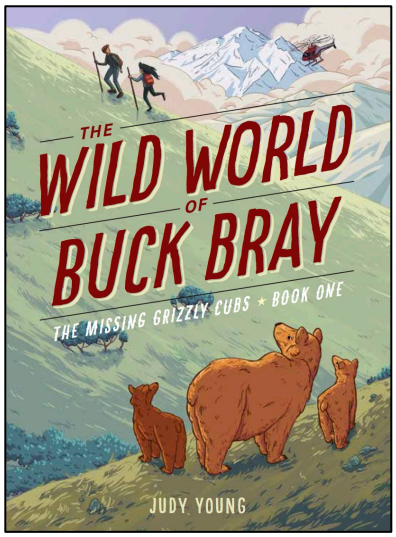
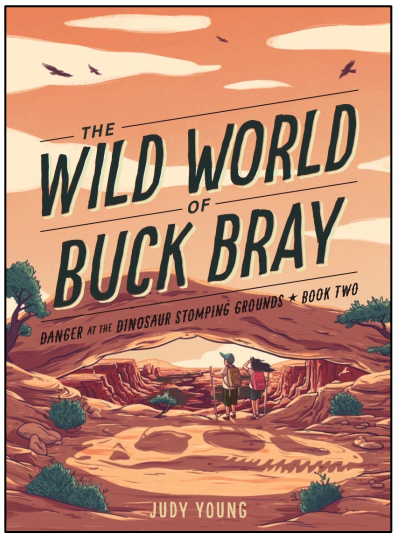
The Wild World of Buck Bray Series
Teacher's Guide



Book One
The Missing Grizzly Cubs



Book Two
Danger at the Dinosaur Stomping Grounds

Unit Written By
Judy Young
www.judyyoungpoetry.com

315 E. Eisenhower Parkway
Suite 200 Ann Arbor, MI 48108
800-487-2323
www.sleepingbearpress.com

The Wild World of Buck Bray Series

Hello!

In *The Wild World of Buck Bray* series, eleven-year-old Buck is the star of a wilderness television show who travels to different National Parks with his director father, Dan, their eccentric but loveable cameraman, Shoop, and Shoop's eleven-year-old daughter, Toni, who is the film crew's audio expert. In book one, *The Missing Grizzly Cubs*, Buck's television show featured Denali National Park in Alaska. Book two, *Danger at the Dinosaur Stomping Grounds,* takes them to Canyonlands National Park in Utah. Be on the lookout for book three, *The Wolves of Slough Creek* that will be released in the spring of 2019, which will take them to Yellowstone. Wherever they go, Buck and Toni seem to run into adventures and mysteries outside the business of producing a film documentary!

Not only is *The Wild World of Buck Bray* series fun and exciting adventure stories for ages 8-11, but the books are loaded with scientific and math concepts. Throughout the series, the chapters are called "takes," based on the cinematographic term used to designate different scenes. At the beginning of each "take" there are facts that Buck states in his show's scripts. Not only will your students discover the natural wonders our country has to offer in our National Park system, but by reading the "take quotes" they will learn a lot of biological information about specific animals. Each book also contains a glossary to help define specific geographical, geological, biological, and botanical terms used in the stories.

In the pages of this teacher's guide I have put together activities based on each of *The Wild World of Buck Bray* books that will not only reinforce reading and writing, but can be used cross-categorically, bringing literature together with math and science! An answer page is at the end of each activity for your convenience.

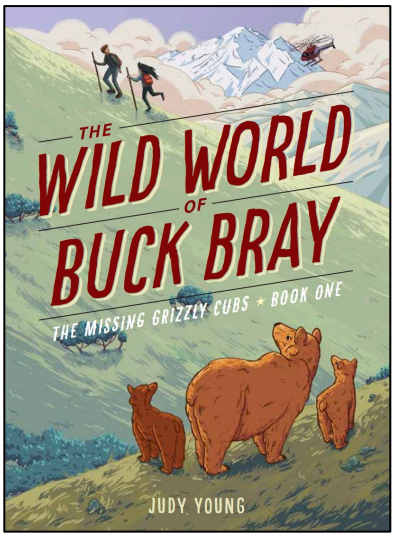
Activities for Book One: *The Missing Grizzly Cubs* start on page 3.
Activities for Book Two: *Danger at the Dinosaur Stomping Grounds* start on page 32.

So take your students on some adventures to our National Parks, follow up with some fun and engaging science and math activities, and enjoy *The Wild World of Buck Bray!*

The Wild World of Buck Bray Series

Activities for Book One

The Missing Grizzly Cubs



ISBN hardcover: 978-1-58536-970-6
ISBN paperback: 978-1-58536-971-3

TABLE OF CONTENTS

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

HOME SWEET HOME

***DIRECTIONS:* Read all of TAKE 1 (Chapter 1) plus page 64.**
You will need a United States atlas.

1. Before going to Alaska with his dad to film *The Wild World of Buck Bray* TV shows, Buck lived with his _____ in _____.

2. Toni came from _____with her father while her mother was teaching a college class in _____.

3. Read Chapter One. Then pretending you are either Buck or Toni, write a letter either to Buck's grandparents or Toni's mother telling what "you" did that day.

4. a. In an atlas, find IN and MO on a map of the whole United States.
   b. Find Fort Wayne (where Buck lived) on a map of Indiana.
   c. Find St. Louis (where Toni lived) on a map of Missouri.

5. Use a computer site such as Google Maps or MapQuest to answer these questions.
   (Buck lives in Fort Wayne, IN, and Toni lives in St. Louis, MO)

   a. Using the shortest route, how far does Toni live from Buck? _____

   b. How long would it take her to drive there?_____

   c. Buck and his dad drove to Alaska, with their route taking them through Winnipeg, MB, Canada. How far did they travel from Fort Wayne, IN to Fairbanks, AK, where they picked up Toni and Shoop? _____

   d. It took the Brays nine days to drive to Fairbanks. Rounding off to a whole number, how many miles did they average per day? _____

   e. With the route going through Winnipeg, MB, Canada, how far is it from St. Louis, MO, to Fairbanks, AK? _____

   f. If Toni and Shoop had driven, who would have had to drive farther, the Shoops or the Brays? _____ How much farther? _____

   g. How far do you live from Fairbanks, AK? _____

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

HOME SWEET HOME ANSWERS

1. grandparents, Indiana
2. Missouri, England
3. appropriate completion of letter
4. accurate finding of locations on maps
5. *The answers to 5 a-h vary depending what map site is used. The answers below are based on Google Maps and MapQuest.* (Teachers: It is suggested that you verify the mileages and travel times prior to grading as they may change due to detours and traffic.)

Google Maps	*MapQuest*
a. 368 miles	a. 364 miles
b. 5 hours 36 minutes	b. 5 hours 46 minutes
c. 3,667 miles	c. 3,697 miles
d. 407 miles per day	d. 411 miles per day
e. 3,644 miles	e. 3,740 miles
f. Brays, 23 miles more	f. Shoops, 43 miles more
g. Answer depends on your location.	g. Answer depends on your location.

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

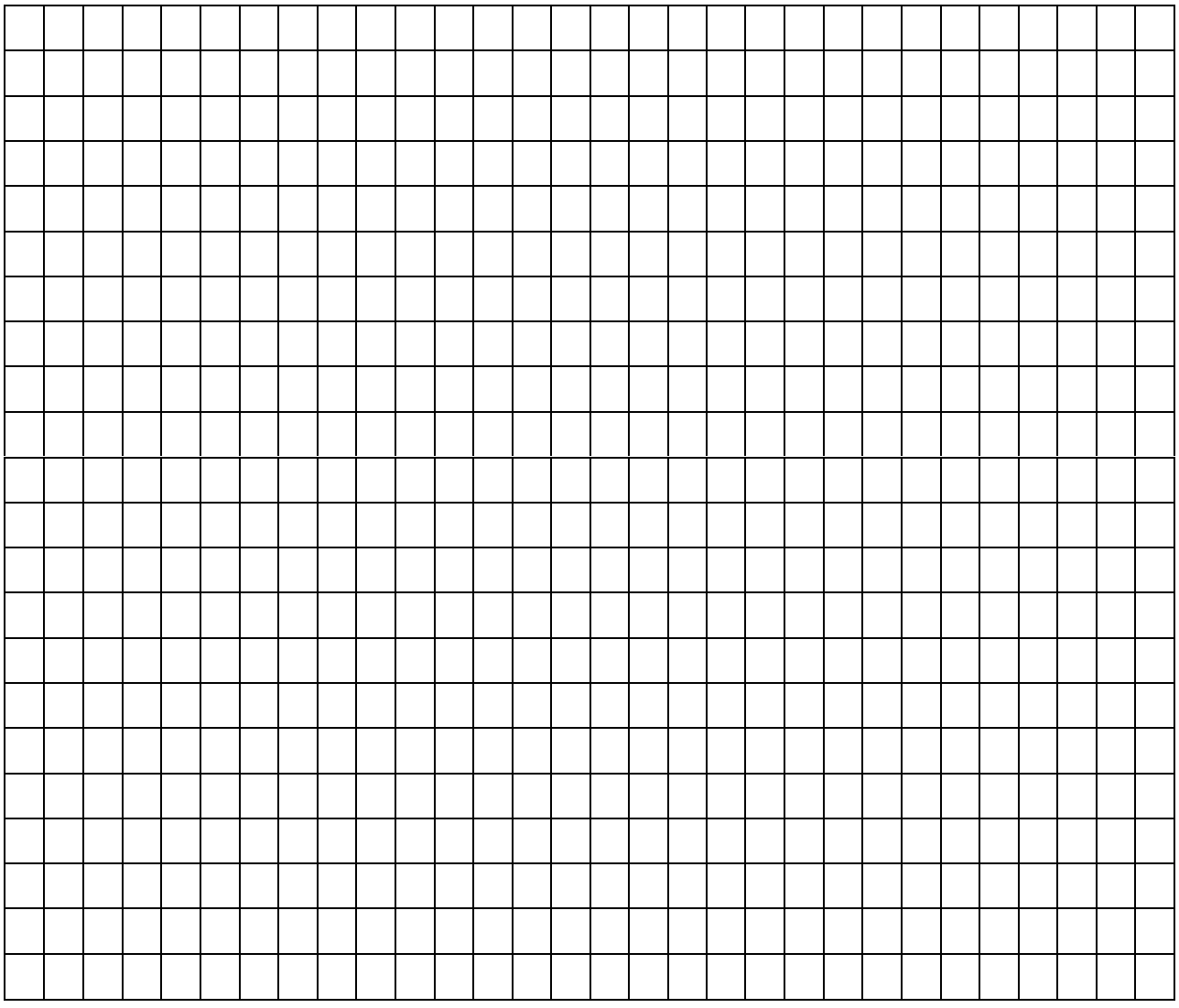
GRIZZLY TERRITORY

DIRECTIONS: **Read *TAKE QUOTE 2* on page 14 to help answer the questions below.**

