AMI PACKETS

#31 - #35

FOR THE WEEK OF

MAY 4TH – MAY 8TH

Day #31

Read the following lesson on descriptive language. Reflect on good books you have read in the past. Were they more like the first example or the second? When someone tells you a story do you want it to be more like the first example or the second? Why?

What is the difference between these two paragraphs?

I was really scared to ride the roller coaster. I felt a little sick, but excited at the same time. When the bar clicked into place, I held on tight. When the ride started, I hoped for the best.

As I slid into the red plastic seat of the roller coaster, my mouth went dry and my hands felt clammy. The bar in front of my clicked into place and I gripped it so hard my knuckles turned white. I could taste the cotton candy I'd eaten earlier at the back of my throat. When the car jolted forward, my stomach dropped, I held my breath, and I told myself I would survive.

In the first paragraph, the writer is *telling* the reader what is happening. In the second paragraph, the writer is *showing* the reader, or putting the reader in the story, allowing him or her to experience what the writer experienced. The writer accomplishes this through concrete, or sensory, detail.

Words like "scared" or "excited" tell an emotion, but don't show it. These are abstract descriptions, because there's nothing to see, hear, feel, taste or smell. In the second example, the reader experiences "scared" when the writer says, "my mouth went dry and my hands felt clammy." The reader understands that the writer "felt a little sick" when the writer says, "I could taste the cotton candy I'd eaten earlier in the back of my throat." The reader feels the anxiety when the writer says, "I gripped it so hard my knuckles turned white." This is showing, rather than telling.

Day #32

Write a short paragraph (5-10 sentences) using the picture below as inspiration.

Use concrete details to show what it would be like to be this bike racer. What does he see? What does he hear? What is he thinking? What is going on inside his body? Use all the senses to help the reader be in the moment.

Day #33

Write a short paragraph (5-10 sentences) using the picture below as inspiration.

Use concrete details to describe what is going on in this scene. What does it sound like? How do the people feel? What do they see in the room? What is making them laugh?

Day #34

Write a short paragraph (5-10 sentences) using the picture below as inspiration.

Use concrete details to describe the setting here. What do you hear? What do you see? What do you smell? What does it feel like?

Day #35

Write a short paragraph (5-10 sentences) using a picture of your choice as inspiration for this assignment.

Use concrete details to create a vivid scene in your reader's imagination. Use specific sensory details to describe what is happening, where the picture was taken, who took the picture or any other details you think are important.

Challenge: Post your picture to social media and use your paragraph as the caption.

DID YOU HEAR ABOUT...

A	B	C	D	E	F
G	H	I	J	K	L
M	N	O	P	Q	R ?

OBJECTIVE 1–h: To evaluate expressions containing exponents.

Evaluate each expression below for the given value of the variable. Find your answer in the appropriate answer column and notice the word next to it. Write the word in the box above that contains the letter of that exercise. Keep working and you will hear about the "dairy" best name.

(A) a^2 if $a = 9$

(B) $5m^2$ if $m = 10$

(C) $2x^2$ if $x = 3$

(D) $(2x)^2$ if $x = 3$

(E) $6u^2$ if $u = 5$

(F) $(6u)^2$ if $u = 5$

(G) y^3 if $y = 4$

(H) $2t^3$ if $t = 3$

(I) $3d^4$ if $d = 2$

(J) $7v^3$ if $v = 1$

(K) $(7v)^3$ if $v = 1$

(L) $(x + 1)^2$ if $x = 11$

(M) $4(n - 1)^2$ if $n = 10$

(N) $8(x - 3)^3$ if $x = 8$

(O) $(t + 1)^2(t - 1)$ if $t = 3$

(P) $(c + 2)(c - 2)^2$ if $c = 8$

(Q) $(2m + 1)^2$ if $m = 7$

(R) $2(3x - 1)^2$ if $x = 4$

Answers A–I:

42	PEOPLE
18	COUPLE
48	THE
54	DAUGHTER
36	WHO
81	THE
900	THEIR
500	CLEVER
650	THAT
64	BABY
78	SAID
150	GAVE

Answers J–R:

32	HAVE
24	BEST
144	BECAUSE
242	HER
825	WANT
360	ANY
1000	DIDN'T
7	NAME
324	THEY
356	CREAM
225	BUT
343	MARGARINE

What Goes Putt, Putt, Putt, Putt, Putt, Putt, Putt?

Do each exercise and find your answer in the rectangle below. Cross out the box containing that answer. When you finish, there will be five boxes not crossed out. Print the letters from these boxes in the spaces at the bottom of the page.

(1) $14 + (-30) + 23 + (-9)$

(2) $-19 + (-42) + 36 + (-12)$

(3) $48 + 3 + (-18) + (-10)$

(4) $-8 + (-60) + (-17) + 44$

(5) $27 + 6 + (-55) + 36$

(6) $245 + (-907)$

(7) $-523 + (-98) + 800$

(8) $303 + (-760) + 175$

(9) $-6 + (-7) + 8 + (-7) + 9 + (-1)$

(10) $6 + (-5) + 7 + 4 + (-9) + (-3)$

(11) $-8432 + (-1150) + 3760$

(12) The Vultures football team made the following gains on four plays: 14 yards, −32 yards, 3 yards, and −19 yards. What was the net change in position of the Vultures as a result of the four plays?

(13) Bongo had a balance of $345.28 in his checking account. During the week he wrote checks for $65.08, $24.50, and $118.95. He then made a deposit of $56.00. What was his balance after the deposit?

(14) The net profit for four months of T.N.T. Corporation is given in the table below:

Month	Net Profit
January	$16,800
February	− 4,500
March	39,900
April	− 12,000

What was the net profit for the four-month period?

(15) A cross country skier made the following changes in altitude during a 5-hour period: up 28 meters, down 124 meters, down 40 meters, up 75 meters, down 225 meters. What was the skier's net change in altitude?

(16) At its first stop, a bus picked up 17 people. At the next stop, 12 people got on and 7 got off. At the third stop, 21 people got on and 13 got off. At the fourth stop, 5 people got on and 18 got off. How many passengers were then on the bus?

