



Miami Community Charter School
"Transform Obstacles into Opportunities"

FSA
Practice Packet
4th Grade

Name _____ Date _____

The Desert

1 Beaming sunshine and dry ground. You're in the desert. A desert is a place that receives less than 10 inches of rain or precipitation a year. Deserts cover more than 1/5 of the Earth's land. Most hot, dry deserts are near the equator and have daytime temperatures over 100 degrees Fahrenheit. At night, the temperature can drop drastically and it becomes much cooler. When rain falls in the desert it can fall hard and fast. It usually quickly soaks in to the ground or evaporates. Not all deserts are hot. Some are always cold like the Gobi Desert in Asia and Antarctica. Some deserts are sandy and some can be rocky or mountainous.



Illustration #1

The shaded areas are desert habitats in the world.

Desert Plants

2 Deserts are rich habitats that are alive with many interesting plants. The harsh, dry environment means that plants need unique adaptations to help them survive. Water is such a scarce resource to plants in the desert, so conserving water is very important. The prickly pear cactus stores water in its pads to use during a drought. Other types of succulent plants and cacti store water in their stems. Some plants have a

thick waxy skin that helps to keep the water in its stem. Other cacti have pleats that can expand to store water when it rains. The Saguaro cactus, along with other plants, have sharp spines that not only protect it from animals, but also provide shade and protection from the Sun.

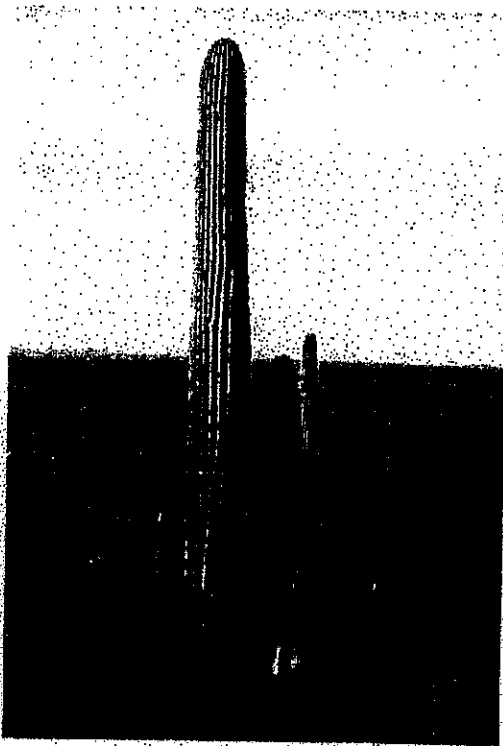


Illustration #3

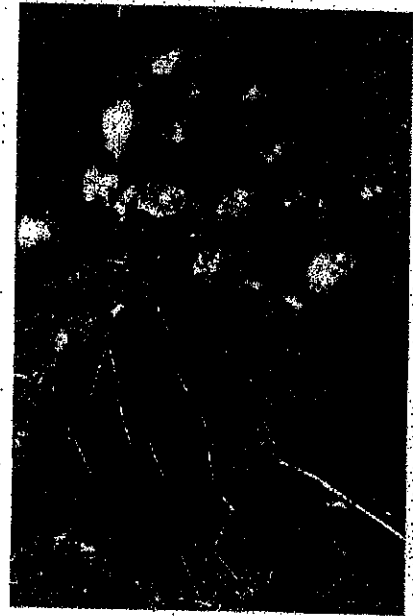


Illustration #2
Prickly pear cactus.

The Giant Saguaro Cactus has many adaptations to help it survive in the desert including a waxy coating, pleats to help it store water, spines, and shallow lateral roots.

- 3 Some desert plants, like the mesquite tree, have taproots to help them collect deep ground water. In some cases the roots can be over 100 feet deep! Other plants have shallow roots that spread in all directions. These roots can quickly absorb water during a quick rainstorm.

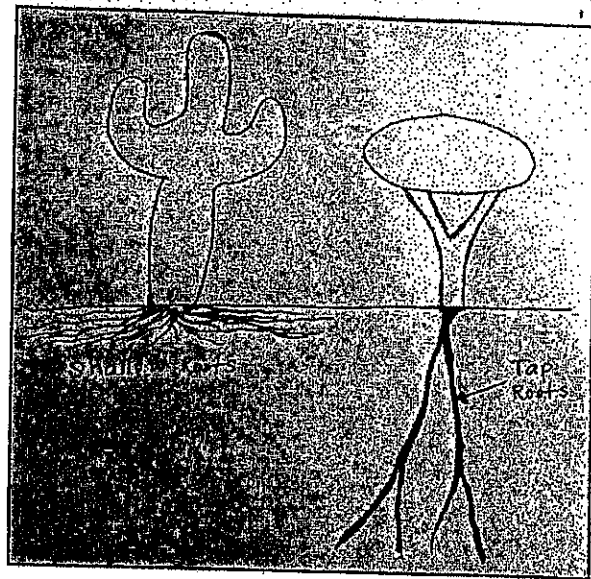


Illustration #4

Desert Animals

- 4 Animals have also adapted to life in the desert. Due to the lack of water some animals never drink! They get their water from the foods they eat- like seeds and plants. The roadrunner gets all of his water from food. Many animals beat the heat during the day sleeping, only coming out at night. These animals are nocturnal. Many animals, like the desert tortoise, escape the heat by living in burrows under the ground.



Illustration #5- Roadrunner

- 5 The Fennec Fox is one of the smallest foxes in the world. Their nocturnal ways and homes in burrows help them deal with the searing heat of the desert. They have a couple of physical adaptations to help them as well. Their unusually big ears help to radiate heat and keep them cooler and their thick fur keeps them warm on cold nights.