1. ***Area*** is calculated by multiplying length times width. If a grizzly's home range is in a perfect square, one side of it would be 20 miles long.

a. How long would each of the other sides be? _____

b. In the grid below, ¼ inch = 1 mile. Color the area that would represent a grizzly's home range. How many small squares did you color? _____

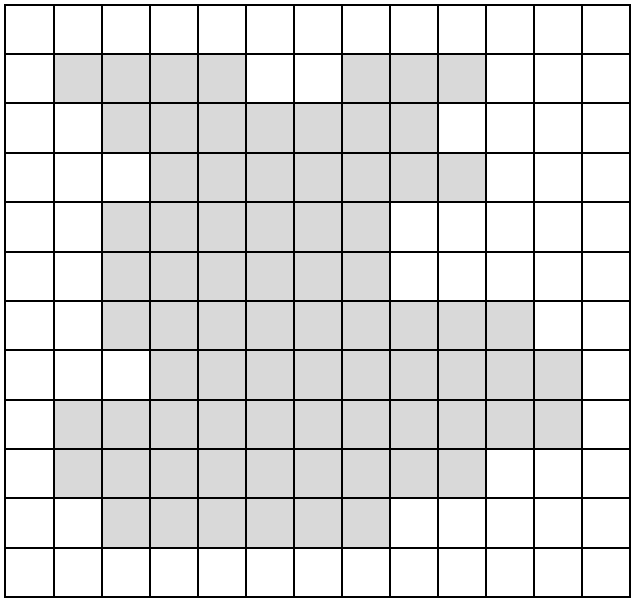


(GRIZZLY TERRITORY continued on next page)

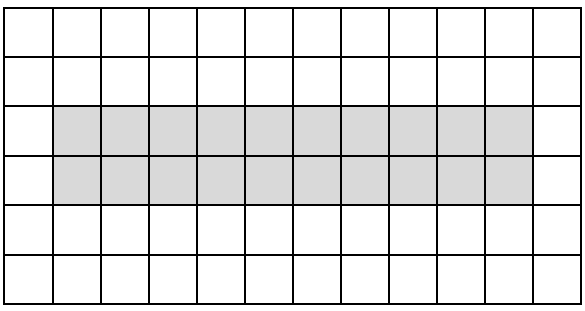
The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

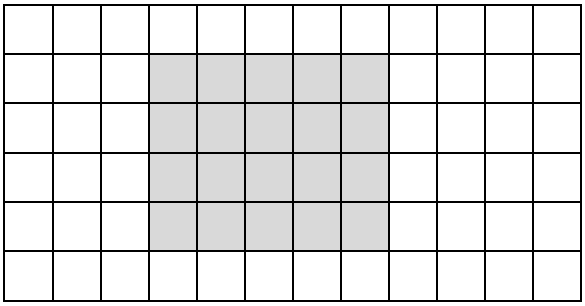
(GRIZZLY TERRITORY continued)

2. A grizzly's home range wouldn't be in a perfect square and its territory size would vary based on other factors such as terrain and available food. If each small square = 5 square miles, how big is this grizzly's home range (indicated by gray squares)?_____



3. Shapes can be misleading. Just by looking, which gray portion in the two grids below looks bigger? If each small square = 1 square mile, calculate the area of the gray portion of each grid. What is your conclusion?_____





The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

GRIZZLY TERRITORY ANSWERS

1. a. 20 miles

   b. 400 and coloring 20x20 of the squares in the grid.

2. 385 square miles

3. Both are 20 square miles. The areas are the same.

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

A SCAVENGER HUNT

DIRECTIONS: **Read page 17. You will need a compass with degree markings (many phones have compasses) and a treat or prize of your choosing.**

1. What does Buck buy? _____

2. What are the four cardinal points on a compass? _____,

_____, _____ and _____

3. On pages 69-71, Buck and Toni take a class on how to use a compass. You can learn what they did! Look at your compass. Hold the compass level against your stomach to read it, then turn your body until the arrow or line on the compass lines up with the N. You are now facing due north. Turn your body until you are facing east, then south and then west.

   a. The numbers on the compass show the degrees which will give very specific directions.

   What degree is North? _____ South? _____

   East? _____ West?_____

   b. What is the difference in degrees between

   North and East? _____ East and South? _____

   South and West? _____ West and North? _____

   c. A compass makes a whole circle. How many degrees are in a whole circle? _____

   d. If you turn your body so the arrow (or line) points to 315º, you are heading halfway between North and West. You call that Northwest. What direction are you facing if you move until the arrow (or line) is at 45º? _____ 135º?_____ 225º?_____

4. Get together with a friend. Each of you needs a compass, pencil and paper, and a treat or prize. Go to separate areas of the playground and make a compass route for the other, hiding your treat or prize at the end. Then give each other your routes and following each other's directions, find your prize! Here's an example of what kind of directions you may write down.

   1. Starting at the flagpole, go 45º to the bush.
   2. Go 315º until you reach the sidewalk.
   3. Go 180º down the sidewalk, walking toe to heel until you get to the crack.
   4. Go due North ten giant steps to the tree.
   5. 240º from the tree is a rock. Look behind it.

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

SCAVENGER HUNT ANSWERS

1. A compass
2. North, South, East, West
3. a. North 0º South 180º East 90º West 270º
   b. 90º for all answers
   c. 360º
   d. 45º Northeast 135º Southeast 225º Southwest
4. Completion of scavenger hunt activity.

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

HERE COMES THE SUN!

DIRECTIONS: **Starting with the last paragraph on page 17, read through the first paragraph on page 19. Then, answer the questions using the following sunrise and sunset charts for two of the National Parks featured *The Wild World of Buck Bray* series.**

DENALI NATIONAL PARK, ALASKA

Date	Sunrise	Sunset	How long is there sunlight?
Jan. 21	10:06 AM	4:23 PM	6 hrs 17 min
Feb. 21	8:34 AM	5:59 PM	9 hrs 25 min
Mar. 20	8:03 AM	8:19 PM	___hrs ___min
Apr. 21	6:13 AM	9:51 PM	15 hrs 38 min
May 21	4:38 AM	11:22 PM	18 hrs 44 min
June 21	3:48 AM	12:20 AM (June 22)	20 hrs 32 min
July 21	4:45 AM	11:30 PM	___hrs ___min
Aug. 21	6:17 AM	9:52 PM	15 hrs 35 min
Sept. 22	7:46 AM	8:02 PM	12 hrs 16 min
Oct. 21	9:09 AM	6:24 PM	9 hrs 15 min
Nov. 21	9:40 AM	3:42 PM	___hrs ___min
Dec. 21	10:44 AM	3:17 PM	4 hrs 33 min

CANYONLANDS NATIONAL PARK, UTAH

Date	Sunrise	Sunset	How long is there sunlight?
Jan. 21	7:32 AM	5:29 PM	9 hrs 57 min
Feb. 21	7:02 AM	6:04 PM	11 hrs 2 min
Mar. 20	7:22 AM	6:31 PM	___hrs ___min
Apr. 21	6:35 AM	8:01 PM	13 hrs 26 min
May 21	6:03 AM	8:28 PM	14 hrs 25 min
June 21	5:56 AM	8:46 PM	14 hrs 50 min
July 21	6:12 AM	8:38 PM	___hrs ___min
Aug. 21	6:39 AM	8:04 PM	13 hrs 25 min
Sept. 22	7:07 AM	7:16 PM	12 hrs 9 min
Oct. 21	7:34 AM	6:43 PM	11 hrs 9 min
Nov. 21	7:07 AM	5:03 PM	___hrs ___min
Dec. 21	7:32 AM	5:02 PM	9 hrs 30 min

1. Figure out the amount of sunlight for March 20, July 21, and November 21 and record the number of hours and minutes in the last column for each location.

2. The summer solstice is the “longest day” in the year—meaning it has the longest amount of daylight. What is the date of the summer solstice? _____

3. The winter solstice is the “shortest day” in the year—meaning it has the shortest amount of daylight. What is the date of the winter solstice? _____

(HERE COMES THE SUN continued on next page)

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

(HERE COMES THE SUN continued)

4. How long is the sun out at Denali a. on the summer solstice? _____
   b. on the winter solstice? _____
5. How long is the sun out at Canyonlands a. on the summer solstice? _____
   b. on the winter solstice? _____
6. How much longer is the sun out at Denali than at Canyonlands on the summer solstice?

   _____
7. How much longer is the sun out at Canyonlands than at Denali on the winter solstice?

   _____
8. Buck's bedtime is usually at 9:30 PM. Which months would the sun still be out when he goes to bed a. at Denali? _____
   b. at Canyonlands? _____
9. If school starts at 8:00 AM, during which months does the sun rise after school has already started: a. at Denali? _____
   b. at Canyonlands? _____
10. South of the Arctic Circle the amount of time between sunrise and sunset is always less than 24 hours. However, north of the Arctic Circle there are some days when the sun is out for 24 hours or more. There are also days when the sun never rises. In Utqiaġvik (pronounced oot-kay-ahg-vik), which is the northernmost community in the USA (formerly called Barrow), the sun rises on May 10 and doesn't set until August 2. Likewise, when the sun sets in Utqiaġvik on November 18, it doesn't rise again until January 22. (Hint: When answering the questions, don't count the dates named above— the sun is up for just part of those days.)
    a. How many days in Utqiaġvik is the sun up for 24 hours? _____
    b. How many days in Utqiaġvik is the sun never up? _____
    c. Check the chart for the amount of daylight at Denali on the summer solstice, the longest day of the year. Is Denali North or South of the Arctic Circle? _____
11. Why do you think they call Alaska "The Land of the Midnight Sun?" _____

    _____
12. "The Land of the Midnight Sun" fits for the summer months, but what do you think Alaska should be called during winter months? _____