CA $192.75	RS −662	AB $43,500	IG −286 m	IT −37	GL 0	AD −5632
SL −41	AP −4	OW −2	LO −34 yd	GO −257 m	NE 17	XT 23
LF $182.95	UN $40,200	TO 179	UP 14	TH −5822	ER 19 yd	ON −282

OBJECTIVE 2–d: To add several integers; to solve word problems involving addition of integers.

Making Change
Change from Dollars and Cents
Math Worksheet 4

Name:_____

Karen has this much money, and she wants to buy this ice cream.

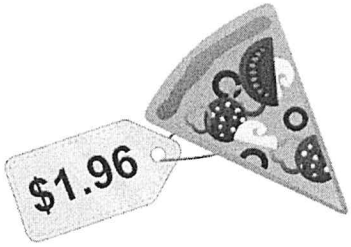
76¢

How much change is left?

Mark has this much money, and he wants to buy this pinwheel.

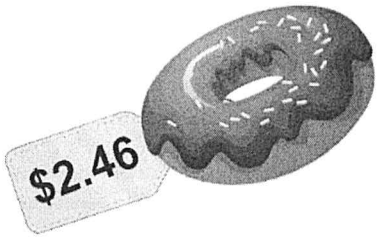
How much change is left?

Helen has this much money, and she wants to buy this pizza.



How much change is left?

George has this much money, and he wants to buy a donut.



How much change is left?

DadsWorksheets.com

Making Change
Simple Change from $1
Math Worksheet 4

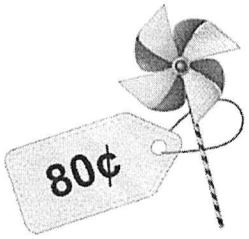
Name:_____

Karen has this much money, and she wants to buy this ice cream.

55¢

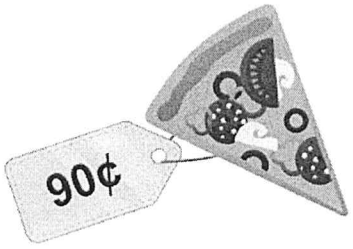
How much change is left?

Mark has this much money, and he wants to buy this pinwheel.



How much change is left?

Helen has this much money, and she wants to buy this pizza.



How much change is left?

George has this much money, and he wants to buy a donut.

How much change is left?

DadsWorksheets.com

Day 31:

1965

May 04

Willie Mays breaks National League home run record

On May 4, 1965, San Francisco Giants outfielder Willie Mays hits his 512th career home run to break Mel Ott's National League record for home runs. Mays would finish his career with 660 home runs, good for third on the all-time list at the time of his retirement.

Willie Howard Mays was born May 6, 1931, in Westfield, Alabama. The "Say Hey Kid" learned baseball from his father, who played semi-professionally with a team from his steel mill. Willie joined the steel mill team at age 14, and then began his professional career at 16 with the Birmingham Black Barons of the Negro Southern League. He played home games for the Barons from 1948 to 1950, skipping road trips during the school year so he could attend high school. Upon graduation he was signed by the New York Giants, and made his debut at the Polo Grounds on May 25, 1951. Mays went hitless in his first 12 at-bats, hitting his first big league homer in his 13th. That season, he was named Rookie of the Year and helped the Giants to the National League pennant.

In 1952, Mays was drafted into the Army. The Mays-less Giants barely missed the pennant in 1952, then felt his absence more acutely in 1953, when they finished the season with a 70-84 record. Upon his return in 1954, the Giants defeated the Cleveland Indians to win the World Series, during which Mays made what many fans consider to be the greatest catch in history.

In Game 1, Indian first baseman Vic Wertz hit a fly ball to deep center field. Mays turned and ran, then caught the ball over his shoulder with his back to the infield, spinning and firing the ball back into the infield to keep the runners from advancing. When he was later asked about the play, Mays famously replied, "I don't rank 'em, I just catch 'em."

After more than 20 years with the Giants, first in New York and then in San Francisco, Mays was acquired by the New York Mets on May 11, 1972. He spent the next two seasons as a Met under former Yankee catcher Yogi Berra as manager. The team won the National League pennant in 1973, though by then, Mays' skills had eroded, and he could not catch up to the fastballs he once deposited into bleachers on both coasts.

In addition to winning the National League MVP in 1954 and 1965, Mays played in a record 24 All-Star games, winning the All-Star MVP in 1963 and 1968. He was elected to the Baseball Hall of Fame in 1979. His base running, power, fielding, ability to hit for average and outstanding arm in the outfield made him the prototype "five-tool" player for whom baseball scouts search. Any argument over who deserves the title "greatest baseball player in history" has to include Willie Mays.

1. What years did Willie Mays win the All-Star MVP?
2. Do you think WIllie Mays deserves to be in the conversation of "greatest baseball player in history?" Why or Why not?
3. What team(s) did Willie Mays play for?
4. What kind of abilities do you think a "five-tool" player has?

Day 32:

Japanese American Relocation Camps

After Japan's surprise attack on Pearl Harbor, Hawaii, on December 7, 1941, and America's subsequent declaration of war and entry into **World War II**, President Franklin D. Roosevelt established the War Relocation Authority (WRA), which selected ten sites to incarcerate more than 110,000 Japanese Americans (sixty-four percent of whom were American citizens). They had been forcibly removed from the West Coast, where over eighty percent of Japanese Americans lived. Two camps were selected and built in the **Arkansas Delta**, one at **Rohwer** in **Desha County** and the other at **Jerome** in sections of **Chicot** and **Drew** counties. Operating from October 1942 to November 1945, both camps eventually incarcerated nearly 16,000 Japanese Americans. This was the largest influx and incarceration of any racial or ethnic group in the state's history. One of the sites, Rohwer, is on the National Register of Historic Places.