- 6 The Gila Monster is a lizard that lives in U.S. deserts. It can store fat in its tail, so it can go months between eating meals if it need to. The Gila Monster spends about 95% of its time underground.



Illustration #6

The Desert Tortoise can spend up to 98 percent of the day underground.



Illustration #7

Left: The Fennec Fox lives in Africa in the Sahara Desert.

Name _____ Date _____

Use the article "The Desert" to answer the questions below.

1. What does the word scarce mean as used in this sentence?
"Water is such a *scarce* resource to plants in the desert, so conserving water is important." (paragraph 2)

- A. abundant
- B. plentiful
- C. uncommon
- D. small

2. What is the purpose of tap roots in a plant?

3. This question has two parts. First answer Part A. Then, answer Part B.

Part A

Which of the following best describes the main idea of *Paragraph 4*?

- A. The Desert Tortoise can spend up to 98% of the day underground.
- B. The Fennec fox is one of the smallest foxes in the world.
- C. The roadrunner gets all of his water from food.
- D. Animals have many adaptations to survive life in the desert.

Part B

Select a detail from the article that BEST supports your answer, and write the sentence on the lines below.

Name _____ Date _____

4. What are two adaptations that help plants survive in the desert? Use information from the passage to support your answer.

5. What does the reader understand using the information from the passage and illustration #2?

- A. that the prickly pear cactus has pleats that expand
- B. that the prickly pear cactus fruits are eaten by animals
- C. how a prickly pear cactus stores water
- D. why a prickly pear cactus has lateral roots

6. What is one reason the author included paragraph 5 in the passage?

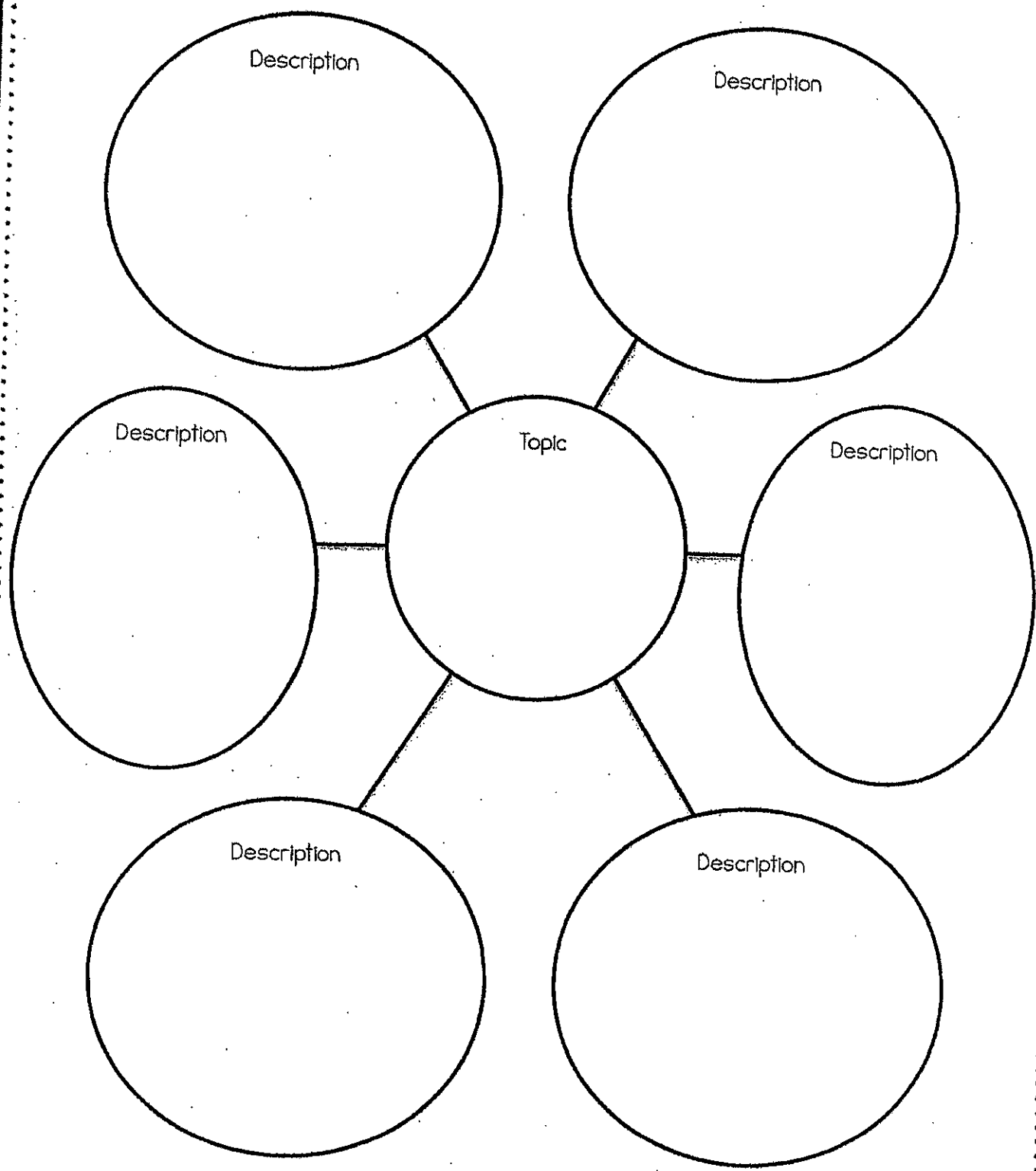
- A. to compare Fennec foxes to Gila Monsters
- B. to describe how Fennec foxes live in the desert
- C. to explain why desert animals live in burrows
- D. to describe why animals are nocturnal in the desert

7. What are two characteristics of a desert habitat?

- A. Very dry with extreme temperatures.
- B. A lot of different types of plants and green vegetation.
- C. Many days of hard, fast rainfall.
- D. Harsh winters with a lot of snowstorms.
- E. Less than ten inches of precipitation a year.