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

HERE COMES THE SUN ANSWERS

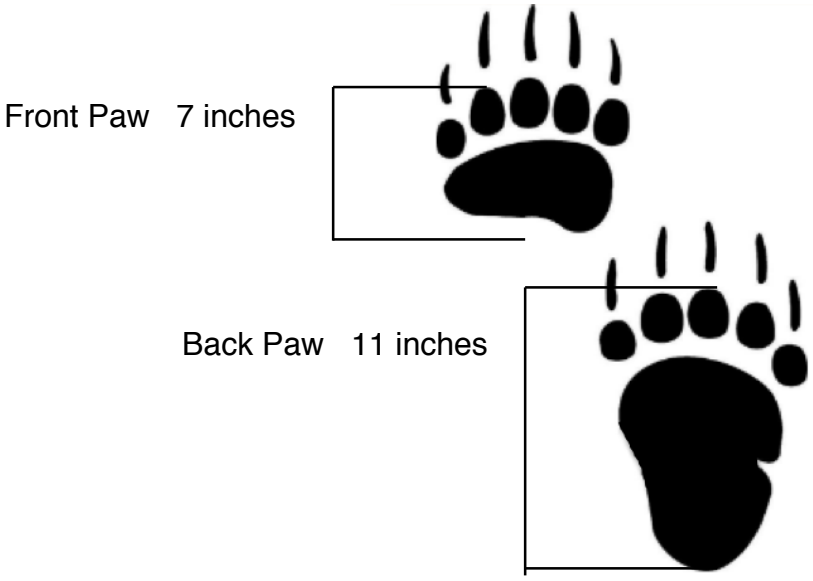
1. March 20: Denali—12 hrs. 16 min. Canyonlands—11 hrs. 9 min.
   July 21: Denali—18 hrs. 45 min. Canyonlands—14 hrs. 26 min.
   November 21: Denali—6 hrs. 2 min. Canyonlands—9 hrs. 56 min.
2. June 21
3. December 21
4. a. 20 hrs. 32 min.
   b. 4 hrs. 33 min.
5. a. 14 hrs. 50 min.
   b. 9 hrs. 30 min.
6. 5 hrs. 42 min.
7. 4 hrs. 57 min.
8. a. April, May, June, July, and August
   b. none
9. a. October, November, December, January, February, and March
   b. none
10. a. 83 days
    b. 64 days
    c. South
11. Because there are times in the summer when the sun is still out at midnight and in some places all night.
12. Something to do with darkness and winter, such as Land of Winter Darkness or Land of No Sun.

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

WHAT BIG PAWS YOU HAVE!

DIRECTIONS: **Read *TAKE QUOTE 4* on page 37 to help you answer the questions below. You will need a ruler and an 18" x 24" piece of paper.**

1. Including its claws, how long are a grizzly's front paws? _____
2. Including its claws, how long are a grizzly's back paws? _____
3. How much longer are its back paws than its front paws? _____
4. How long is your hand? _____?
5. How much longer is a grizzly's front paw than your hand? _____
6. How much longer is a grizzly's back paw than your hand? _____
7. On an 18" x 24" piece of construction paper, draw full-size front and back grizzly paw prints. Then, lay your hand beside the grizzly prints so the bottom of your palm is even with the bottom of the grizzly prints. Trace around your hand and compare the size of your hand to the grizzly's paws. (You could do the same with your foot, too!)

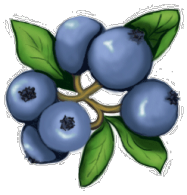


The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

WHAT BIG PAWS YOU HAVE ANSWERS

1. 12 inches
2. 16 inches
3. 4 inches
4. Answers vary per individual student.
5. Subtract student's answer for #4 from 12.
6. Subtract student's answer for #4 from 16.
7. Accurate completion of activity.

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*



BLUEBERRY PICKING

***DIRECTIONS:* Read *TAKE QUOTE 7* on page 81 to help answer the questions below. You will need one cup of blueberries*.**

*If you can't find blueberries, *M&Ms* are about the same size as WILD blueberries (see #3 below).

1. How many blueberries can a grizzly eat in the entire month of August? _____
2. Measure one cup of blueberries. Approximately how many blueberries are in a cup? _____
3. Wild blueberries pictured above on the left and cultivated blueberries on the right. Cultivated blueberries are what are usually found in grocery stores. They are about twice the size of wild blueberries. If you used cultivated blueberries to get the answer to question #2, approximately how many WILD blueberries are in a cup? _____
4. If you round off the number of WILD blueberries in a cup to 250, how many cups of WILD blueberries can a grizzly eat in one day?_____
5. There are 4 cups in a quart and 4 quarts in a gallon.
   a. How many quarts of WILD blueberries can a grizzly eat in one day?_____
   b. How many gallons of WILD blueberries can a grizzly eat in one day?_____
6. Read the recipe below. If you made pies with all the wild blueberries a grizzly can eat in one day, how many pies could you make? _____

Buck Bray's No Bake Blueberry Pie Recipe

Ingredients:
- 1 9-inch pre-made graham cracker or chocolate cookie crumb pie shell
- 1 3-oz. box blueberry gelatin
- 2 6-oz. containers of blueberry yogurt
- 1 8-oz. container of frozen whipped cream topping (thawed)
- 2 cups blueberries (fresh or frozen)
- ¼ cup boiling water

Directions: Put gelatin in a large bowl. Add boiling water and stir until gelatin is completely dissolved. Stir in yogurt and 1½ cups of the blueberries. Gently fold in the whipped cream topping (do not stir hard). Pour mixture into pie shell. Top with remaining ½ cup of blueberries. Refrigerate for 3-4 hours until firm. Slice, serve, and enjoy like a grizzly munching on blueberries!

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

BLUEBERRY PICKING ANSWERS

1. ≈ 6,200,000 blueberries
2. ≈ 125 cultivated blueberries
3. two times the student's answer to question 2 (≈ 250 wild blueberries)
4. 800 cups
5. a. 200 quarts
   b. 50 gallons
6. 400 pies

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

I'M FREEZING!

DIRECTIONS: **Starting with the next to last paragraph on page 104, read through the fourth paragraph on page 105. Then, use what you read to help answer these questions.**

1. Normal human body temperature is 98.6º F (Fahrenheit). A grizzly's normal body temperature is 100.4ºF. What is the difference between the two temperatures? _____

2. What is a grizzly's body temperature when it is hibernating? _____

3. What are two things that are different about the grizzly's hibernation patterns and those of other mammals? a. _____
   b. _____

4. An Arctic ground squirrel's normal body temperature is 98ºF. How many degrees does it drop when hibernating? _____

5. At what temperature (Fahrenheit) does water freeze? _____

6. Look up the word *hibernate* in the dictionary. What does it mean?_____
_____

7. Is *hibernate* a noun or a verb? _____

8. Is *hibernation* a noun or a verb? _____

9. Write a sentence using the word *hibernate.* _____
_____

10. Write a sentence using the word *hibernation.* _____
_____

11. Research about hibernation. Write a report about what happens during hibernation.

(I'M FREEZING continued on the next page)

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

(I'M FREEZING continued)

12. Read the following article and answer the questions.

_____

The Arctic ground squirrel is the only mammal in the world whose body temperature drops below freezing. However, scientists have discovered that its blood doesn't freeze; it stays liquid. Also, about every 2-3 weeks, this animal shakes and shivers for about 12-15 hours until its body temperature rises to normal. Then, its temperature drops to below freezing again. In addition, scientists have learned that the Arctic ground squirrel's cerebral neurons—specialized nerve cells that send electrical messages from one part of the brain to another—shrink and shrivel during hibernation but then grow strong again once hibernation is over. Scientists are hoping their research about the Arctic ground squirrel may lead to a cure for a human brain disease called Alzheimer's which causes memory loss and difficulties with thinking and use of language.

a. If this article were printed in the newspaper, what would be a good headline? Write it on the blank line above the article.

b. What are three things scientists have learned about Arctic ground squirrels?

1. _____
2. _____
3. _____

c. Why are scientists doing so much research on Arctic ground squirrels? _____

_____

d. *Do the math to fill in the blanks:* Each year, an Arctic ground squirrel hibernates for about 30 weeks. During this time, its body temperature will rise to normal from _____ to _____ times.

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

I'M FREEZING ANSWERS

1. 1.8ºF
2. 88.4ºF
3. a. Grizzlies sometimes wake up and come outside in the winter.
   b. A grizzly's body temperature drops 12º whereas other mammals' body temperatures drop much more.
4. 72º
5. 32ºF
6. Any appropriate answer related to spending time in the winter in a dormant state or state of sleeping.
7. verb
8. noun
9. Any appropriate answer.
10. Any appropriate answer.
11. Any appropriate answers.
12. a. Any appropriate title.
    b. Any three of the following:
    - Its body temperature drops below freezing.
    - Its blood doesn't freeze.
    - It shakes and shivers every 2-3 weeks to raise its body temperature.
    - Temperature drops again after shaking and shivering ceases.
    - Neurons shrink and shrivel during hibernation.
    - Neurons grow strong again after hibernation.

    c. To find a cure for Alzheimer's disease.

    d. 10 to 15

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

BODY LANGUAGE

DIRECTIONS: **Read *TAKE QUOTE 10* on page 118 to help do the following activity. You will need a thesaurus for question #3.**

1. Instead of using words like "happy" or "sad," you can portray how someone feels by describing body language or what the person *does* when he feels a certain way. How do you think Buck or Toni feel in the following sentences? To help you, do the actions yourself and think about how you might feel.

   a. Buck clinched his fists. _____

   b. Toni pressed her hands to her cheeks. _____

   c. Buck gave Toni a half shrug. _____

   d. Putting her hands on her hips, Toni shook her head. _____

   e. Buck rubbed his chin. _____

   f. Toni rubbed her eyes. _____

   g. Buck rubbed his palms together. _____

   h. Toni drummed her pencil on the table as she waited. _____

   i. Buck's shoulders drooped when he heard the news. _____

   j. Toni's muscles tensed when she heard the man's voice. _____

2. Often several different verbs can describe the same general action but each may give slightly different feelings. The underlined verbs in the sentences below all have to do with seeing something. Match them with the meanings from the column on the right.

a. ____Buck **glared** at Toni.	A. Look at in a steady, dreamy way.
b. ____Buck **watched** the grizzly.	B. Took a quick look at something.
c. ____Buck **observed** how the bear ate.	C. Look at something for a period of time.
d. ____Buck **gazed** at the mountain.	D. Look at with anger.
e. ____Buck **glimpsed** an antler in the rocks.	E. Look at while purposely paying attention to specific details.

3. Look up the word **walk** in a thesaurus and write the different synonyms on the board. Then, secretly give each student one of the words. Have each student demonstrate his/her type of "walking" while the other students choose which word would best describe the action.