After Japan's surprise attack on Pearl Harbor and America's entry into World War II, many Americans, especially those living on the West Coast, feared an eventual invasion by the empire of Japan. Over eighty percent of the Japanese American population living in the United States at the time lived along the coast in the states of Washington, Oregon, and California. Many West Coast citizens viewed the concentrated Japanese American communities as potential enclaves for espionage and "fifth-column" activities. Fueled by war hysteria, reinforced by decades of racial hatred, and citing the "doctrine of military necessity," President Roosevelt on February 19, 1942, signed Executive Order 9066, giving the secretary of war the power to designate military areas from which "any or all persons may be excluded" and authorized military commanders to initiate orders they deemed advisable to enforce such action.

Arkansas was neither receptive to nor supportive of the Japanese Americans being incarcerated in the state. Local residents were often hostile to those imprisoned in the camps for reasons beyond the race of the internees. The camps often had amenities that were lacking in the poor, Delta towns that surrounded them: electricity, locally grown food, and more. During their period of confinement, many unfounded and malicious accusations of "coddling," food hoarding, labor strikes, and disloyalty were aimed at the camps by state political leaders. Governor **Homer Adkins** and others also resented and feared the Japanese American prisoners. On February 13, 1943, the Arkansas state legislature passed the Alien Land Act "to prohibit any Japanese, citizen or alien, from purchasing or owning land in Arkansas." This act was later ruled unconstitutional, and after the camps closed, several families remained in Arkansas, though all but one (that of Sam Yada) left within a year's time to escape the system of **peonage** that was common for agricultural workers. Governor Adkins was particularly opposed to letting Japanese Americans attend college within the state, fearing that allowing such would pave the way to the integration of higher education in Arkansas. All Arkansas colleges turned away Japanese Americans save the **University of the Ozarks** in **Clarksville (Johnson County)**, which allowed one Nisei male to enroll in the autumn of 1945, as the war was coming to a close.

1. Locate Desha, Chicot and Drew counties in Arkansas and make a star where the Rohwer and Jerome camps were located.

2. Why did some Arkansans resent the Japanese-Americans for reasons other than race?

3. In what ways did Gov. Adkins work to not allow the Japanese-Americans a chance to integrate in Arkansas society?

4. In your opinion, why do you think Arkansas was chosen as a site for two of the ten camps?

Day 33:

Adapted from history.com, May 31, 2019

Tiananmen Square Protests

The Tiananmen Square protests were student-led demonstrations calling for democracy, free speech and a free press in China. They were halted in a bloody crackdown, known as the Tiananmen Square Massacre, by the Chinese government on June 4 and 5, 1989.

Pro-democracy protesters, mostly students, initially marched through Beijing to Tiananmen Square following the death of Hu Yaobang. Hu, a former Communist Party leader, had worked to introduce democratic reform in China. In mourning Hu, the students called for a more open, democratic government. Eventually thousands of people joined the students in Tiananmen Square, with the protest's numbers increasing to the tens of thousands by mid-May.

At issue was a frustration with the limits on political freedom in the country—given its one-party form of government, with the Communist Party holding sway—and ongoing economic troubles. Although China's government had instituted a number of reforms in the 1980s that established a limited form of capitalism in the country, the poor and working-class Chinese still faced significant challenges, including lack of jobs and increased poverty.

The students also argued that China's educational system did not adequately prepare them for an economic system with elements of free-market capitalism. Some leaders within China's government were sympathetic to the protesters' cause, while others saw them as a political threat.

Tiananmen Square Massacre

While the initial presence of the military failed to quell the protests, the Chinese authorities decided to increase their aggression. At 1 a.m. on June 4, Chinese soldiers and police stormed Tiananmen Square, firing live rounds into the crowd.

Although thousands of protesters simply tried to escape, others fought back, stoning the attacking troops and setting fire to military vehicles. Reporters and Western diplomats there that day estimated that hundreds to thousands of protesters were killed in the Tiananmen Square Massacre, and as many as 10,000 were arrested.

Leaders worldwide, including Gorbachev, condemned the military action and, less than a month later, the United States Congress voted to impose economic sanctions against China, citing human rights violations.

Tiananmen Square Censorship

Today the June 4 and 5 Tiananmen Square protests and massacre continue to resonate worldwide. In 1999, the U.S. National Security Archive released *Tiananmen Square, 1989: The Declassified History*. The document includes U.S. State Department files related to the protests and subsequent military crackdown.

It wasn't until 2006 that Yu Dongyue, a journalist arrested for throwing paint at a portrait of Mao Zedong in Tiananmen Square during the protests, was released from prison.

On the 20th anniversary of the massacre, the Chinese government prohibited journalists from entering Tiananmen Square and blocked access to foreign news sites and social media. Still, thousands attended a memorial vigil in honor of the anniversary in Hong Kong. Ahead of the 30 anniversary of the event, in 2019, New York-based Human Rights Watch published a report detailing reported arrests in China of those associated with the protests.

The 1989 events at Tiananmen Square have also been highly censured on China's tightly-controlled internet. According to a survey released in 2019 by the University of Toronto and the University of Hong Kong, more than 3,200 words referencing the massacre had been censured.

Day 34:

THE MORE YOU LOOK, THE MORE YOU SEE PHOTO ANALYSIS

What I See (observe) Describe exactly what you see in the photo. *What people and objects are shown? How are they arranged? What is the physical setting? What other details can you see?*

What I Infer (deduction) Summarize what you already know about the situation and time period shown and people and objects that appear. *I see* ___ *and I think* ___

Interpretation Write what you conclude from what you see. *What is going on in the picture? Who are the people and what are they doing? What might be the function of the objects? What can we conclude about the time period?*

Why do you believe the photo was taken?

Why do you believe this photo was saved?

What I Need to Investigate What are three questions you have about the photo?

1.

2.

The Tank Man of Tiananmen Square

After Chinese officials—alarmed at the June 1989 pro-democracy demonstrations in Beijing's Tiananmen Square—ordered soldiers and police to shoot and kill student protesters, one solitary man stood out from the crowd.

Historian and journalist T.D. Allman, who witnessed the uprising from the balcony of a Beijing hotel room, has described him as the "true exemplar" of the Chinese protesters' heroism. *Time* magazine has referred to him as the "Unknown Rebel," and included him in its list of the 100 most important people of the 20th century.