Name _____ Date _____

Description Web



Name _____ Date _____

Language & Editing Mini I

Choose the correct word or phrase to fill in each blank in the passage. For each blank, bubble in the letter before the word or phrase that is correct.

Camels

What animal carries a refrigerator on its back? The camel. Well, not exactly, but camels do store fat, which the camel _____ (A used B use C using D uses) for energy when food is scarce.

In fact, their humps are so efficient that a camel can go for several months with no food. They can even survive up to one _____ (A weke B weak C week D weeks) without water.

It's a good thing camels don't need a lot of food or water because they live in one of the _____ (A tougher B tuffest C tuffer D toughest) climates on the planet. Camels have lived in the deserts in Africa and the Middle East for over 3,000 years.

People in the Middle East ride camels and use them to carry things just like horses. Camels can _____ (A carry B carrying C carries D carried) up to 200 pounds.

Camels have long eyelashes and a protective eyelid to keep out sand in the desert. They can even close _____ (A there B their C thear D they're) nostrils.

Name _____ Date _____

Language & Editing Mini 2

Choose the correct word or phrase to fill in each blank in the passage. For each blank, bubble in the letter before the word or phrase that is correct.

Mojave Desert

The Mojave Desert covers over 22,000 square miles and _____
(A stretches B stretched C stretch D stretching) across parts of four
states- Southeastern California, Southwestern Utah, Southern Nevada and
Western Arizona.

The Mojave Desert is home to Death Valley, which is the hottest place in
North America. The _____ (A hot B hottest C hotter D hots) air
temperature ever recorded in Death Valley was 134°F on _____
(A July 10, 1913 B July 10, 1913 C July 10 1913 D July, 10, 1913)!

The Mojave Desert is home to the Joshua tree. A long time ago American
Indians recognized it for its _____ (A using B user C useless
 D useful) properties. Its tough leaves were worked into baskets and
sandals, and flower buds and raw or roasted seeds were a healthy food
source for _____ (A me B they C them D we) Now, many animals
and insects depend on the Joshua tree for food and shelter.

Name _____ Date _____

Komodo Dragons

1 Komodo dragons are lizards. Like all lizards, they are reptiles. Their bodies are covered with scales and they are cold-blooded. As the largest living lizards in the world, they can be 6-10 feet long and weigh 150-300 pounds.

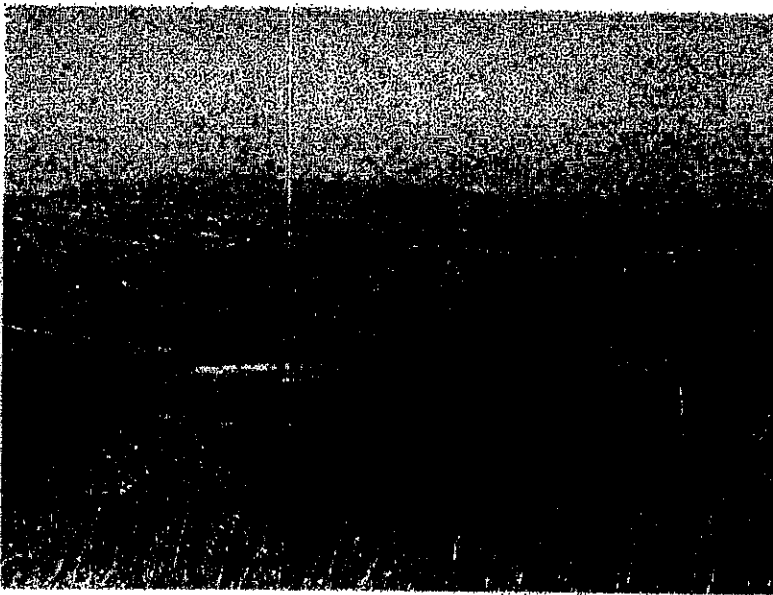
2 Komodo dragons have gray skin. They have long, flat heads, large powerful tails and strong legs sharp teeth and a forked tongue. The Komodo dragon's bite is poisonous. The gums around its teeth are full of bacteria. The bacteria gets into the bite wound of the animal. The bacteria causes an infection that kills the animal.



Komodo dragon on the beach.

Dragon Habitats

3 Komodo dragons can be found only on four or five islands in the whole world. The islands are part of a country called Indonesia. They are surrounded by the Pacific and Indian Oceans. The islands are hot and dry. The Indonesian



The Island of Rinca is one island where Komodo dragons live.

government established Komodo National Park in 1980 to help protect thousands of komodo dragons.

4 Each Komodo dragon has its own home range. Their home range includes a sleeping area, hunting grounds and a food foraging area. Komodo dragons mostly live alone. They sleep in burrows in the ground. They make their own burrow using their powerful legs to dig into the ground. Komodo dragons usually sleep for about 12 hours a day.

They like to wake up early in the morning and lay in the sun if it's cool outside.