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

BODY LANGUAGE ANSWERS

1. a. angry or mad
   b. surprised
   c. indifferent, not caring, or unconcerned
   d. disbelief, annoyed, or irritated
   e. wondering, thoughtful or thinking
   f. tired or sleepy
   g. excited, anticipation
   h. impatient, bored
   i. sad, disappointed
   j. scared, afraid, frightened, alarmed or nervous
2. a. D
   b. C
   c. E
   d. A
   e. B
3. Completion of activity.

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

LOOK HOW HIGH I AM!

***DIRECTIONS*: Read *TAKE QUOTE 11* on page 130 to help answer the questions below.**

Elevation is how high land is above sea level. If you are standing by an ocean you may be just an inch above sea level, so your elevation would be one inch. On top of a twenty-foot cliff beside the ocean, your elevation would be 20 feet. As you walk up and down hills, your elevation changes. And, if you are on the top of a mountain, you could be thousands of feet—maybe even more than a mile—above sea level. (FYI: *Elevation* is only talking about the height of the land. *Altitude* is used to tell how high something is up in the air above land, such as an airplane.)

This chart shows each state's lowest elevations and highest elevations in feet.
(0 on this chart = sea level.) Use the chart to answer the questions below.

AL	CO	HI	KS	MA	MT	NM	OK	SD	VA
0	3,317	0	679	0	1,804	2,844	289	968	0
2,413	14,440	13,803	4,041	3,489	12,807	13,167	4,975	7,244	5,729
AK	CT	ID	KY	MI	NE	NY	OR	TN	WA
0	0	713	257	571	840	0	0	178	0
20,310	2,379	12,668	4,145	1,979	5,427	5,343	11,249	6,643	14,417
AZ	DE	IL	LA	MN	NV	NC	PA	TX	WV
72	0	280	(-)8	601	481	0	0	0	240
12,637	447	1,235	535	2,302	13,147	6,684	3,213	8,751	4,863
AR	FL	IN	ME	MS	NH	ND	RI	UT	WI
55	0	320	0	0	0	751	0	2,180	579
2,753	345	1,257	5,270	807	6,288	3,508	811	13,534	1,951
CA	GA	IA	MD	MO	NJ	OH	SC	VT	WY
(-)282	0	480	0	230	0	455	0	95	3,101
14,505	4,784	1,671	3,360	1,772	1,803	1,549	3,560	4,395	13,809

1. Denali is the tallest mountain in all of North America. What state is it in? _____

2. What state has the second highest elevation? _____

3. A mile is 5,280 feet. How many states have elevations a. more than a mile high? _____
   b. more than two miles high? _____ c. more than three miles high? _____

4. Buck is from Indiana. Toni is from Missouri.
   a. Which state has a higher elevation? _____ b. What is the difference between them?_____
   c. What state has the lowest elevation?_____ d. What is the difference between them?_____

(Look How High I Am continued on next page)

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

(Look How High I Am continued)

5. Which states have lowest elevations that are more than a half of a mile high? _____

6. Badwater Basin, in the middle of Death Valley, is the lowest point in the United States. It is so low that it is actually below sea level. What state is it in? _____

7. What other state's lowest elevation is below sea level? _____

8. _____ has the lowest elevation. _____has the highest low elevation. What is the difference between the two?_____

9. What is the highest elevation in your state? _____

10. How much lower is your state's highest elevation than the elevation of Denali? _____

11. Many coastal towns and cities are less than 50 feet above sea level. (For example, Miami, FL, is only 6½ feet above sea level, and parts of New Orleans, LA, are 7 feet below sea level.) If all the ice in the Arctic, Antarctic, Greenland, and the world's glaciers melted due to global warming, sea level would rise 230 feet.
    a. What would happen to many coastal cities? _____
    b. How far underwater would Miami be? _____ c. New Orleans? _____
    d. Would parts of your state be underwater? _____

Go Online and Use a Search Engine to Answer the Following Questions

12. What are the highest elevations and where are they for the following:
    a. South America_____
    b. Europe_____
    c. Asia_____
    d. Africa_____
    e. Australia_____
    f. Antarctica _____

13. Where is the highest elevation in your state?_____

14. What is the elevation of your town or city?_____

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

LOOK HOW HIGH I AM ANSWERS

1. Alaska (AK)
2. California (CA)
3. a. 21
   b. 13
   c. 1
4. a. Missouri (MO)
   b. 515 feet
   c. Missouri (MO)
   d. 90 feet
5. Colorado (CO), New Mexico (NM), and Wyoming (WY)
6. California (CA)
7. Louisiana (LA)
8. California; Colorado; 3,599 feet
9. Determine the answers for your state.
10. Determine the answers for your state.
11. a. They would be underwater.
    b. 223½ feet
    c. 237 feet
    d. Determine answer for your state.
12. a. 22,841 feet—Aconcagua in Argentina
    b. 18,510 feet—Mount Elbrus in Russia
    c. 29,029 feet—Mount Everest on the border of Nepal and China
    d. 19,340 feet—Mount Kilimanjaro in Tanzania
    e. 7,310 feet—Mount Kosciuszko in New South Wales, Australia
    f. 16,066 feet—Mount Vinson, Antarctica
13. Determine the answers for your state.
14. Determine the answers for your town or city.

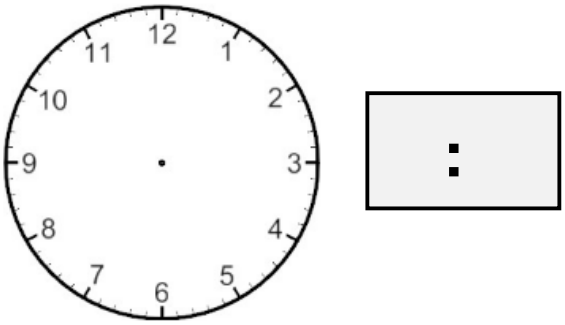
The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

I'M NOT TIRED YET!

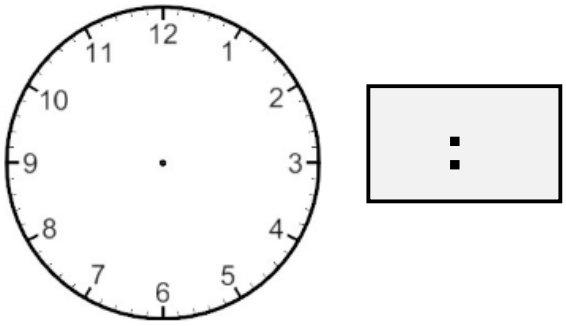
DIRECTIONS: **Read *TAKE QUOTE 13* on page 159 to help answer the questions below.**

1. If you wake up at 7:00 AM and go to bed at 9:00 PM . . .
   a. How much time did you spend awake? _____
   b. How much time did you spend asleep? _____
   c. How much longer does a grizzly stay awake than you do when it's getting ready to hibernate? _____
2. Fill in the blanks: I went to bed last night at _____ and woke up this morning at _____.
3. Draw hands on the clocks and write the times on the digital clocks to show . . .

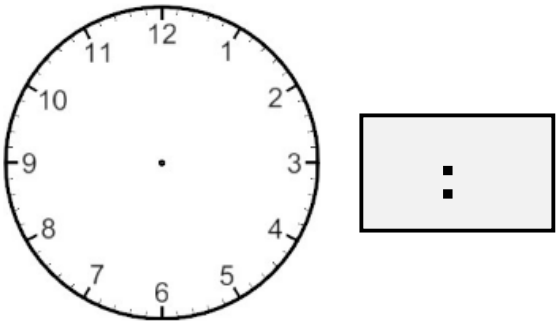
a. what time you went to bed.



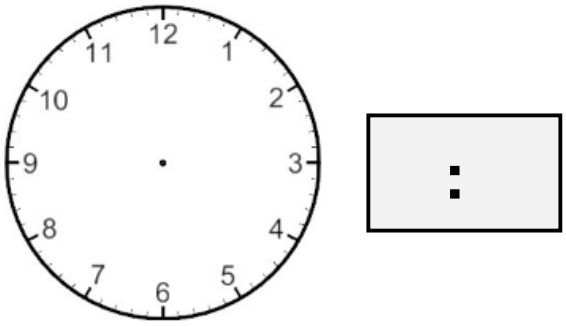
b. what time you woke up.



c. what time your school begins.



d. what time your school ends.



The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

I'M NOT TIRED YET ANSWERS

1. a. 14 hours
   b. 10 hours
   c. 6 hours
2. Answers vary per student.
3. Answers vary based on student's answers on #2 and school's start and end times.

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

CAN YOU OUTRUN A GRIZZLY?

DIRECTIONS: **Read *TAKE QUOTE 15* on page 186 to help answer the questions below. You will need a tape measure, stopwatch, and crayons.**

1. Measure the length a grizzly can run in one second. a. How long does it take you to run that distance? _____ b. Can you outrun a grizzly? _____
2. There are 5,280 feet in a mile. How many feet can a grizzly run in an hour?_____
3. How many feet can a grizzly run in a minute?_____
4. Go outside and run for one minute, then measure how far you ran. How many feet can you run in a minute? _____
5. How much farther can a grizzly run in one minute than you can? _____
6. In 2009, Usain Bolt set the record for the fastest runner in the world at 27.8 mph. How much faster can a grizzly run than Bolt? _____
7. The following chart shows approximate top speeds of a variety of animals.

Sheep	15 mph	Gray Wolf	35 mph	Deer	40 mph	Caribou	50 mph
Squirrel	20 mph	Moose	35 mph	Horse	43 mph	Cougar	50 mph
Black Bear	30 mph	Greyhound	39 mph	Elk	45 mph	Cheetah	75 mph

   a. Color the boxes of animals a grizzly can outrun red. Color the boxes of animals that can run faster than a grizzly green.
   b. Which animals would tie in a race with a grizzly? _____
   c. Between which two animals on the chart would the fastest human be listed?

   _____
   d. Do you think you could outrun any of the animals listed above? _____
   If yes, which one(s)? _____

The Wild World of Buck Bray Series

Activity for Book One: *The Missing Grizzly Cubs*

CAN YOU OUTRUN A GRIZZLY ANSWERS

1. a. Answers vary for individual students.

   b. No

2. 184,800 feet

3. 3,080 feet

4. Answers vary for individual students.

5. Answers vary by calculating 3,080 minus the student's answer to number #4.

6. 7.2 miles per hour

7. a. chart colored as below:

Sheep	15 mph	Gray Wolf	35 mph	Deer	40 mph	Caribou	50 mph
Squirrel	20 mph	Moose	35 mph	Horse	43 mph	Cougar	50 mph
Black Bear	30 mph	Greyhound	39 mph	Elk	45 mph	Cheetah	75 mph

   b. a gray wolf and a moose

   c. a squirrel and a black bear

   d. If your answer to #4 is more than 1,320 feet per minute, you could outrun a sheep.

