraft. It is in space studying the most powerful sources of radiation in the universe. Radiation is energy that is in the form of light or of moving particles that are smaller than atoms. The most extreme type of radiation is gamma rays.

What Are Gamma Rays?



NASA

Different forms of light travel in waves of different length. This chart shows the different wavelengths of light.

Light energy comes in many different forms. People can only see a small portion of the different types of light. This light is part of the electromagnetic spectrum. This spectrum is made up of all the types of electromagnetic, or EM, radiation in the world and possibly in the universe. EM radiation travels in waves, and each type has a different wavelength.

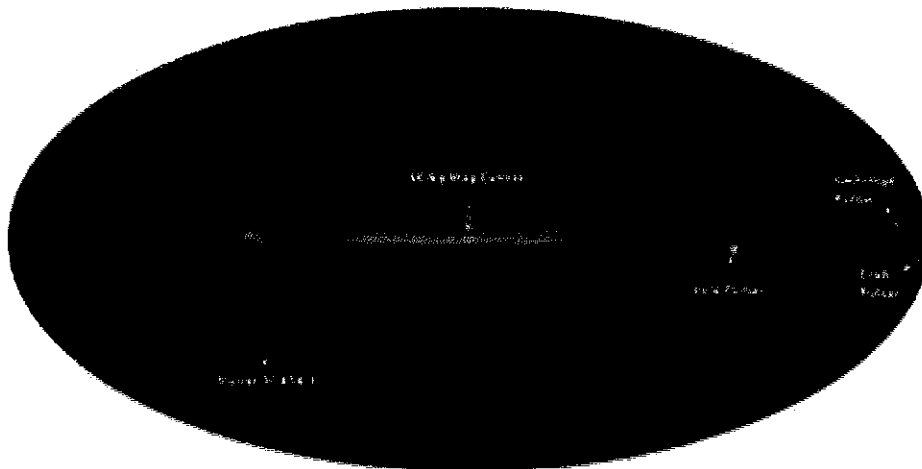
Visible light, which is the light that people can see, has medium-length waves. Radio waves have the longest wavelengths. Microwaves and infrared light waves also are longer than visible light waves. Ultraviolet (or "UV") rays, X-rays and gamma rays all have wavelengths that are shorter than visible light. The shorter the wavelength, the more energy the radiation has. Gamma rays have the shortest wavelengths; therefore they have the most energy.

Gamma rays have more than 1 billion times the energy of visible light. Gamma rays have so much energy they could harm people on Earth. People are protected from gamma rays by Earth's atmosphere. The atmosphere absorbs gamma rays, preventing them from affecting life on Earth. Because gamma rays cannot penetrate Earth's atmosphere, scientists use satellites in space to study them.

Why Is NASA Studying Gamma Rays?

Gamma rays come from the most extreme places in the universe. NASA is studying them because scientists want to learn more about the high-energy environments in the universe that make gamma rays. Gamma rays often come from objects like black holes and exploding stars.

Gamma rays sent out by objects embedded inside galaxies greatly affect the space around these objects and how these galaxies evolve. By studying gamma rays, NASA can better understand how the laws of physics work in the extreme environments found in the distant universe.



NASA/DOE/International LAT Team

This all-sky view from the Fermi telescope reveals bright gamma-ray emissions in the plane of the Milky Way (center), bright pulsars and super-massive black holes.

How Does Fermi Work?

The Fermi telescope has two main instruments. It has a large telescope that finds gamma rays with 10 million to more than 300 billion times the energy of visible light.

The spacecraft also has detectors that observe gamma-ray bursts. Gamma-ray bursts are brief flashes of gamma rays. Scientists think most of these bursts come from exploding stars that become black holes as their cores collapse.

More than half of the known gamma-ray sources are mysterious. Scientists do not know what causes the gamma rays to be emitted from these sources.

The information from Fermi is sent back to scientists on Earth. The scientists use the data to create pictures of the objects Fermi studies. These pictures help scientists discover the sources of gamma rays.

What Is NASA Learning From Fermi?

Fermi was launched June 11, 2008. Scientists hope to use the telescope to observe the high-energy universe until 2018. Fermi was first named GLAST. GLAST stood for Gamma-ray Large Area Space Telescope. After GLAST was launched and started its work, it was renamed after scientist Enrico Fermi.

Enrico Fermi studied physics, which is the science of matter, forces, energy and motion. Scientists who study physics are called physicists. Enrico Fermi studied high-energy physics including gamma rays. The Fermi telescope is helping NASA learn more about Enrico Fermi's theories.

With the Fermi telescope NASA is making discoveries almost every day. Fermi is discovering new supermassive black holes. These are the largest type of black holes.

Fermi is also finding new pulsars. Pulsars are collapsed stars that emit repeated pulses of energy. Fermi finds pulsars that can only be found by measuring gamma rays.