Eating & Survival

- 5 Since Komodo dragons live on an island, food can be scarce. Komodo dragons will eat almost any meat. They search for carrion, which is dead rotting meat. They also kill animals like deer and water buffalo. They might even eat smaller Komodo dragons! A big Komodo dragon can walk as much as 6 miles a day looking for food. And they can spend more than 20 days in a row searching.
- 6 Komodo dragons eat as much of their prey as they can. They eat every part of the animal including fur, teeth and hooves! They will sometimes eat up to 80% of their body weight in one meal. They can eat so much in one meal that they only need to eat about once a month. After they eat a big meal, dragons may rest for up to a week.

- 7 Komodo dragons spend a lot of time foraging for carrion. They only hunt for prey if they don't find any. They are patient hunters. They may hide for weeks at a time and then pounce, or jump, on their prey when it walks past their hiding place. It will bite its prey. If the injured prey gets away, the Komodo dragon will follow it until it dies. Komodo dragons are good swimmers and also eat fish. Sometimes they will even wait in the water for fisherman to set their catch of fish on the beach. Then, they will quickly swim to shore and steal the fish!



The Komodo dragon stalks a deer.



This Komodo dragon is eating carrion. A Komodo dragon's throat will stretch so they can swallow huge chunks of meat whole.

Name _____ Date _____

Use the article "Komodo Dragons" to answer the questions below.

1. Why is a komodo dragon's bite poisonous to its prey? Use information from the passage to support your answer.

2. This question has two parts. First answer Part A. Then, answer Part B.

Part A

Which of the following best describes the main idea of *Paragraph 5*?

- A. Komodo dragons are patient hunters.
- B. Since komodo dragons live on an island, food can be scarce.
- C. Each komodo dragon has its own home range.
- D. After they eat a big meal, dragons may rest for up to a week.

Part B

Select a detail from the article that BEST supports your answer, and write the sentence on the lines below.

3. What is one reason the author included paragraph 7 in the passage?

- A. to compare komodo dragons to island fisherman
- B. to describe how komodo dragons eat carrion
- C. to explain how komodo dragons hunt for food
- D. to describe how komodo dragons swim in the ocean

Name _____ Date _____

4. Why does a komodo dragon just follow its prey after it bites them?

5. What does the word foraging mean as used in this sentence?
"Komodo dragons spend a lot of time *foraging* for carrion."

- A. finding
- B. eating
- C. waiting
- D. searching

6. What is another example of information that could be found under the heading "Dragon Habitats" in the article?

- A. No matter where they live, Komodo dragons like extreme heat.
- B. Humans didn't know the Komodo existed until about 100 years ago.
- C. Female Komodo dragons lay up to 30 eggs, which they guard for several months.
- D. Komodo dragons can be speedy, briefly running up to 13 mph.

7. How do Komodo dragons catch their prey?

- A. They use traps in their hunting grounds to catch their prey.
- B. They hide in bushes and grasses while waiting for their prey.
- C. They run quickly towards their prey and bite it.
- D. They use tools like sticks to catch their prey.

Name _____ Date _____

Vocabulary Map

What I think the word means
(Definition)

Comparison or Antonym

Word

Sentence using the word.

My picture of what I think the word means:

Name _____ Date _____

Language & Editing Mini I

Choose the correct word or phrase to fill in each blank in the passage. For each blank, bubble in the letter before the word or phrase that is correct.

Australia

Australia is the smallest inhabited continent of the seven continents. It can also be considered the _____ (A)large (B)largest (C)larger (D)largist) island in the world. The country has deserts, rainforests, outback rural areas, beautiful beaches and big _____ (A)citys (B)city's (C)cities (D)city).

The Great Barrier Reef in Eastern Australia is the biggest coral reef in the world. The reef is home to more than 1,500 species of _____ (A)fish (B)fishes (C)fishies (D)fish's).

Australia is home to many of the deadliest species of animals on the planet. _____ (A)There (B)Their (C)They're (D)Thaer) are 36 different kinds of poisonous spiders and 20 types of venomous snakes.

Australia is home to a variety of unique animals including _____ (A)koalas, kangaroos emu kookabura and platypus (B)koalas, kangaroos, emu kookabura, and platypus (C)koalas kangaroo, emu, kookabura and platypus (D)koalas, kangaroo, emu, kookabura and platypus).

Name _____ Date _____

Language & Editing Mini 2

Choose the correct word or phrase to fill in each blank in the passage. For each blank, bubble in the letter before the word or phrase that is correct.

Helen Keller

Helen Keller is best known for accomplishing many things despite being both deaf and blind. Helen was born on _____ (A June 27, 1880 B June 27 1880 C June, 27, 1880 D June 27, 1880). She was a happy healthy baby. When she was around one and a half years old she became very sick. Although she _____ (A survived B survives C survive D surviving), her parents soon realized that she had lost both her sight and hearing.

Helen needed _____ (A specail B spechial C special D specsil) help. A teacher, Anne Sullivan, was sent to help Helen. She taught Helen words and how to read Braille. Helen even learned how to talk.

When Helen was in college she began writing about her experiences being blind and deaf. She eventually published two books. She spent much of her life working to _____ (A raise B raised C raize D raising) money and awareness for people with _____ (A disabilitys B disabilities C disabilityes D disabilityes), especially the blind and deaf.

Same and Opposite

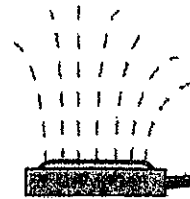
Write a **synonym** and an **antonym** for each word.
Use the words from the word box.