      If your answer to #4 is more than 1,760 feet per minute, you could outrun a squirrel.

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

PICTURING A LANDSCAPE

DIRECTIONS: **Use the GLOSSARY at the end of the book to help answer these questions.**

1. While in Denali National Park, Buck and Toni discover a landscape that is very different than Indiana and Missouri where the two kids lived. They learned a lot of new words to describe the Alaskan landscape. Fill in the blanks in the sentences below with the following words.

(Use each word only once.)

Bench	**Braided River**	**Cliff Face**	**Draw**	**Ravine**	**Mudflat**
Knoll	**Gravel Bar**	**Knife-edge**	**Shale**	**Tundra**	**Thicket**

a. Dall Sheep balanced on a ledge high up beside the _____ where bears couldn't get to them.

b. The hill was steep but Buck rested when he reached an almost level _____.

c. Buck jumped from the riverbank onto a _____.

d. The _____ was so narrow, Buck could touch both sides at the same time.

e. A herd of caribou grazed in the _____ between the two hills.

f. Some of the channels of water in the _____ were too wide to step across.

g. A grizzly can easily hide in a _____ of alder bushes.

h. Buck and Toni found a grizzly track in a _____.

i. When Buck stepped on a piece of _____, it shattered into pieces.

j. Buck and Toni watched as a grizzly ran up and over a rounded _____.

k. The sides of the _____ dropped steeply for hundreds of feet.

l. Caribou herds migrate hundreds of miles across the Arctic _____.

2. Sometimes a word will have two very different meanings. What is another meaning of

a. bench? _____.

b. draw? _____.

3. Draw or paint a picture of a landscape.

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

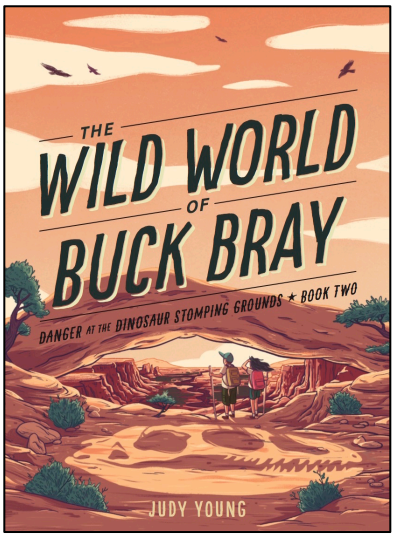
PICTURING A LANDSCAPE ANSWERS

1. a. cliff face
   b. bench
   c. gravel bar
   d. ravine
   e. draw
   f. braided river
   g. thicket
   h. mudflat
   i. shale
   j. knoll
   k. knife-edge
   l. tundra
2. a. A long seat.
   b. To make a picture.
3. Completion of landscape picture.

The Wild World of Buck Bray Series

Activities for Book Two

Danger at the Dinosaur Stomping Grounds



ISBN hardcover: 978-1-58536-368-1
ISBN paperback: 978-1-58536-369-8

Table of Contents

The Wild World of Buck Bray Series

Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

WILL IT FIT?

DIRECTIONS: **Read *TAKE QUOTE 1* on page 1 to help answer the following questions. You will need a tape measure and modeling clay.**

1. How big is your classroom? _____feet long _____feet wide _____feet high

   a. An Allosaurus was about 8 feet wide and its head could raise 6 feet taller than its back. Will an Allosaurus fit in your classroom? _____

   If not, why not?_____

   b. Will it fit in your school's gym or cafeteria? _____ If not, why not? _____

   _____

   c. If you multiply length x width, you get the ***area.*** What is the area of your classroom? (The answer will be the number of ***square feet***.) _____

   d. If you multiply length x width x height, you get the ***volume.*** What is the volume of your classroom? The answer will be the number of ***cubic feet.*** _____

2. You own a museum and want to build a new room for a full-size Allosaurus skeleton fossil. The fossil is 26 feet long, 8 feet wide, and 16 feet high but you'll need 20 feet on all sides so people can walk around the display. You'll also need 5 feet between the fossil and the ceiling.

   a. What size of room will you need?

   _____ long _____wide _____high

   b. You will want the room carpeted. How many square feet of carpet will you need?

   _____

   c. The carpeting you want is $5.00 per square foot. How much will the carpet cost?

   _____

   d. A builder says it will cost $175.00 per square foot to build your museum room. What will the total cost be? _____

   e. To decorate the entryway to your museum, you decide to make a fountain that is 12 feet long, 8 feet wide, and 2 feet deep. When you call someone to bring a truck of water to fill it, how many cubic feet of water will you need? _____

   f. You hired a sculptor to make an Allosaurus for your fountain. Using clay, make a model of what you want the Allosaurus sculpture to look like.

The Wild World of Buck Bray Series

Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

WILL IT FIT ANSWERS

1. Measurements based on individual classrooms
   a. Yes, if the classroom height is <16 feet and length is <26 feet. If not, it is because the classroom is not tall enough and/or not long enough.
   b. Same criteria as with 1.a. above.
   c. Determine the answer for your individual classroom.
   d. Determine the answer for your individual classroom.
2. a. 66 feet long, 48 feet wide, 21 feet high
   b. 3,168 sq. ft.
   c. $15,840.00
   d. $554,400.00
   e. 192 cubic feet of water
   f. Sculpture completed.

The Wild World of Buck Bray Series

Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

A BIG GRAVEYARD

DIRECTIONS: **Read *TAKE QUOTE 1* on page 1 and *TAKE QUOTE 14* on page 161 to help answer the following questions.**

1. If you made a tombstone for each Allosaurus found at the Cleveland-Lloyd Dinosaur Quarry, how many tombstones would you need? _____
2. If all the skeletons were laid out from nose to tail, how far would they stretch? _____
3. A football field is 360 feet long.
   a. Would your line of Allosaurus skeletons be able to fit into three football fields? _____
   b. If not, how many more feet do you need? _____
4. If all the Allosaurus skeleton fossils at the Quarry were neatly laid out in two equal rows,
   a. how many Allosaurus skeletons would there be in each row? _____
   b. how long would each row be if skeletons were laid out from nose to tail? _____
   c. Would the two rows fit into two football fields?_____
   d. If yes, how many feet are left over? _____
5. You've been asked to make an Allosaurus graveyard for all the skeletons found at the Cleveland-Lloyd Dinosaur Quarry. You are to have only five gravesites in each row.
   a. How many rows would you need? _____
   b. Would all rows have the same number of gravesites? _____
   Explain your answer: _____
6. Draw a graveyard with a tombstone for each Allosaurus skeleton found at the Cleveland-Lloyd Dinosaur Quarry. Make up names for each dinosaur, one for each letter of the alphabet, and write them on the tombstones. When you reach "Z," you will have to start all over at the beginning of the alphabet. How many letters did you have to use twice? _____

The Wild World of Buck Bray Series

Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

BIG GRAVEYARD ANSWERS

1. 46
2. 1,196 feet
3. a. No

   b. 116 feet more
4. a. 23

   b. 598 feet

   c. Yes

   d. 122 feet
5. a. 10

   b. No, one row would have only one gravesite.
6. Drawing completed with appropriate names / 20 letters used twice.

The Wild World of Buck Bray Series
Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

HOW OLD ARE YOU?

DIRECTIONS: **Read *TAKE QUOTE 5* on page 52, *TAKE QUOTE 7* on page 75, and *TAKE QUOTE 22* on page 254 to help answer questions #1-5.**

1. How long ago was the Allosaurus alive? _____
2. How many years has it been since Allosaurus fossils were discovered? _____
3. How many years has it been since the Allosaurus was named? _____
4. How many years did it take after discovering Allosaurus fossils before it got its name? _____
5. How many years has it been since the Tyrannosaurus rex was alive? _____
6. How many years before the T-rex did the Allosaurus live? _____

DIRECTIONS: **Read pages 78, 144-145, and the last paragraph on page 141 through 4th paragraph on page 142 to help answer questions #6-15.**

7. How many years ago did dinosaurs become extinct? _____
8. Buck and Toni see fossils of many different dinosaurs at a real place called Mill Canyon. What are two of the dinosaurs they see? _____ & _____
9. What dinosaur did Toni read about that was recently discovered? _____
10. When was it discovered? _____
11. When did they determine that it was a newly discovered species? _____
12. How long did it take archeologists to dig out its fossil? _____
13. The dinosaur fossils at Mill Canyon were embedded in rock. What is Buck told to look for to find them? _____

_____

(HOW OLD ARE YOU? continued on next page)

The Wild World of Buck Bray Series

Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

(HOW OLD ARE YOU? continued)

14. The following list tells when different dinosaurs lived (mya = million years ago). Write the names in the chart below to indicate which of the three major time periods they lived in. (Hint: some may have existed during two different periods)

Allosaurus—155-150 mya
Eoraptor—237-228 mya
Triceratops—144-65 mya
Riojasaurus—228-208 mya
Tyranosaurus rex—83-65 mya
Camarasaurus—163-93 mya
Camptosaurus—162-145 mya
Brachiosaurus—161-145 mya
Stegosaurus—165-100 mya
Velociraptor—100-65 mya
Coloradisaurus—230-206 mya
Siats—100-93 mya

TRIASSIC PERIOD 251-201 mya	JURASSIC PERIOD 201-145 mya	CRETACEOUS PERIOD 145-65 mya

15. Two dinosaurs existed during two different time periods.

    a. Which dinosaurs were they? _____ & _____

    b. In which time periods did they live? _____ & _____

16. Mammals first started appearing about 200 million years ago.

    a. In which period was that? _____

    b. Did mammals and dinosaurs exist at the same time? _____

17. On page 44, Buck discovers pack rats first appeared around 54 million years ago.

    a. Were they around when dinosaurs were?_____

    b. How many years after dinosaurs became extinct did pack rats appear? _____

The Wild World of Buck Bray Series

Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

HOW OLD ARE YOU ANSWERS

1. 150 million years ago
2. 150 years ago (based on 2019 – amend answers for future years)
3. 142 years (based on 2019 – amend for future years)
4. 8 years
5. 65 million years ago
6. 85 million years ago
7. 65 million years ago
8. Camarasaurus and Camptosaurus
9. Siats meekerorium
10. 2008
11. 2013
12. 5 years
13. Something that looks different and darker than the surrounding rock.
14.