But the identity of the lone, brave protester—captured on film and in countless photos giving a defiant "stop" sign to a phalanx of Chinese tanks rumbling into Tiananmen Square—remains shrouded in mystery. To most, he is known simply as "Tank Man," a nickname given him by the British tabloids. His gesture has since become an enduring symbol of the bloody uprising in Beijing.

His defiance slowed the government crackdown on Tiananmen Square protesters. As documented by film taken at the time, Tank Man – wearing a simple white shirt, dark pants and carrying two shopping bags – initially halted the tanks by displaying the palm of his right hand in what is universally recognized as the signal for "stop."

The tanks did indeed stop, and Tank Man was seen climbing up the front of the lead tank, and standing on it for several moments, during which time he spoke with a crew member. Though the tanks attempted to maneuver around Tank Man, he repeatedly moved to block their path. Soon, two men—possibly government officials—forcibly removed Tank Man from his position and carried him off, after which the tanks proceeded on their way

.

Tank Man has never been positively identified.

In the aftermath of the incident, the protester received worldwide acclaim; however, his identity has still not been confirmed. The *Sunday Express*, a British publication, reported that summer that his name was Wang Weilin, a 19-year-old student arrested for "political hooliganism." Varying reports suggested the student was either imprisoned or executed.

Chinese officials have refused to confirm his name or whereabouts in response to numerous queries from Western journalists in the years since the incident. In fact, they claim they were unable to locate him. It could be argued, though, that Tank Man's name doesn't matter as much as his act—all images of which are still banned by China's repressive Communist regime.

From history.com, *Who was the Tank Man of Tiananmen Square?*

Day 35:

Women
IN
History

Amelia as a child

Amelia Earhart

Amelia Earhart

Amelia Earhart was born in Atchison, Kansas in 1897. She spent her childhood in Kansas, Minnesota and Illinois. In 1920, she took her first airplane ride. She loved flying and began taking flying lessons. At that time, women pilots were very unusual.When Amelia earned her pilot's license in 1923 she became the 16th woman in the U.S. to have her license to fly.

In 1928, Amelia was the first woman to fly across the Atlantic. She flew with another pilot, Wilmer Stultz. Amelia became very famous for this flight. When she came back to America, she was honored with parades and met President Coolidge. In 1932, Amelia flew across the Atlantic again, this time by herself. She was the first woman to fly alone, or solo, across the Atlantic. For this, Amelia received the Distinguished Flying Cross from Congress, the first woman to receive this honor.

Amelia with her plane, about 1928

Amelia broke many records for distance and speed. She was the first person to do many things, such as fly from Hawaii to California.

In 1937, Amelia tried to break another record. This time, it was to fly around the world along the equator. She and her crew member, Fred Noonan, took off from Florida on June 1, 1937. They flew across the Atlantic, Africa, and India. When they reached the Pacific, they had radio trouble and were low on fuel. The plane disappeared on July 2, 1937 with Amelia and Fred on board. They were never found.

Amelia's life encouraged many other women to become pilots. She also educated the public about flying and airplanes.

Q AND A

What year did Amelia fly across the Atlantic alone?

_____

What did Congress give Amelia?

_____

Who was the first person to fly from Hawaii to California?

_____

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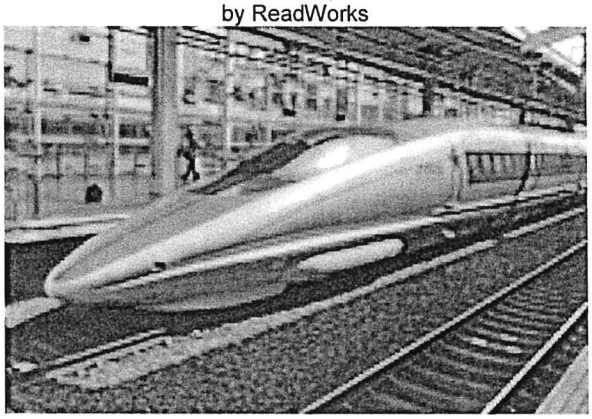
Name _____ Date _____ Class/Teacher _____

SCIENCE AMI PACKET # 31

Could the Futuristic Traveling Tube Become a Reality?

by ReadWorks



It sounds like something straight out of a science fiction movie or a silly cartoon: a futuristic traveling tube that can quickly shoot people wherever they want to go, inside a tiny pod. But this may be just around the corner for people looking for a faster, easier, and cheaper-than-ever way to travel.

South African-American inventor and billionaire Elon Musk, who, in the past, has worked on both private space flight and electric cars, recently announced he has been working on the design of this traveling tube, which could forever change the way we travel the world. In an interview, Musk described the new tube as a fifth kind of transportation.

"We have planes, trains, automobiles, and boats," he explained. "What if there was a fifth mode? I have a name for it, [it's] called the Hyperloop."

The Hyperloop would have the power to cut back on travel time between major cities like Los Angeles and San Francisco, which is what inspired Musk to design the Hyperloop in the first place.

Musk stated in an interview that he actually came up with the idea for the Hyperloop while thinking about the train that takes people between Los Angeles and San Francisco-it is known for being one of the slowest in the country.

"This system I have in mind...can never crash, is immune to weather, it goes three or four times faster than the bullet train...it goes an average speed of twice what an aircraft would do," explained Musk.

"You would go from downtown L. A. to downtown San Francisco in under 30 minutes," he added. "It would cost you much less than an air ticket [and less] than any other mode of transport."

People using the Hyperloop would shoot around in pods, which are each just over six-and-a-half feet across, and the pods would travel through tubes located either above ground or under water, though Musk has not yet released his final design drawings.

Additionally, Musk believes the Hyperloop could be completely powered by the sun-making it more environmentally friendly than cars, airplanes, or train systems. Someday it could possibly move people between the East and West Coasts of the United States in less than an hour, which is faster than any other mode of transportation that exists. Eventually, the Hyperloop would be able to move people around the world.

The Hyperloop could even run 24/7, be cheap, and allow people to travel on their own schedule. People could show up at the Hyperloop station whenever they want and be quickly sent on their way.