	SYNONYM	ANTONYM
true	_____	_____
damp	_____	_____
cry	_____	_____
alike	_____	_____
build	_____	_____
hard	_____	_____
sick	_____	_____
wealthy	_____	_____
hungry	_____	_____
brave	_____	_____

Summer fun!

Number the sentences below in the correct order to create a short story.

- _____ "I'll help you with the rest!" says Chris to Julian. "Thanks!" exclaims Julian.
- _____ Chris and Julian run quickly to their messy room to change into swimming trunks.
- _____ Finally, after applying sunblock, Chris and Julian have a fun summer day running back and forth through the sprinklers!
- _____ Chris is ready to go play when he is done, but he does not want to play without his little brother.
- _____ They almost make it out the back door when their mom stops them. "Where do you think you are going? You can't play in the sprinklers until you both clean your room!"
- _____ When Chris and Julian are all done, their mom inspects the room. Then she says, "Good job, boys! You can go play in the sprinklers now, but first you have to wear sunblock."
- _____ Both Chris and Julian groan as they walk back to their room. There are clothes and toys all over their beds and on the floor!
- _____ Chris throws his dirty clothes in the hamper, then folds his clean clothes and neatly stacks them in the drawers. Julian picks up all of his toys and puts them into his toy box.
- _____ It is a hot summer day, and Chris yells to his little brother Julian, "Let's go play in the sprinklers!"
- _____ Julian is taking a longer time cleaning up because his mess is bigger. He still has to fold his clean clothes!



CRAZY
Stories!

A CAMPING ADVENTURE!

Fill in the blanks with the right parts of speech to complete this outrageous story!

_____ and _____ went on a _____ camping trip. They
(NAME 1) (NAME 2) (ADJECTIVE)

_____ their _____ and started _____
(PAST TENSE VERB) (ADJECTIVE) (PLURAL NOUN) (-ING VERB)

_____ to build a _____. They knew they needed to _____ a
(ADVERB) (NOUN) (VERB)

lot of _____ before it became too _____ so they _____
(PLURAL NOUN) (ADJECTIVE) (PAST TENSE VERB)

very _____. For a snack they decided to make _____
(ADVERB) (PLURAL NOUN)

on a _____ and cook up a can of _____. As it got dark
(NOUN) (PLURAL NOUN)

outside, _____ heard a _____ make a sound in the
(NAME 2) (ANIMAL 1)

woods! _____ was scared and _____ a _____!
(NAME 1) (PAST TENSE VERB) (NOUN)

Outside, _____ a _____ from inside the tent.
(NAME 2) (PAST TENSE VERB) (NOUN)

The _____ but not before _____ over all the
(ANIMAL 1) (PAST TENSE VERB) (-ING VERB)

_____! When the morning came, _____ and
(ADJECTIVE) (NOUN) (NAME 1)

_____ left to go _____ up a _____ and
(NAME 2) (VERB) (ADJECTIVE) (NOUN)

gather _____. It truly was a _____ camping trip!
(PLURAL NOUN) (ADJECTIVE)



Multiplication Practice

Fill in the missing number



Test your multiplication skills by writing in the correct number to make the problem true.

1.

$8 \times \square = 40$

2.

$6 \times \square = 18$

3.

$5 \times \square = 55$

4.

$4 \times \square = 16$

3.

$9 \times \square = 36$

6.

$7 \times \square = 21$

7.

$2 \times \square = 18$

8.

$4 \times \square = 20$

9.

$3 \times \square = 27$

10.

$10 \times \square = 100$

11.

$9 \times \square = 63$

12.

$8 \times \square = 56$

13.

$12 \times \square = 72$

14.

$6 \times \square = 30$

15.

$7 \times \square = 0$

16.

$5 \times \square = 15$

17.

$4 \times \square = 28$

18.

$8 \times \square = 24$

19.

$11 \times \square = 121$

20.

$2 \times \square = 8$

21.

$9 \times \square = 54$

Order of Operations: PEMDAS

1. **Parentheses ()** First, perform operations within parentheses.
2. **Exponents Y^2** Second, perform operations with exponents.
3. **Multiplication X and Division \div** Third, perform all multiplication and division operations from left to right.
4. **Addition + and Subtraction -** Lastly, perform all addition and subtraction operations from left to right.

Solve the following problems using PEMDAS

1. $(4 + 3) \times 10 \div 2 + (5 \times 6)$

6. $(10 - 7) + (2 \times 14 \div 4)$

2. $3^2 + (2 + 12 \times 2) - 16 \div 4$

7. $64 - 8 + 12 \times 2 + 9$

3. $4(15 \div 3) + (6 \times 3) - 2^2$

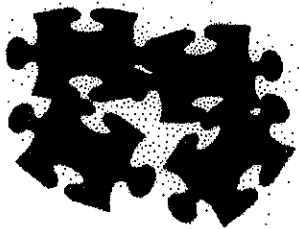
8. $12^2 - 23 + (9 \times 3)$

4. $9^2 \times 2 - 20$

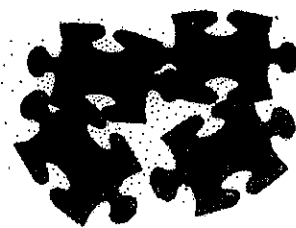
9. $4^3 - 3^3$

5. $1 - 13 \times 2 + 25 - 3 + 15 - 3$

10. $9 + 5 - 10 \times 6 - 8$



Math Crossword Puzzle



Fill in the blanks of each crossword puzzle to make the division equations true.