TRIASSIC PERIOD 251-201 mya	JURASSIC PERIOD 201-145 mya	CRETACEOUS PERIOD 145-65 mya
Eoraptor	Allosaurus	Tyrannosaurus rex
Riojasaurus	Stegosaurus	Stegosaurus
Coloradisaurus	Camarasaurus	Camarasaurus
	Camptosaurus	Velociraptor
	Brachiosaurus	Triceratops
		Siats

15. a. Stegosaurus and Camarasaurus
    b. Jurassic and Cretaceous
16. a. Jurassic
    b. Yes
17. a. No
    b. 11 million

The Wild World of Buck Bray Series

Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

WHAT'S IN A NAME?

DIRECTIONS: **Read *TAKE QUOTE 5* on page 52 to help answer the following questions.**

Many dinosaur names, as well as the word *dinosaur*, come from either ancient Greek or Latin words. ***Deinos*** is Greek for ***terrible*** and ***saur*** means ***lizard***. In 1841 when biologist Richard Owen needed a word to name the huge fossils of prehistoric creatures that were being discovered, he combined the two Greek words and for the first time, called them what they have been called ever since—dinosaurs! Below are some ancient Greek and Latin words and their meanings that have found themselves part of dinosaur names.

Allos—different	Brachio—arm	Camara—vaulted room	Deinos—terrible
Eos—dawn	Kamptos—flexible	Megas—giant	Micros—small
Odon—tooth	Onychus—claw	Raptor—thief	Rex—king
Saur—lizard	Stegos—plated	Tyrannos—tyrant	Velox—swift

1. What do these different dinosaur names mean?

a. Tyrannosaurus rex _____ b. Eoraptor_____

c. Deinonychus _____ d. Microraptor_____

e. Megalasaurus_____ f. Stegosaurus_____

2. Fill in the blanks below with one of these dinosaur names:

Iguanodon Brachiosaurus Camarasaurus Velociraptor Camptosaurusa

a. The vertebrae of the _____ arched like hollow chambers.

b. The forearms of a _____ were longer than its hind legs.

c. The _____ had teeth like the modern day iguana.

d. Despite its name, the _____ was not very fast. A child could outrun this three-foot-tall dinosaur with turkey-size legs.

e. The _____ was flexible because it could walk on two legs or four.

3. Why was the Allosaurus named that? _____

_____

4. Read page 50. Why do you think the author named her character *Dr. Owen*? _____

_____

(**WHAT'S IN A NAME** Continued on Next Page)

The Wild World of Buck Bray Series

Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

(**WHAT'S IN A NAME?** Continued)

***DIRECTIONS:* Read the last two paragraphs on page 141 and all of page 142.**

5. In addition to using words from ancient Greek and Latin languages to make up names for dinosaurs, Buck finds out that newly discovered species may be named after other things. What are three of them?

   a. _____

   b. _____

   c. _____

6. Between 30-40 new dinosaur species are discovered around the world each year, sometimes even by kids! How did the following dinosaurs get their names? Put the letters for the reasons in the blanks. (Hint: They may have more than one reason.)

   A. where it was discovered B. a characteristic of it C. who discovered it

   D. after someone with a connection to the fossil or with the study of dinosaurs

   a. _____ Chilesaurus dieagosuarez was discovered in Chile in 2004 by 7-year-old Diego Suarez who found its fossilized rib and vertibrae while hiking with his parents.

   b. _____ Bambiraptor feinbergi, a small bird-like dinosaur believed to have been covered with downy fuzz like a baby bird, was discovered in 1993 by 14-year-old Wes Linster when he was looking for fossils in Montana. A fossil dealer later sold the fossil to a couple named Feinberg who donated it to science. (Hint: bambino means baby in Italian.)

   c. _____ Vectidraco daisymorrisae, a flying dinosaur, was discovered in 2008 when 4-year-old Daisy Morris went for a walk on the beach on the Isle of Wight, an English island. (Hints: The Romans called the island *Vectis* and draco is Latin for dragon.)

7. If you discovered a dinosaur, what would you name it and why? Be sure to think about the reasons different names are chosen and use at least three in your dinosaur's name.
   (You may want to give it two names like in #2 above. Look at the Greek and Latin words listed, too.)

   a. My dinosaur's name is: _____

   b. I chose it because:_____

   _____

   _____

   c. Draw a picture of the dinosaur you "discovered" and named.

The Wild World of Buck Bray Series

Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

WHAT'S IN A NAME ANSWERS

1. a. tyrant lizard king
   b. dawn thief
   c. terrible claw
   d. small thief
   e. large lizard
   f. plated lizard
2. a. Camarasaurus
   b. Brachiosaurus
   c. Iguanodon
   d. Velociraptor
   e. Camptosaurus
3. Because its vertebrae looked different than other dinosaurs'.
4. In honor of Richard Owen who invented the word *dinosaur.*
5. a. Where it is found.
   b. A characteristic of the animal.
   c. Who discovered it.
6. a. A & C
   b. B & D
   c. A, B, & C
7. a. Appropriate name.
   b. Appropriate explanation.
   c. Picture completed.

The Wild World of Buck Bray Series
Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

WANTED!

DIRECTIONS: **Read the specified *TAKE QUOTES* and fill in the blanks to make a poster.**

WANTED!

_____
(NAME – TAKE 19)

ALSO KNOWN AS

_____
(TAKE 19)

(DRAW A MUG SHOT OF HIS HEAD)

Wanted for killing a _____, this _____ pound _____ stands ____ feet tall at
(TAKE 11) (TAKE 20) (TAKE 13) (TAKE 1)

the shoulder and is ____ feet long. Full grown, it's estimated to be between ___-___ years
(TAKE 1) (TAKE 3)

old. Considered armed and dangerous with _____ of sharp, _____ teeth and
(TAKE 6) (TAKE 6)

deadly ____ inch claws, he may also use his _____ and _____ as weapons. If he sees
(TAKE 9) (TAKE 4) (TAKE 8)

you, _____ won't scare him off; he can't _____ you. And, at ____ miles per hour and
(TAKE 18) (TAKE 18) (TAKE 20)

with a ___ foot stride, you can't outrun him. So stay to his _____ where he can't _____
(TAKE 12) (TAKE 16) (TAKE 16)

you. This common _____was last seen ____ million years ago during the _____
(TAKE 17) (TAKE 7) (TAKE 17)

period hiding among _____, _____, _____ and _____.
(TAKE 2) (TAKE 2) (TAKE 2) (TAKE 2)

The Wild World of Buck Bray Series
Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

WANTED ANSWERS

Name: **Allosaurus Fragilis**

Also Known As: **Big Al**

Drawing of Head

Wanted for killing a **Stegosaurus,** this **3,300** pound **theropod** stands **10** feet tall at the shoulder and is **26** feet long. Full grown, it's estimated to be between **15**-**28** years old. Considered armed and dangerous with **dozens** of sharp, **serrated** teeth and deadly **8** inch claws, he may also use his **head** and **horns** as weapons. If he sees you, **screaming** won't scare him off; he can't **hear** you. And at **21** miles per hour and with a **9** foot stride, you can't outrun him. So stay to his **side** where he can't **see** you. This common **predator** was last seen **150** million years ago during the **Jurassic** period hiding among **ferns**, **conifers**, **gingko trees,** and **palmlike cycads.**

The Wild World of Buck Bray Series
Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

ONE STEP AT A TIME

DIRECTIONS: **Read *TAKE QUOTE 12* on page 138 to help answer the following questions. You will need a tape measure and painter's tape*.**
(*Painter's tape will easily come off floors and will not leave the sticky residue that masking tape might.)
(#1 below can be moved outdoors to a paved area, substituting chalk for the painter's tape.)

1. Put a 12" piece of painter's tape on the floor as your starting line.

   a. How far could an Allosaurus step? _____ Measure that distance from your piece of tape and put another piece of tape down.

For the following measurements, start by standing with your heels on the starting line. Ending points should be in front of your toes.

   b. Taking normal size steps, how many steps does it take you to go as far as an Allosaurus does in a single step? _____

   c. From the starting line, take a normal step. Mark where your toes land with a piece of tape and measure. How long is your normal step? _____

   d. How much bigger was an Allosaurus' step than your normal step?_____

   e. In the same way, mark and measure your biggest step. How long is your biggest step? _____

   f. Measure your biggest leap. How long is it?_____

2. Circle the correct answers in the brackets and fill in the blanks.

   a. A football field is 360 feet long. To find out how many steps it would take an Allosaurus to walk from one end to the other, I need to [multiply divide] 360 by _____.

   b. It would take _____ steps for an Allosaurus to walk the length of a football field.

   c. It takes Buck five steps for every one step an Allosaurus takes. To find out how many steps it would take Buck to walk from one end of a football field to the other, I need to [multiply divide] the number of steps the Allosaurus takes by _____.

   d. It would take Buck _____ steps to walk the length of a football field.