Musk is not the first person outside of science fiction novelists to dream up vacuum tube technology for moving people. The idea has been around for some time, and inventors in other countries, including China, are reportedly working on similar technology.

Could the Futuristic Traveling Tube Become a Reality? - Comprehension Questions

_____1. What is the Hyperloop?

A. an electric car that Elon Musk is designing
B. a private spaceship that Elon Musk is designing
C. a traveling tube that Elon Musk is designing
D. a bullet train that Elon Musk is designing

_____2. What does this passage describe?

A. This passage describes a traveling tube that could help people get around in the future.
B. This passage describes the costs of building traveling tubes around the world.
C. This passage describes the damage that cars, planes, and trains do to the environment.
D. This passage describes the reasons that people are looking for a cheaper-than-ever way to travel.

_____3. If built, the Hyperloop would be faster than any other type of transportation. What evidence from the passage supports this statement?

A. People using the Hyperloop would travel in pods that are about six-and-a-half feet across.
B. The Hyperloop is being designed to travel at twice the speed of an airplane.
C. Right now people can fly, drive, or take a train to get from Los Angeles to San Francisco.
D. Inventors in other countries are working on technology similar to the Hyperloop.

____4. Based on information in the passage, what is one reason that people might want to use the Hyperloop instead of other kinds of transportation?

A. People with motion sickness might not be able to handle the Hyperloop.
B. People are tired of using the same four kinds of transportation over and over.
C. The Hyperloop could take people to places where planes and trains do not go.
D. People would not have to pay as much to use the Hyperloop.

_____5. What is this passage mainly about?

A. science fiction movies and cartoons featuring futuristic traveling tubes with tiny pods
B. the interest that inventor Elon Musk has in private space flight and electric cars
C. why the train between Los Angeles and San Francisco is one of the slowest in the country
D. a tube that could make travel in the future easier, faster, and cheaper

_____6. Read the following sentences: "Additionally, Musk believes the Hyperloop could be completely powered by the sun-making it more environmentally friendly than cars, airplanes, or train systems. Someday it could possibly move people between the East and West Coasts of the United States in less than an hour, which is faster than any other mode of transportation that exists." What does the word mode mean in the sentence above?

A. ticket
B. type
C. train
D. travel

_____7. Choose the answer that best completes the sentence. The Hyperloop would offer travelers many benefits, _____ fast trips and low prices.

A. meanwhile
B. finally
C. including
D. otherwise

8. According to the passage, what are some of the questions that remain unanswered about the Hyperloop? _____

_____

9. Is anyone besides Elon Musk working on technology similar to the Hyperloop? If so, who? _____

_____

10. Based on information in the passage, is a traveling tube such as the Hyperloop likely to become a reality or not? Explain your answer.

_____

_____

_____

Name _____ Date _____ Class/Teacher _____

SCIENCE AMI PACKET # 32

TV Ratings and Share

When a television show you like is canceled, it is probably because of that show's **ratings**. Ratings are an estimate of how many people watch a given show. They are actually a percentage shown to the first decimal place. A typical rating for a prime-time show would be 15.7. Over 99 million U.S. households have televisions. Because there are so many televisions, a special sample is made by using electronic equipment. This sample involves 5,000 households.

To find a show's rating, divide the number watching that show by the total number of sample households. For example, if 525 households are watching the show, you would divide 525 by 5,000 to get 0.105 or 10.5% or a rating of 10.5.

1. If a show has a 15.7 rating, how many of the 5,000 sample households are watching?

_____

There is another factor besides rating. It is called **share**. Whereas rating is a percentage of all the households that have televisions that are tuned in to the show, share is the percentage of households that have their televisions turned on. The combined rating and share would look like 15.7/30.

To find a show's share, divide the number watching that show by the total number watching something. For example, suppose 2,500 households are watching TV and 950 households are watching a particular show. You would divide the number watching that particular show by the total number watching something, or 950 divided by 2,500 equals .038 or 38% or a 38 share.

2. The chart below gives information for three separate weeks of television viewing for the 5,000 sample households for three programs. Complete the ratings and share portions. Assume that these are the only three shows on in this time-slot.

	WEEK ONE			WEEK TWO			WEEK THREE		
	Watching	Rating	Share	Watching	Rating	Share	Watching	Rating	Share
Dumb Dog	794			735			735		
Time Warp	1,009			779			979		
Winnie's Wanders	621			706			756		

Write complete sentences to answer the questions.

3. Why did *Dumb Dog* have the same share in Week One and Week Two, but have different ratings?

_____

4. Which show's rating increased, even though its share decreased?

_____

_____

Name _____ Date _____ Class/Teacher _____

SCIENCE AMI PACKET # 32

What Are Trophic Levels?

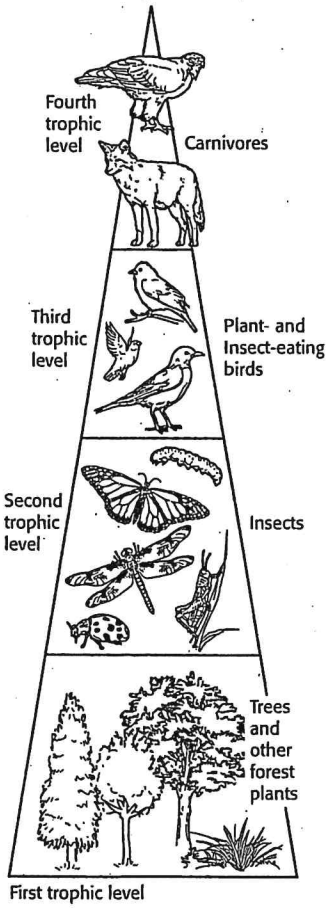
Living things that share the same kinds of food are placed in feeding levels, or **trophic levels.** Trophic levels can be arranged from levels that hold the most living things to the levels that hold the fewest living things. The first and largest trophic level is made of producers. This level supports all of the trophic levels above it. Suppose that a food chain is made from an acorn, a rabbit, and a hawk. The oak tree that makes the acorn is a producer. It belongs in the first trophic level. The rabbit that eats the acorn belongs to the next smaller trophic level. And the hawk that eats the rabbit belongs in the last and smallest trophic level.