64	÷		=	8			÷	2	=	27
÷				÷					÷	
	÷		=	2		÷	2	=		
=				=					=	
32			÷		=	9				9

			36	÷		=	2		68	
÷			÷		÷				÷	
12		81	÷		=					
=				=		=			=	
12	÷		=	4			÷	1	=	

Summer Word Problems

Use addition, subtraction, multiplication or division to solve the following word problems.

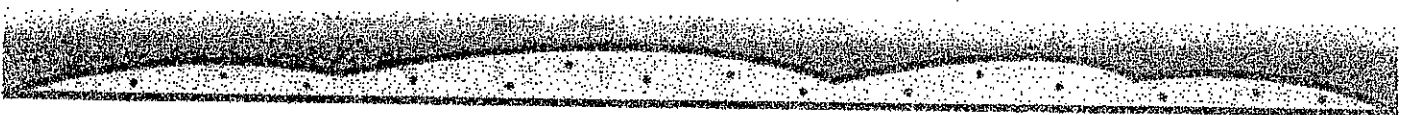
1. Kim invites 12 of her friends to a backyard BBQ. If she plans for each person to eat 3 hot dogs, how many hot dogs must she buy?

2. The Johnson family is taking a vacation in Southern California. They plan to spend 3 days in Los Angeles, 2 days in San Diego and 4 days in Santa Barbara. How many days will they spend on vacation?

3. Stan and Lisa visit the county fair. If they wait in line for 15 minutes to ride each attraction, how many attractions can they ride in 4 hours?

4. Allen attended his first baseball game last summer. If the 9-inning game lasted 3 hours, what was the average amount of time each inning lasted?

5. Gina builds 24 sand castles at the beach. If a wave knocks down 13 of them, how many sand castles are left?



Name: _____

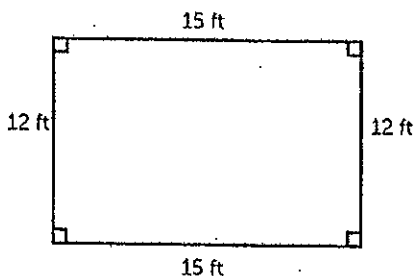
Date: _____

Perimeter: Perfect Carnival

The perimeter is the distance around a two-dimensional shape that has straight lines.

Calculate perimeter by adding up all the sides of the shape, or by using the perimeter equation:

$$2L + 2W = \text{Perimeter}$$



Add up the sides:

$$15 + 12 + 15 + 12 = 54 \text{ ft.}$$

Use the equation:

$$2(15) + 2(12) = P$$

$$30 + 24 = P$$

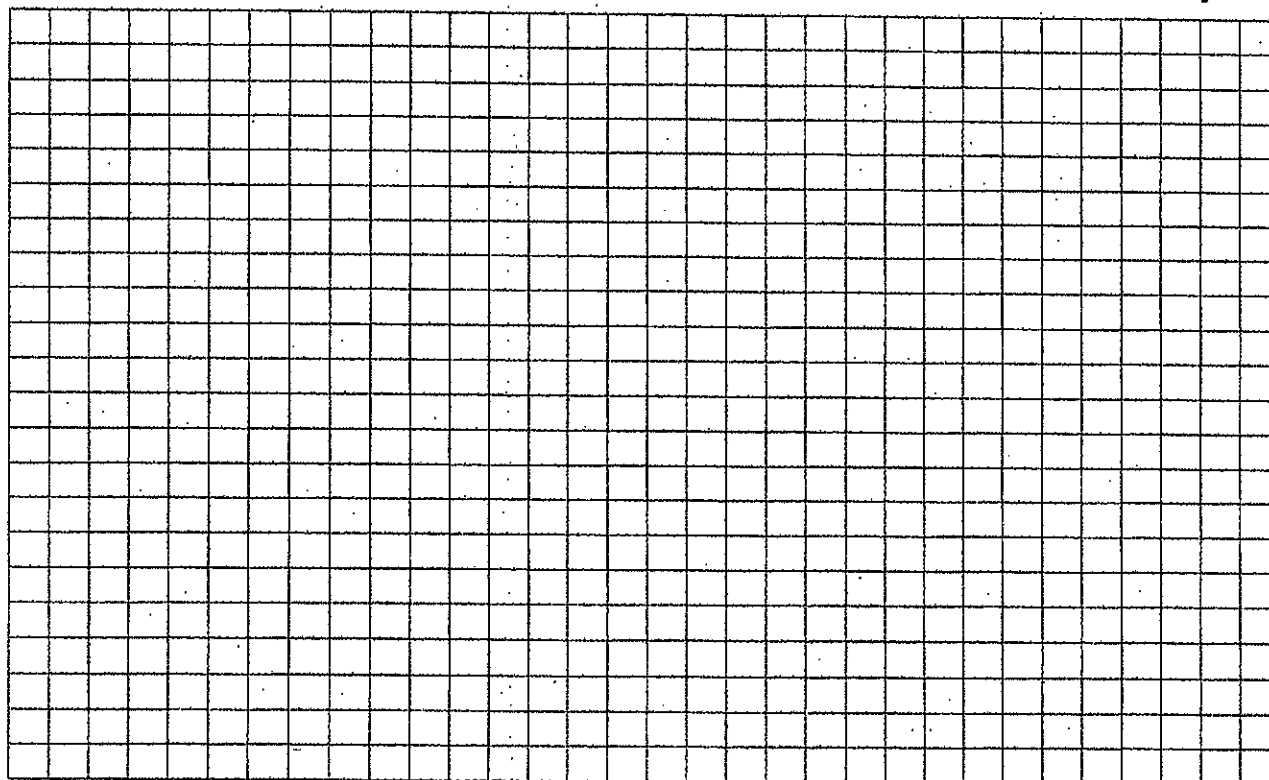
$$54 \text{ ft.} = P$$

Directions: Find the missing rectangle dimensions for each activity in the table.