Fermi's most exciting discoveries are yet to come.



* Girls PE *

Sign up for important updates from Coach Sparks.

Get information for D'arbonne Woods Charter School right on your phone—not on handouts.

Pick a way to receive messages for DWCS Jr High Girls PE:

- A** If you have a smartphone, get push notifications.

On your iPhone or Android phone, open your web browser and go to the following link:

rmd.at/8428a8

Follow the instructions to sign up for Remind. You'll be prompted to download the mobile app.

Smartphone screen showing a Remind sign-up form for DWCS Jr High Girls PE. The form includes a header with the Remind logo and the URL rmd.at/8428a8. Below the header is the title "Join DWCS Jr High Girls PE". The form has two input fields: "Full Name" with the placeholder text "First and Last Name", and "Phone Number or Email Address" with the placeholder text "(555) 555-5555".

- B** If you don't have a smartphone, get text notifications.

Text the message @8428a8 to the number 81010.

If you're having trouble with 81010, try texting @8428a8 to (313) 995-3321.

* Standard text message rates apply.

Smartphone screen showing a text message to 81010. The message content is "@8428a8".

Don't have a mobile phone? Go to rmd.at/8428a8 on a desktop computer to sign up for email notifications.

Week 3 - Weekly Physical Activity Log

Directions: You can log your activities as you complete them, at the end of the day, or the next day. If you need activity ideas, check out some of my favorite workout and game sites on the attached page. These are due on the following Monday. Please do not turn it in before the week is over. You should set a goal to accomplish 300 minutes of activity by the end of the week. That's 60 min/day in 5 days/week You GOT THIS!

FREQUENCY	TYPE	TIME	INTENSITY
Day of the Week	What activities did you do?	How long did you do them?	How tired did you feel, on a scale of 1-10? 1=easy;10=extremely difficult
Sunday			
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			

Reflection: Write your answers here and post before next Monday.

1. Did you meet 60 minutes of physical activity every day? Did you do more this week than you did last week?

2. Explain any areas of improvement this week.

Week 4 - Weekly Physical Activity Log

Directions: You can log your activities as you complete them, at the end of the day, or the next day. If you need activity ideas, check out the choices board on the attached page. Due on the following Monday.

FREQUENCY	TYPE	TIME	INTENSITY
Day of the Week	What activities did you do?	How long did you do them?	How tired did you feel, on a scale of 1-10? 1=easy;10=extremely difficult
Sunday			
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			

Reflection: Write your answers here and post before next Monday.

1. List one fitness goal you are seeking.
2. Explain any areas of improvement you saw from this week of workouts compared to others you have done.

Week 5 - Weekly Physical Activity Log

Directions: You can log your activities as you complete them, at the end of the day, or the next day. If you need activity ideas, check out the choices board on the attached page. This is due on Monday, May 18th.

FREQUENCY	TYPE	TIME	INTENSITY
Day of the Week	What activities did you do?	How long did you do them?	How tired did you feel, on a scale of 1-10? 1=easy;10=extremely difficult
Sunday			
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			

Please do the final reflection questions on the Exit Ticket page as your final grade.

Exit Ticket

Take a moment to reflect back on this year. I can't believe it is already over, can you? We had some great times and some not-so-great times, but we had them together and teaching all of you has been pure joy for me. I say that from the bottom of my heart. As I look through rosters every day, I miss you! I miss seeing you grab that silly name card and try to find the box to put it in. I miss seeing you panic because your locker won't open, won't close, or someone took your PE uniform 😊 I DO NOT MISS PE UNIFORMS-Can I get an AMEN?? lol Most of all, I miss seeing you laughing, learning, and growing in our sports together. I have been so impressed with how much I heard you encourage one another, lift each other up, pull each other through another treacherous day of workout stations or flag football drills. You ladies are a very impressive group, all of you, and I hope it's not the last time I get the honor to teach you. Junior High P.E. has always been my favorite groups to teach, and you ladies have won my heart forever. I pray that you all continue to stay active throughout your lifetime, build lasting memories with friends and family through enjoyable activities, and, hopefully, when you come visit me in your 30's, you will tell me about how you still enjoy playing volleyball, running, dance, or flag football with your own kids! lol

Please take a moment to help me be a better teacher to the ones behind you in the next years to come. Let me see things through your eyes and learn from you, if I may. This will be your final assignment (SHEW!!! ikr???)

Thank you for your patience with me in tough times and the joy you brought me in all the times we had together this year! I am always hear for you, whether I am teaching you or not! Have a wonder and blessed summer and BE YOUR BEST YOU! Love to you ALL!! - Coach Sparks
 * Required

1. Name *

2. Email

3. What's one important thing you learned in class this year?

4. If you could change any PE procedures we did, what would it be? How can we improve?

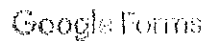
5. How can I better serve the students in the future of Jr High PE?