Why does each trophic level become smaller? Each level shows the movement of the Sun's energy. Producers at the first trophic level change the Sun's energy into food energy. Some of that energy is lost at each trophic level. That means that there are fewer animals in the higher trophic levels because they need more food to stay alive. Most food webs can support only a few trophic levels, with fewer animals in each level.

Some of the energy lost at every trophic level is captured again by **scavengers** and decomposers. Scavengers are animals such as vultures that eat dead animals. Bacteria and fungi, the decomposers, break down dead plants and animals to release the energy stored in their remains. This energy is used by producers.

Humans are part of food webs. They are also part of trophic levels. When they eat plants, humans belong to the second trophic level. They get more energy from their food at this level than at higher levels.

Trophic Levels in a Forest Food Web



Comprehension and Vocabulary Review

Darken the circle by the best answer.

1. Lower trophic levels in a food web have _____ creatures than higher trophic levels.
   - Ⓐ more
   - Ⓑ the same number of
   - Ⓒ fewer
   - Ⓓ None of the above

2. Trophic levels show the movement of the Sun's _____.
   - Ⓐ orbit
   - Ⓑ light
   - Ⓒ heat
   - Ⓓ energy

3. As the Sun's energy travels through many trophic levels, some of the energy is _____.
   - Ⓐ lost
   - Ⓑ gained
   - Ⓒ made stronger
   - Ⓓ made weaker

4. Decomposers _____ food energy at every trophic level.
   - Ⓐ destroy
   - Ⓑ capture
   - Ⓒ lose
   - Ⓓ None of the above

5. People get more food energy by eating foods from _____ trophic levels.
   - Ⓐ lower
   - Ⓑ higher
   - Ⓒ the highest
   - Ⓓ None of the above

6. _____ are animals that eat dead animals.
   - Ⓐ Producers
   - Ⓑ Trophics
   - Ⓒ Scavengers
   - Ⓓ None of the above

Write complete sentences to answer each question.

7. Why are there fewer animals in the higher trophic levels?

_____

Name _____ Date _____ Class/Teacher _____

SCIENCE AMI PACKET # 33

An Unwelcome Newcomer

by American Museum of Natural History

Invasion of the Zebra Mussels

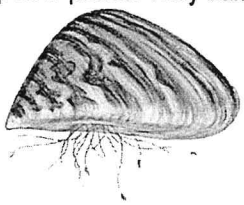
The zebra mussel is a small aquatic animal with two shells like a clam, named for its striped shell. This tiny creature may look harmless, but it can cause big problems. The zebra mussel is an invasive species, a species that's brought from its native area to a new place where it thrives and causes changes in the local habitats and communities.

Zebra mussels once lived only in freshwater lakes and rivers of Europe and Asia. But in the 1980s, they appeared in the Great Lakes between the United States and Canada. Scientists think the tiny animals were carried across the ocean inside of cargo ships. Within a few years, the mussels were found along waterways from Wisconsin to Arkansas.

How do these mussels spread so quickly? A single female can lay up to one million eggs each year. Then the young mussels float easily along water currents. When they're older, they attach themselves to hard surfaces like rocks on the riverbeds and the bottom of boats. They form dense colonies, with as many as 10,000 mussels in a single square foot. Each mussel clings with a mass of thread-like strands, making these colonies nearly impossible to remove.

Zebra mussels can cling to any hard surface- including native mussels and other shelled animals. These animals die because they can't feed. Zebra mussels can upset food webs in other ways, too. These filter feeders pump water through their gills and strain out microscopic organisms called plankton. Zebra mussels can quickly clear out huge bodies of water, removing food for the native invertebrates and small fish.

Zebra mussels can also affect humans - and cause millions of dollars in damage. The mussels clog water pipes to businesses and power plants. They damage boats, docks, buoys, and other structures. And their shells wash up in huge numbers on beaches.



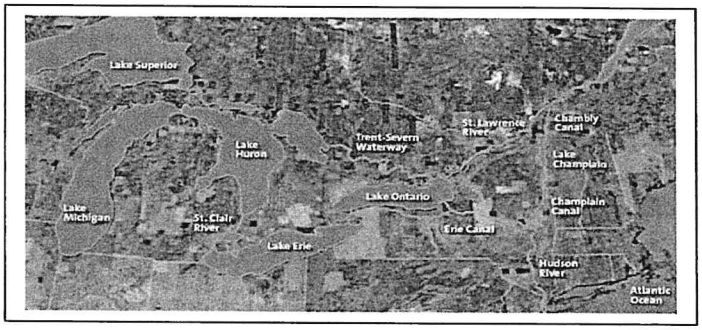
STICK TO IT: *Zebra mussels have tiny tentacle-like appendages called "byssal threads" that are coated in a sticky foam that help the mussel stick to almost any hard surface!*

The Hudson River Invasion

The Hudson River flows south through New York State, from the mountains to New York City. The scientists described in this study began monitoring the river's ecosystem in 1986. At that time, no zebra mussels lived in the river. But a series of waterways and canals connect the river to the Great Lakes, so scientists predicted it was just a matter of time before the zebra mussel would arrive in the Hudson.

The Hudson River's ecosystem is very different from the Great Lakes. Lake water settles into layers, with cool water near the bottom and warm, clear water above. But water in the Hudson is affected by tides from the Atlantic Ocean. These tidal currents mix the water from top to bottom. Tides also stir up silt from the riverbed, making the water turbid or cloudy. Little sunlight can pass through the murky water. Less sunlight means fewer plants and phytoplankton. Scientists wondered how zebra mussels might affect the Hudson River ecosystem. Soon they would find out.

UP THE RIVER: *The Hudson River connects the Atlantic Ocean to the Great Lakes through a series of artificial waterways, including the Erie Canal. Hundreds of cargo ships use this "water highway" to transport important materials, like gasoline, metal, and wood.*



JUST THE FACTS...

- Zebra mussels usually grow to about the size of your thumbnail.
- Cargo ships carry extra water (called ballast) to help balance the boat in oceans and rivers.
- Zebra mussels can be transported in this ballast water. Zebra mussels can typically live for 2-5 years and start reproducing by their second year.
- Zebra mussels love to eat plankton (microscopic organisms) and survive in both cold and warm water.