Activity	Dimensions	Perimeter
Basketball Dunk	14ft. + 10ft. + 10ft. + _____	
Ring Toss	4ft. + 4ft. + _____ + _____	16 ft.
Wii Dance	2ft. + 10ft. + 10ft. + _____	
Bag Toss	9ft. + 3ft. + _____ + _____	

Activity	Dimensions	Perimeter
Video Games	6ft. + _____ + 6ft. + _____	20 ft.
Board Games	5ft. + _____ + _____ + 7ft.	
Water Balloon Toss	3ft. + 3ft. + _____ + _____	24 ft.
_____	8ft. + _____ + 9ft. + _____	

Directions: Choose the activities for your carnival and use their dimensions to draw the space you'll need for each activity. Each box in the grid measures 1 foot. Leave at least 2 feet in between each activity.

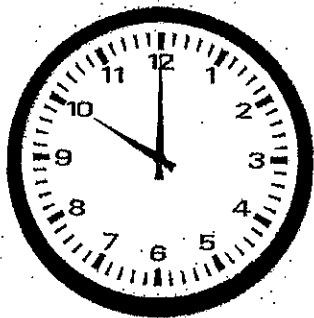




Solving Time Problems with a Number Line

Name: _____

Date: _____



When you look at an analog clock, you can see the measuring lines around the circle as a circular number line...

...that can be made straight into a number line tool to help you solve time problems for periods within an hour.

For example:

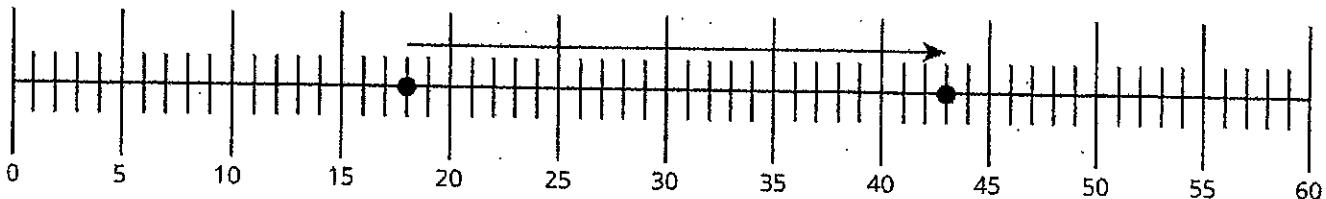
What time would it be if you were to have a snack in 25 minutes and the time is 2:18?

Step 1) Locate 18 on the number line as the starting point.

Step 2) A future time would be ahead of you, so you count 25 units forward...

Step 3) At 18 minutes, adding 25 minutes is 43 minutes, so your snack would be 2:43!

Move forward 25 minutes from 18 to arrive at 43!



Directions: Use the number line to solve the following exercises.

1. Jenny leaves for dinner at 6:25. If she arrives at 6:55, how many minutes did it take Jenny to get there? _____
2. It takes Johanna 38 minutes to ride her motorcycle to the bookstore. If she left at 2:15, what time would it be when she arrives? _____
3. Blythe's singing rehearsal is at 3:30. How many minutes does she have to get there on time if she leaves at 3:07? _____
4. Ivan works out at 2:05 each day, but takes a break after 45 minutes. If he takes a break 20 minutes earlier than normal, what time will Ivan take a break? _____
5. Andrea always finishes her 20 minute shower at 3:33. What time does her shower begin?

Think About It:

When measuring time, when is part of a whole not a part of a whole?

Name _____

Date _____



Math Review Part 4 Phenomenal Fractions

1. Juan's mother gave him a recipe for trail mix, which included $\frac{5}{8}$ cup cereal, $\frac{1}{3}$ cup peanuts, $\frac{1}{4}$ cup almonds, and $\frac{1}{2}$ cup raisins. Put the fractions in order from least to greatest in the boxes below.

Least

Greatest

2. Are the following fractions equal to ($=$), less than ($<$), or greater than ($>$) each other? Write the appropriate symbol on the line provided. Show your math thinking.

$$\frac{3}{8} \quad \underline{\hspace{1cm}} \quad \frac{12}{24}$$

$$\frac{6}{20} \quad \underline{\hspace{1cm}} \quad \frac{3}{10}$$

$$\frac{6}{7} \quad \underline{\hspace{1cm}} \quad \frac{18}{21}$$

$$\frac{12}{16} \quad \underline{\hspace{1cm}} \quad \frac{3}{5}$$

3. Write an X on the line next to the pairs of fractions that are equivalent. Show your thinking or calculations.

$$\underline{\hspace{1cm}} \quad \frac{4}{5} \quad \text{and} \quad \frac{8}{12}$$

$$\underline{\hspace{1cm}} \quad \frac{2}{3} \quad \text{and} \quad \frac{10}{15}$$

$$\underline{\hspace{1cm}} \quad \frac{2}{7} \quad \text{and} \quad \frac{6}{20}$$

4. In fifteen minutes, Edgar walked $\frac{3}{5}$ of a mile, Jackie walked $\frac{3}{4}$ of a mile, and Pranav walked $\frac{1}{2}$ a mile. Compare the distances walked by each person. Who walked the furthest, and who walked the shortest distance? Show your math thinking.