The Wild World of Buck Bray Series
Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

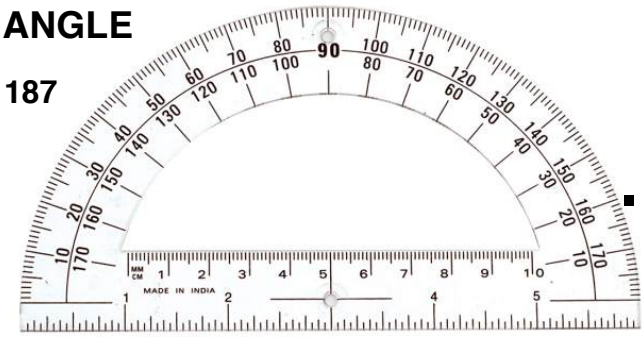
ONE STEP AT A TIME ANSWERS

1. a. 9 feet
   b. Individual students' measurements.
   c. Individual students' measurements.
   d. Derived from individual students' measurements.
   e. Individual students' measurements.
   f. Individual students' measurements.
2. a. divide by 9
   b. 40
   c. multiply by 5
   d. 200

The Wild World of Buck Bray Series

Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

A FUNNY ANGLE



DIRECTIONS: **Read *TAKE QUOTE 16* on page 187 to help answer the questions. You will need a protractor, ruler, scissors, crayons, glue and 2 pieces of paper.**

1. Using a protractor, draw a 20° angle on a piece of paper. Here's how:
   a. Draw a six-inch horizontal line with the ruler.
   b. Line the protractor up with your line and slide it to the left until the **end** of the line you drew is at the center mark on the base of the protractor. (The center mark may be a small hole in the base of the protractor.)
   c. Look at the degree marks that go around the edge of the protractor's arch. These small lines are in groups of five. Starting on the bottom right side, count out 20 of these small lines and put a dot there, right up next to the outside edge of the protractor. (See where the dot is on the right of the protractor above?)
   d. There are two numbers that line up to where your dot is—20 and 160. You are making a narrow, **acute angle** (less than 90º) so you will look at the smaller number. If you were making a wide **obtuse angle** (more than 90º) you would look at the bigger number.
   e. Pick up your protractor and using the ruler, draw a line from your dot to the left end of the line you originally drew. The area inside the two lines makes a 20º angle. The point where the two lines meet is called a **vertex.**
2. If an Allosaurus was standing at the **vertex** and was looking right down the middle of the angle, the area in the middle would be what he could see. Color it blue and cut it out.
3. Humans have a 114° range of vision. Using another piece of paper, draw a 114º angle. (You will still start measuring degrees from the right of your protractor and go all the way up and around until you reach the 114 mark. When you have completed the angle, color it orange and cut it out.
4. On the back of this page, put a small **X** near the bottom of the page to represent where you and an Allosaurus are standing. Glue your 114º orange angle so the vertex is just above the X. That is the angle a human would see.
5. Lining up the vertex of the 20º blue angle with the 114º orange angle, and centering the blue inside the orange, glue the blue 20º angle on top of the orange 114º angle. Now you can compare the difference between your ***field of vision*** with that of an Allosaurus.

(**A FUNNY ANGLE** continued on next page)

The Wild World of Buck Bray Series

Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

(**A FUNNY ANGLE** continued)

6. How much bigger field of vision do humans have than an Allosaurus? (The answer will be in degrees.) _____

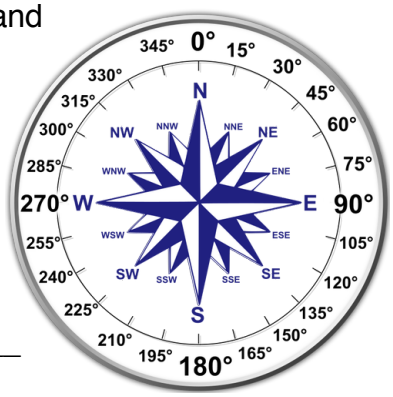
7. Does a human's field of vision make an acute or an obtuse angle? _____

8. Does an Allosaurus' field of vision make an acute or obtuse angle? _____

9. A protractor is in the shape of a half-circle. How many degrees are in a half-circle? _____

10. How many degrees are in a circle? _____

11. A compass is also a circle. Due North is at 0º. If you look north and turn all the way around until you are looking north again, you have turned in a whole circle. So, you have turned 360º. How many degrees have you turned if you stop when you are looking due South? _____



12. Read page 190.
    a. What direction does Buck need to go? _____
    b. What degree from North is that? _____

13. If Buck and Toni walked 270º, what direction would they be going? _____

14. Buck and Toni walk due north for ten yards. They make a 90º turn and walk another ten yards. Then, they turn 90º again and go for another ten yards. They repeat that one more time before stopping.
    a. What shape did they walk in? _____
    b. Where did they stop? _____
    c. How many sides does the shape have? _____
    d. How long was each of its sides? _____
    e. A 90º angle is called a **right angle.** How many right angles are in a square?_____
    f. *True or false?: A square has four equal sides and four right angles.* _____

15. How are a protractor and a compass the same? _____
    _____

(For more fun with field of vision, do the activity on page 50: What Does an Allosaurus See?)

A FUNNY ANGLE ANSWERS

1-5. Accurate completion of angle drawing activity.

6. 94º
7. obtuse
8. acute
9. 180º
10. 360º
11. 180º
12. a. East
    b. 90º
13. West
14. a. a square
    b. Where they began.
    c. 4
    d. 10 yards
    e. 4
    f. True
15. They are both used to determine degrees.

The Wild World of Buck Bray Series
Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

DOES BIG AL SEE ME?

DIRECTIONS: **Read *TAKE QUOTE 16* on page 187. You will need two different colors of painter's tape* and two pieces of stiff paper such as cardboard or cardstock.**
*Painter's tape will easily come off surfaces and not leave the sticky residue that masking tape will.

Teachers: you may have the taped angles described below already made before students do the activity, or after having students finish A Funny Angle *activity (page 47), have the students make the taped angles themselves. FYI: There is no Answer Page for this activity.*

* * * * *

An Allosaurus has a 20º field of vision. A human's field of vision is 114º.
To see what an Allosaurus can see, try this out!

PART 1: Two Different Angles

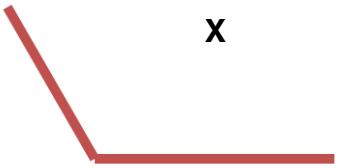


Diagram A

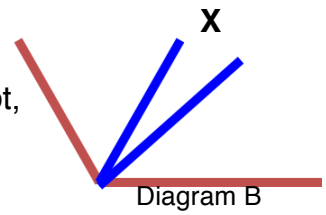


Diagram B

1. Go to the school's gym, cafeteria, or a large paved area outside.
2. Lay out two long pieces (at least 20 feet or more) of painter's tape at a 114° angle (See Diagram A).
3. Stand at the vertex. Looking straight ahead down the middle of the angle (toward the X on Diagram A) you should be able to see both pieces of tape at the same time without turning your head. (If not, move backward a little until you can see both pieces of tape.)
4. Using a different color of painter's tape, make a 20º angle within the 114º angle—use the same vertex for both angles, centering the 20° angle in the middle of the 114° angle (see Diagram B).
5. Standing at the vertex and looking straight ahead (toward the X on Diagram B), compare what an Allosaurus could see with what a human can see.

PART 2: Can Big Al See Me?

1. Place some objects (or have people stand) both inside and outside of the two taped angles you made. Have them be various distances (from 1-10 feet) from the vertex.
2. Stand at the vertex, look straight down the center of the angles without turning your head. Who (or what) can you see? Are there some objects or people you can't see without turning your head? If yes, they are outside your *field of vision.*
3. Using two pieces of stiff paper (cardboard, cardstock, manila file folder, etc.) hold them like blinders on both sides of your face at an approximate 20° angle. Now you have an idea of what an Allosaurus could see! Who or what can you see now? Could someone quietly sneak up on you from the side without you seeing him?

The Wild World of Buck Bray Series
Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

CAN YOU HEAR ME NOW?

DIRECTIONS: **Read *TAKE QUOTE 18* on page 205 as well as pages 206-209. You will need some rubber bands with a variety of thicknesses and a stopwatch.**

Sound is made from invisible vibrations that travel in waves through the air, through water, and even through solid objects. When sound waves reach our ears it vibrates the delicate skin of our eardrum, which sends messages to our brain about what we are hearing. Different size, shape, and speed of sound waves make different sounds. Fast moving sound waves make high pitches or *frequencies*; slow moving vibrations produce low frequencies. There are some frequencies so high or so low that the human ear can't hear them but other kinds of animals may.

1. Stretch a rubber band and pluck it.
   a. I could see the rubber band _____.
   b. I could hear it, too. When I stretched it tightly, it made a _____ frequency sound.
   c. When it wasn't stretched as tight, the frequency was _____.
   d. A thick rubber band made a _____ frequency than a thin rubber band.
   e. _____, _____ and _____ are musical instruments that use string vibrations to make sounds.
   f. On the board, make a bar graph to show how many times different instruments were answered by the entire class. Which was used the most? Which the least?

2. Loudness is measured in decibels. Every 10 decibels means the sound is ten times louder. The greater the force used to make vibrations, the louder the sound will be. Rate the following by how much force is used to create sound from low (1) to high (5).
   (Hint: Use each number 1-5, only once.)
   a. _____ rocket blasting off
   b. _____ whisper
   c. _____ lawn mower
   d. _____ ambulance siren
   e. _____ bird singing

3. Sound travels fast! It goes 1,125 feet per second through air; 4,862 feet per second through water; and 14,803 feet per second through steel. The denser the medium it's going through (or closer together the molecules of that material are) the faster sound travels. That's because the sound wave vibration is made by molecules bumping into each other. If molecules are closer, they bump each other quicker, making faster sound waves. Try it out:
   a. Make two lines with the same number of classmates. In Line A, each person should stand so they can touch the shoulders of the person in front of them. In Line B, each person should be five giant steps away from the person in front of them.

(CAN YOU HEAR ME NOW? continued on next page)

The Wild World of Buck Bray Series

Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

(CAN YOU HEAR ME NOW? continued)

b. Pretend that each person is a molecule. Which line is denser? _____.

c. Get the stopwatch ready. Beginning with Line A, pretend to start a sound wave by having the last person in line clap his hands one time. That is the "force" that sets the sound wave in motion. Then the last person in line GENTLY bumps into the person in front of him. That person then bumps into the person in front of her. Continue all the way up the line. When the first person in line gets bumped, he yells out *"I can hear you now!"*

How long did it take? _____

d. Now do the same thing with Line B. How long did it take? _____

e. Which "sound wave" went faster, the denser Line A or the less dense Line B? _____

4. When lightning flashes it sets up a force on the molecules around it, which bump into other molecules until they finally bump up against your eardrum. You then hear the sound wave that started by the force of the lightning and call that sound _____.

5. Use the following facts to help answer the questions about lightning and thunder.

One mile = 5,280 feet. Sound travels through air 1,125 feet per second.

a. Divide to find out: how many seconds can sound travel a mile through air? _____

b. Round that number off to the nearest whole number. _____

c. If I see lightning and start counting, every _____ seconds will indicate the lightning is approximately one mile away.

d. If I count to 10, the lightning was approximately _____ miles away.

e. If I count to 3, the lightning was approximately what fraction of a mile away?_____

f. Toni said lightning was eight-tenths of a mile away. What fraction is equal to 8/10? _____

g. Why did Toni say Mississippi after each number when counting? _____

_____

h. An Allosaurus could hear thunder because it makes a _____ frequency.

5. Ask your school Speech-Language Pathologist or Nurse if she has an audiometer. If so, have her visit your classroom and let you hear high and low sound frequencies as well as loudness levels. Also ask her to show you how to make or chart an audiogram. (This may be incorporated with lessons on the anatomy of the ear, good hearing health, or deaf/hearing impairment awareness activities.)