An Unwelcome Newcomer - Comprehension Questions

_____1. What is a zebra mussel?

A. a small striped fish found in rivers and lakes
B. a large plant with striped leaves that lives in water
C. a large animal with one shell that lives in water
D. a small animal with two shells that lives in water

_____2. How can zebra mussels cause native mussels and other shelled animals to die?

A. The zebra mussels feed on the native mussels and other shelled animals.
B. The zebra mussels rest on top of native mussels and shelled animals and crush them.
C. The zebra mussels force native mussels and shelled animals to move out of the habitat.
D. The zebra mussels cling to native mussels and shelled animals and prevent them from eating.

_____3. Scientists predicted that the zebra mussel would arrive in the Hudson River. What evidence supported their prediction?

A. Zebra mussels were in the Great Lakes, and waterways connect the Great Lakes to the Hudson River.
B. Zebra mussels are able to survive in cold and warm water, and the Hudson River has both.
C. Zebra mussels cling to hard surfaces, forming colonies that are almost impossible to remove.
D. Zebra mussels came to the Great Lakes from the freshwater lakes of Europe and Asia.

_____4. The scientists wondered how zebra mussels might impact the Hudson River ecosystem. What is one example of information that might help them understand the zebra mussels' impact?

A. the strength of the tides that come from the Atlantic Ocean after zebra mussels arrive
B. the number of boats traveling on the river before and after zebra mussels arrive
C. the amount of plankton in the river before and after zebra mussels arrive
D. the amount of time it takes for zebra mussels to travel to the Hudson River

_____5. What is the main idea of this article?

A. Zebra mussels are the most dangerous invasive species because of the effects they can have on humans.
B. Scientists started monitoring the Hudson River's ecosystem in 1986, even though the river had no zebra mussels at the time.
C. Zebra mussels are an invasive species that can affect food webs and new habitats, and were expected to arrive in the Hudson River.
D. Zebra mussels can upset food webs by clinging to shelled animals and removing food from large bodies of water.

_____6. Read the following sentence from the text. "The zebra mussel is an invasive species, a species that's brought from its native areato a new place where it thrives and causes changes in the local habitats and communities. "What does the phrase "native area" mean in this sentence?

A. the new habitat to which a species moves
B. the food source of a species
C. the animals or plants related to a species
D. the place where a species is naturally found

_____7. Choose the answer that best completes the sentence. Zebra mussels can affect humans and cause millions of dollars in damage. _____, the mussels clog water pipes to businesses and power plants.

A. Therefore
B. Consequently
C. For example
D. However

8. What do zebra mussels feed on?_____

9. The Hudson River has murky water, which means that only a little sunlight can pass through. How does this affect the things that live in the river? _____

_____

10. How might the number of fish in the Hudson River be impacted by the arrival of zebra mussels? Use evidence from the text to support your answer.

_____

_____

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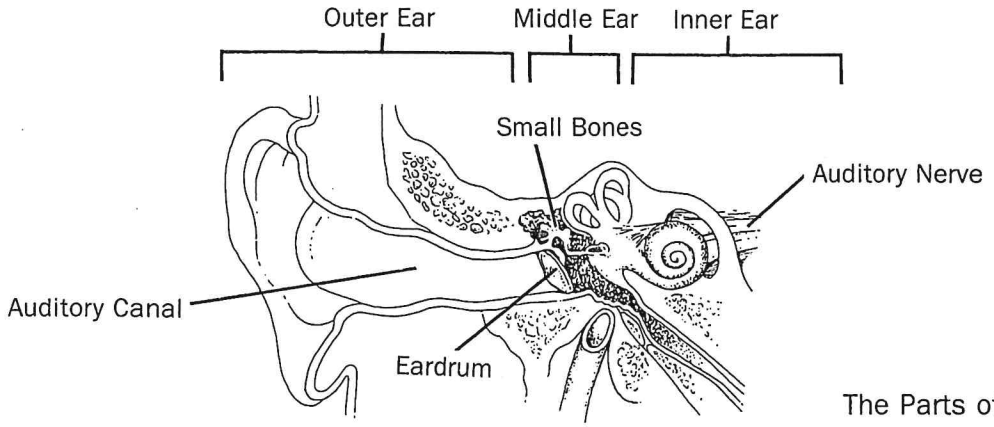
SCIENCE AMI PACKET # 34

How You Hear



The Parts of the Ear

You hear many different sounds every day. You hear people talking. You hear music and the sounds of cars. You have learned that sound is caused by vibrations. Vibrations send sound waves through the air. But how do your ears turn these sound waves into the sounds you hear?

Your ear has three main parts. They are the outer ear, the middle ear, and the inner ear. The outside part of your ear catches sound waves moving through the air. Then the waves move down the **auditory canal.** You can see the opening of the auditory canal in the middle of your outer ear. The outside part of your ear and the auditory canal are both part of the outer ear.

Sound waves move down the auditory canal to the **eardrum.** The eardrum is a very thin **membrane** across the auditory canal. Sound waves make the eardrum vibrate. The vibrations from the eardrum are passed on to three small bones in the middle ear. The bones make the vibrations larger.

The inner ear is filled with liquid. The vibrations from the bones in the middle ear make the liquid move. The moving liquid bends tiny hairs in your inner ear. Your **auditory nerves** feel these hairs move. The auditory nerves turn these movements into signals and send them to the brain. These signals are the sounds you hear.

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SCIENCE AMI PACKET # 34

A. **The steps below describe how you hear. Number the steps in the correct order. The first one is done for you.**

_____ The sound waves make the eardrum vibrate.

_____ The moving liquid bends tiny hairs in your inner ear.

_____ The outside part of your ear catches the sound waves moving through the air.

_____ The auditory nerves turn the movements of the tiny hairs into signals and send them to the brain.

_____ The sound waves move down the auditory canal.

_____ The vibrations from the small bones in your middle ear make the liquid in your inner ear move.

_____ Vibrations from the eardrum are passed to small bones.

B. **Underline the correct words.**

1. The outside part of your ear and the auditory canal are both part of the (outer, inner) ear.
2. The three small bones in the middle ear make the vibrations (smaller, larger).
3. The inner ear is filled with (liquid, air).
4. Sound waves move down the auditory canal to the (eardrum, outer ear).
5. The auditory nerves send signals to the (brain, eardrum).
6. Your (inner, middle) ear has three small bones.
7. Your ear has (six, three) main parts.