_____ walked the most. _____ walked the least.

5. List 3 equivalent fractions for $\frac{6}{9}$. One should be in simplest form.

6. Sasha plays the piano. She spends $\frac{1}{4}$ of an hour practicing scales and $\frac{1}{3}$ of an hour practicing songs for her recital. Circle **Yes** or **No** for each statement.

YES NO 12 can be a common denominator of $\frac{1}{4}$ and $\frac{1}{3}$.

YES NO The amount of time spent on scales can be written as $\frac{3}{12}$.

YES NO The amount of time spent practicing songs can be written as $\frac{6}{12}$.

Name _____

Date _____

8. Find the product. Simplify your answer and write it in the corresponding line.

$6 \times \frac{1}{4} =$

$\frac{4}{7} \times 3 =$

$10 \times \frac{3}{8} =$

Answer: _____

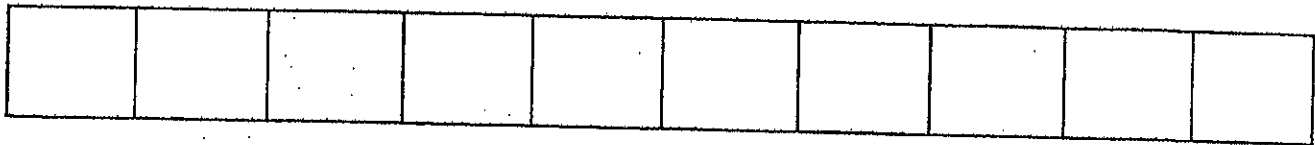
Answer: _____

Answer: _____

9. Mr. Rosenberry loves jam, and has a great jam recipe. He uses $2\frac{1}{2}$ pounds of strawberries and $1\frac{1}{2}$ pounds of blueberries to make one batch of jam! How many pounds does he need altogether to make one batch of jam? Show your math thinking.

Answer: _____

10. There is a carnival with lots of fun activities at the middle school! One tenth of the carnival activities are dunk tanks. Student exhibits make up $\frac{5}{10}$ of the activities and games take up $\frac{4}{10}$ of the carnival. On the model below, show by careful shading, what fraction of the carnival is **dunk tanks and games**. Also write the answer on the answer line.



Answer: _____

11. Mrs. Sabo made $16\frac{2}{3}$ pounds of tortellini for a staff luncheon. At the end of the luncheon, she had $3\frac{1}{3}$ pounds left. How many pounds of tortellini were eaten by the hungry teachers? Show your work.

Answer: _____

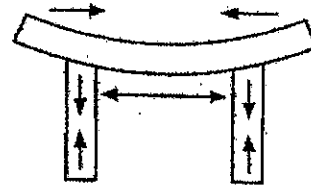
Four Types of Bridges

In the diagrams below, the pairs of arrows show the following forces at work:

← → tension → ← compression

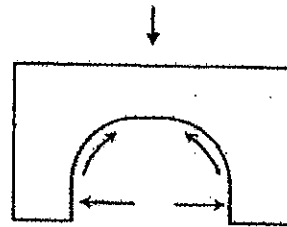
Beam Bridge

A beam bridge has a horizontal beam supported by two piers. The beam bends when a load is on the bridge. A load can be cars, trucks, or a train. Compression acts on the top side of the beam and the two piers. Tension acts on the bottom side of the beam.



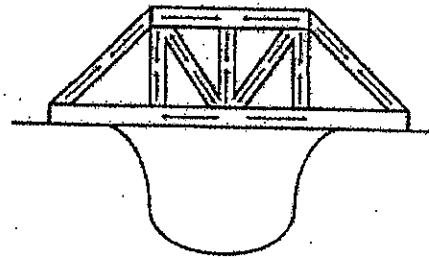
Arch Bridge

The arch is a very strong shape. A load on top of the bridge causes compression on the top of the arch. It also causes tension at the bottom of the arch. This tension could cause the arch to spread apart, making it weaker. The material on the sides of the arch acts like buttresses. The material keeps the arch from spreading apart.



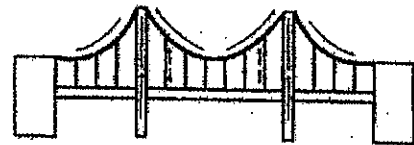
Truss Bridge

A truss bridge is built with triangles made of steel bars. A triangle is a very strong shape. Compression and tension forces act on the bridge. The diagram below shows the forces.



Suspension Bridge

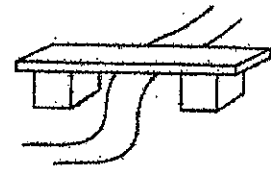
On a suspension bridge, tall towers support the main cable. Smaller cables attached to the main cable support the roadway. These cables are called suspenders. The main cable is attached to large blocks at each end of the bridge. The load of traffic on the bridge is transferred to the suspenders. This causes tension in the suspenders. The suspenders transfer the load to the main cable. This causes tension in the cables. Compression acts on the towers as they support the weight of the bridge and the traffic.



"Four Types of Bridges"—Think About It!

1. Snow and ice can build up on the roadway of a bridge, making it heavier. Are snow and ice internal or external forces? Explain your answer.

2. A simple beam bridge can be built over a stream. All you need are two blocks and a wooden plank.



a) What force acts on the blocks when someone is crossing the bridge?

b) What force (or forces) will act on the plank?

c) Is the weight of the plank an internal or external force?

3. You are designing a bridge that will take four buses to an interesting place. Explain why you would need to know the following information:

a) The maximum number of people that can fit in one bus

b) The maximum number of buses that can fit on the bridge