6. How has this pandemic affected you in regards to your physical education? How about your mental health? Give me one positive effect and one negative effect of each one (physical/mental). For me, personally, it has been good and bad. I have been able to add some time to my workout routines so I am getting stronger, but I do them alone and that is not near as fun. I find myself less motivated bc I am alone so sometimes I skip them. Mentally, this time at home has allowed me to hit the restart button and open my mind to new ideas for the future. I do deal with anxiety, however, over expectations and not knowing what the "norm" is for what I do. What about you?

7. Tell me what procedures you felt went well/smoothly in classes.

8. What was your favorite unit? And why?

This content is neither created nor endorsed by Google.



AT-HOME-PE

FITNESS RESOURCES

Prepared by Coach Sparks

OVERVIEW & PURPOSE

To provide families with fun and challenging ways to stay fit at home

MATERIALS NEEDED

1. A Positive Attitude
2. Tennis Shoes
3. Open Space
4. A partner to make it more enjoyable
5. Some ideas for homemade equipment for At-Home-PE (see last page)

WEBSITE RESOURCES

● *Active Home: games and calendars for parents and families to use to make their home an active home as well as resources to help teachers and parents partner as they work together to provide meaningful movement opportunities that progress students toward physical education and social & emotional learning outcomes.*

● *Darebee: An awesome resource to be about to use workout templates for specific goals or create your own.*

● *Go Noodle: movement and mindfulness videos created by child development experts.*

● *Hip Hop Public Health: interactive multimedia resources that engage youth while equipping them with the knowledge and tools they need to make healthy choices.*

● *Cosmic Kids Yoga: yoga and mindfulness activities for kids and fun for the whole family*

● Fitness Blender: full-length and customize-able fitness videos with a variety and health and wellness resources. Great for adults but also junior high & HS students.

● Brainpop: learning activities and videos across the curriculum including health and social-emotional learning.

● Keeping Kids in Motion: monthly fitness challenges that can be done at home with the whole family.

YOUTUBE SUBSCRIPTION RESOURCES

- *Plyoga (by Stephanie Lauren) AMAZING WORKOUTS!!!*
- *REFITREV*
- *Just Dance Videos*
- *Kids Bop Daily Dance Breaks*
- *Get Kids Moving - really fun Superhero workouts*
- *The PE Specialist*
- *The PE Geek*
- *PE Universe*
- *Adapted Physical Activity*
- *Yoga with Tim*
- *Coach Wood*
- *Glenn Higgins Fitness - More really cool Superhero workouts!*

APPS (some are free and some are not):

- *7MIN WORKOUT*
- *100 PUSHUPS*
- *100 SITUPS*
- *SWORKIT FOR KIDS (my absolute fav)*
- *iMUSCLE*
- *NIKE TRAINING*
- *HOMEWORKOUTS*
- *ACTIVE*
- *SEVEN*
- *RUNKEEPER OR MAP MY RUN*

- STRAVA
- SWORKIT STRETCHING
- STRONG
-

Stay tuned....work in progress

For those of you that need resources and workouts that do not have access to the internet or phone apps, please reach out to me and I will find something that suits you!

At-Home Equipment Replacement List

PE Equipment	Household Item
Bean bags	Socks, smaller stuffed animals
Hurdles	Cereal boxes or other pantry items, stacks toilet paper rolls
Soccer Goal	Any 2 cones or markers to create a goal or target
Bowling Pins	Water bottles
Misc Targets	Water bottles, bed sheets, plastic plates, large pots and pans, laundry baskets
Flag Belts	Long socks tucked in a waistband
Cup Stacking	Plastic cups
Agility Ladder	Sidewalk Chalk
Agility Dot Drill	Sidewalk Chalk
Poly Spots	Kitchen drawer liners
Sandbags	Fill a gym bag with heavy, but soft items surrounded by clothes, water softener salt bags
Dumbbells	Soup cans, water bottles
Kettlebell	Milk jug, laundry detergent bottle
Balance Disc	Folded blanket, pillow
Conditioning Ropes	Any thick rope, extension cord
Fitness Bar	Broomstick
Jump Rope	Create a rope out of duct tape or recycled bags (https://www.kidsburgh.org/maker-monday-recycled-bag-jump/)
Activity Balls	Socks
Baseball	Socks
Volleyball/Tennis Net	Bed sheet folded in half, tie a rope between two chairs
Volleyball/Tennis Ball	Balloons are great for beginners
Tennis Racket	Paper towel tube + plastic plates
Discs/Frisbee	Plastic plate, ice cream bucket lid
TaterSacks™	Pillow case, large plastic bag/trash bag
Balance Beam	2x4 or any long flat board

GOPHER