C. **Name the three parts of the ear.**

1. _____
2. _____
3. _____

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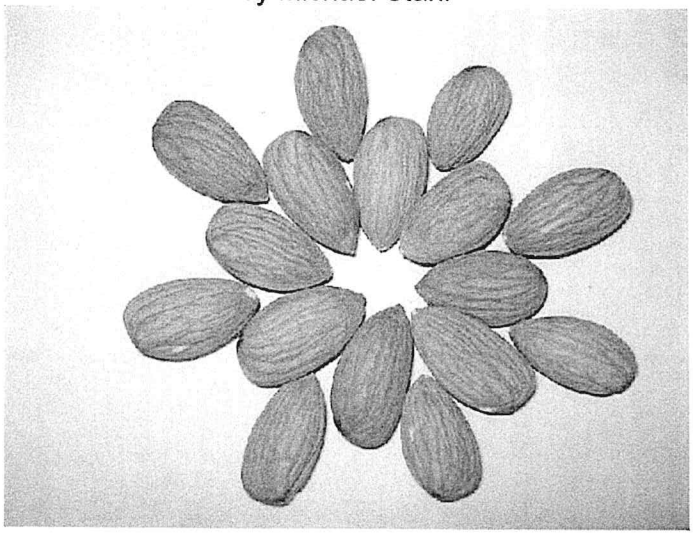
SCIENCE AMI PACKET # 35

Valley Nuts

by Michael Stahl



If you have ever eaten an almond in your life, you may be aware that it is one of the heartiest nuts available. Almonds are some of the healthiest nuts a person can bite into, and fortunately, they are also among the cheaper nuts one can buy. There are a few things you may not know about almonds, though. For example, you may not realize that almonds are not really nuts at all! In fact, they come from the fruits of almond trees. Almonds are in the pits of those fruits, which actually makes them seeds. To get at them, the stone-like pit has to be broken open. What is inside those pits is what we usually call the almond nut. Another thing you might not know is where almonds come from. Chances are if you are eating (and enjoying!) an almond at this moment, it was grown in California, USA. Almonds were not always grown there, though, and the story of how those seeds were made possible is quite incredible.

When the Spanish first settled in California, they actually shipped almond trees there. For some time, the Spanish took care of those trees and grew almonds to be eaten. When these Spanish settlers left, though, the almond trees were not looked after. Then, in the mid-1800s, almond trees were brought to America again, but this time, to the Northeast. Local farmers knew that California would be a better place for the trees because it was warmer there throughout the year. At that time, California's population was growing fast because of the discovery of gold.So, the almond trees were moved again and planted in California's Central Valley where there were plenty of new settlers to watch over them.

The Central Valley runs in the middle of the very long state. It is a 450-mile stretch of flatland that has become very important to the United States because of the many farms that nowexist. Over 230 different types of crops are grown in that area, including tomatoes, grapes, cotton, apricots, and, of course, almonds. Six thousand different almond growers live in California'sCentral Valley alone. They provide about 70 percent of the world's almond supply.

In 1933, the United States began the Central Valley Project with the goal of directing water from sources in the northern parts of the state-where there was a lot of rainfall and flooding from time to time-to the Central Valley, which, in certain parts, was even considered a desert and didn't have enough water for agriculture. Water would be brought in from other states like Colorado, home to the lengthy Colorado River. A tremendous series of aqueducts, canals and pump plants were built. Manmade reservoirs as big as large lakes were constructed; new rivers were dug too. This project went on through six different decades. All of this water now helps to irrigate over 3 million acres of farmland.

So, even though a large portion of the state is warm, sunny and dry almost all year, the manmade water system of the Central Valley Project helped to make California one of the biggest providers of food to the country and the world. Next time you bite into an almond, think about all of the hard work and thoughtfulness that went into making that nut. And then, remember it's not a nut, but a seed.

_____1. What is an almond?

A. a project designed to bring more water into a valley
B. an area of California where many crops are grown
C. a healthy seed that comes from the fruit of a tree
D. a water system using aqueducts and canals

_____2. What sequence of events does this passage describe?

A. the series of events that led the Spanish to settle in California
B. the series of events that led to almonds being grown in California today
C. the series of events that led to almonds being called "nuts" instead of "seeds"
D. the series of events that led to the discovery of gold in California

_____3. The Central Valley Project helped make California one of the largest providers of food to the country and to the world. What evidence from the passage supports this statement?

A. The Central Valley is a stretch of land 450 miles long and runs through the middle of California.
B. The United States began the Central Valley Project in 1933, and the project continued for six decades.
C. Almond trees were planted in California's Central Valley during the nineteenth century.
D. Today, California's Central Valley provides about 70 percent of the world's almond supply.

_____4. Why might someone choose to eat almonds?

A. Almonds are healthy.
B. Almonds cost a lot of money.
C. Almonds are grown outside of California.
D. Almonds are less popular than they used to be.

_____5. What is this passage mostly about?

A. the growth of California's population in the 1800s
B. the beginning of the Central Valley Project
C. almonds and their history in the United States
D. the tomatoes, grapes, cotton, and apricots grown in California

_____6. Read the following sentence: "For some time, the Spanish took care of those trees and grew almonds to be eaten. "What does the word grew mean above?

A. described and explained
B. raised and took care of
C. got up and moved away
D. attacked and defended

_____7. Choose the answer that best completes the sentence. In 1933, the Central Valley Project was begun; _____, the Central Valley is now a place where many different crops are grown.

A. previously
B. such as
C. first
D. as a result

8. What are some different crops grown in California's Central Valley? _____

_____

9. What was the Central Valley Project? _____

_____