The Wild World of Buck Bray Series

Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

CAN YOU HEAR ME NOW ANSWERS

1. a. vibrate
   b. high
   c. lower
   d. lower
   e. any three string instruments: piano, harp, violin, cello, viola, harpsichord, guitar bass, ukulele, banjo, mandolin, lute, dulcimer, etc.
2. a. 5
   b. 1
   c. 3
   d. 4
   e. 2
3. a. complete activity
   b. Line A
   c. answer varies
   d. answer varies
   e. Line A
4. thunder
5. a. 4.69 OR 4.7 seconds
   b. 5
   c. 5
   d. 2
   e. 3/5
   f. 4/5
   g. Because it takes about a second to say a number and the word Mississippi.
      AND/OR
      It kept her from counting too fast.
   h. low

The Wild World of Buck Bray Series

Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

CAN I CATCH YOU?

DIRECTIONS: **Read *TAKE QUOTE 20* on page 233 to help answer the questions below. You will need a tape measure and stopwatch.**

(Hint: For Questions 1-5, use the answer in one question to calculate the answer to the next question.)

1. There are 5,280 feet in a mile. How many feet can an Allosuarus run in an hour?_____
2. How many feet can an Allosaurus run in a minute?_____
3. How many feet can an Allosaurus run in 30 seconds?_____
4. How many feet can an Allosaurus run in 10 seconds?_____
5. How many feet can an Allosaurus run in 5 seconds?_____
6. In the gym, a long hallway or on the playground, measure the length an Allosaurus can run in five seconds. a. How long does it take you to run that distance? _____

   b. Look at this activity's title. If an Allosaurus asked that, what would be your answer? _____
7. In 2009, Usain Bolt set the record for the fastest runner in the world at 27.8 mph.

   a. Who can run faster, Usain Bolt or an Allosaurus? _____

   b. How much faster? _____
8. This chart shows speeds of a variety of dinosaurs.

Stegosaurus	4.3 mph	Apatosaurus	12 mph	Utahraptor	20 mph
Ankylosaurus	6 mph	Camptosaurus	16 mph	Allosaurus _____	mph
Diplodocus	8 mph	Tyrannosaurus rex	17 mph???	Giganotosaurus	31 mph
Brachiosaurus	10 mph	Triceratops	20 mph	Velociraptor	40 mph

   a. Put the speed for the Allosaurus in the chart.

   b. In a race, which two dinosaurs would tie? _____ & _____

   c. How many of these dinosaurs run slower than an Allosaurus?_____

   d. There are question marks after T-rex's speed. Speeds for all dinosaurs are estimated by many factors including the dinosaur's hip height, stride, and weight. However, sometimes different paleontologists (scientists who study fossils) disagree. Some say T-rex could only move 11 mph. Others say it could go as fast as 45 mph. Most conclude its speed was around 17 mph. No matter how fast T-rex could go, how many of these dinosaurs would everyone agree that a T-rex could always go faster than?

   _____ Why?_____

The Wild World of Buck Bray Series

Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

CAN I CATCH YOU ANSWERS

1. 110,880 feet
2. 1,848 feet
3. 924 feet
4. 308 feet
5. 154 feet
6. a. varies by individual student

   b. If your answer to #6a is >5 seconds, the answer is NO.

   If your answer to #6a is <5 seconds, the answer is YES.
7. a. Usain Bolt

   b. 7.8 mph
8. a. 21

   b. Triceratops and Utahraptor

   c. 9

   d. 4— Because a T-Rex could go at least 11 mph.

The Wild World of Buck Bray Series
Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

LET'S SORT THIS OUT

Directions: **Read the following as well as *TAKE QUOTE 22* on page 254, the last paragraph on page 141 and all of page 142 to help answer these questions.**

There are so many different kinds of living things it is difficult to keep them all straight, especially when some species are only slightly different from another. So scientists have established a way to organize living things called Scientific Taxonomy.

In scientific taxonomy, all living things are divided into similar groups, such as Animal and Plants. Each group is then divided again and again into seven different categories, each getting more and more specific regarding the details. For example, animals can be divided into vertebrates (those with backbones) and invertebrates (those without backbones.) Vertebrates can be divided into mammals, birds, amphibians, reptiles, and fish. Mammals are put into groups such as rodents, primates, and ungulates, etc. Ungulates are grouped into cattle, deer, horses, etc. And finally they're divided by individual species such as white-tailed deer or mule deer. Scientific taxonomy uses Latin so everyone around the world can use the same terms.

The seven categories are Kingdom, Phylum, Class, Order, Family, Genus, and Species.
A good way to help remember this is remembering this sentence:

Keeping **P**recious **C**reatures **O**rganized **F**or **G**rumpy **S**cientists!

Here are the taxonomies for some of the living organisms Buck and Toni learn about in *Danger at the Dinosaur Stomping Grounds.* Use them to answer the questions on the next page.

	HUMAN	COUGAR	PACK RAT	ALLOSAURUS
Kingdom	Animalia	Animalia	Animalia	Animalia
Phylum	Chordata	Chordata	Chordata	Chordata
Class	Mammalia	Mammalia	Mammalia	Reptilia
Order	Primates	Carnivora	Rodentia	Saurischia
Family	Hominidae	Filidae	Cricetidae	Allosauridae
Genus	Homo	Puma	Neotoma	Allosaurus
Species	Homo sapien	Puma concolor	Neotoma albigula	Allosaurus fragilis

	FAIRY SHRIMP	JUNIPER	SAGEBRUSH	MULE DEER
Kingdom	Animalia	Plantae	Plantae	Animalia
Phylum	Antropoda	Coniferophyta	Tracheophyta	Chordata
Class	Branchiopoda	Pinopsida	Magnoliopsida	Mammalia
Order	Anostraca	Pinales	Asterales	Artiodactyla
Family	Branchinectidae	Cupressacaae	Asteracaae	Cervidae
Genus	Branchinecta	Juniperus	Artemisia	Odocoileus
Species	Branchinecta lindahli	Juniperus communis	Artemisia tridentata	O. hemionus

(Questions for LET'S SORT THIS OUT are on the next page.)

The Wild World of Buck Bray Series

Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

(LET'S SORT THIS OUT Continued)

1. Organizing plants and animals is called _____.
2. Scientific taxonomy is written in what language? _____
3. The taxonomic category called Kingdom separates plants from animals. What is the Latin word for: a. animal? _____

   b. plant? _____
4. What taxonomic category separates animals into mammals, birds, reptiles, amphibians, and and fish? _____
5. Compare similar animals and plants on the chart to determine what Order the following would be categorized as:

   a. gorilla _____ b. pine tree _____ c. wolf _____

   d. mouse _____ e. T-rex _____ d. moose _____
6. When comparing the genus name and the species name, what do you notice?

   _____
7. Buck and Toni learn about a species of dinosaur discovered in 2008 and named in 2013. What is its genus? _____
8. Look at all the Latin species names. They each have two words. The first word (which is a repeat of the genus) always starts with a capital. What do you notice about the second word?

   _____
9. Which page in *Danger at the Dinosaur Stomping Ground* uses the Allosaurus' full Latin species name? _____ What is it? _____

   (The font type in the book used all capitals, but do you have it written correctly above? See Question # 8)
10. What is the Latin species name for a human? _____
11. Compare the human, cougar, pack rat, and mule deer. What taxonomical categories do they have in common? _____ _____ _____
12. Look at the Latin species name for mule deer. Sometimes the species names are abbreviated by using only the first letter of the first word which is the genus part of the name.
    a. How would the Allosaurus species be abbreviated?_____

    b. How would the human species be abbreviated? _____

The Wild World of Buck Bray Series

Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

LET'S SORT THIS OUT ANSWERS

1. Scientific taxonomy
2. Latin
3. a. Animalia
   b. Plantae
4. Class
5. a. Primates
   b. Pinales
   c. Carnivora
   d. Rodentia
   e. Saurischia
   f. Artiodactyla
6. The genus is the first word of the species name.
7. Siats
8. It starts with a lower case letter.
9. 254 Allosaurus fragilis
10. Homo sapien
11. Kingdom, Phylum, Class
12. a. A. fragilis (case sensitive)
    b. H. sapien (case sensitive)

The Wild World of Buck Bray Series

Activity for Book Two: *Danger at the Dinosaur Stomping Grounds*

A SWEEPING VISTA

DIRECTIONS: **Use the GLOSSARY at the end of the book to help answer these questions.**

1. While in Canyonlands National Park, as well as in areas nearby, Buck and Toni discover a landscape that is very different than Indiana and Missouri where the two kids came from. They learned a lot of new words to describe the sweeping vistas they saw. Fill in the blanks in the sentences below with the following words. (Hint: Each word is only used once.)

mesa arroyo canyons chimney crevice alcove sagebrush
grotto ravine potholes pinnacle rimrock juniper slickrock

a. The tall rock _____ that towered toward the sky looked like a guard watching over Buck and Toni.

b. The opening to the _____was small but inside it opened to a big room.

c. A raven landed on the top branches of a _____ and looked down at Buck.

d. Ancient drawings were protected because they were drawn in an _____.

e. Worn smooth by the wind, the sandstone _____ wasn't slick at all.

f. Some _____ were dry but others held water loaded with fairy shrimp.

g. Toni hid behind a scrubby cluster of _____.

h. A long flat-topped _____ rose up in the distance.

i. Buck knew it was dangerous to camp in an _____ because of flashfloods.

j. From above, Buck could see how easy it would be to get lost in the maze of _____ that made up the National Park.

k. A trickle of water wound through the sand at the bottom of the _____.

l. Buck's eyes followed the _____ along the top edges of the cliff, looking for a way up.

m. By using his hands, feet and back, Buck found he could easily climb up and down the _____.

n. The _____ in the rock was too narrow to hide in.

2. Draw or paint a picture of a Canyonlands landscape.

The Wild World of Buck Bray Series
Activity for Book One: *The Missing Grizzly Cubs*

A SWEEPING VISTA ANSWERS

1. a. pinnacle
   b. grotto
   c. juniper
   d. alcove
   e. slickrock
   f. potholes
   g. sagebrush
   h. mesa
   i. arroyo
   j. canyons
   k. ravine
   l. rimrock
   m. chimney
   n. crevice
2. Completion of picture

The Wild World of Buck Bray Series
Activity for Book Two: *Danger at the Dinosaur Stomping Ground*

WEBSITE LINKS

1. Here are three links to kid-oriented videos put out by the Bureau of Land Management about places that author Judy Young visited, researched, and then wrote about in *Danger at the Dinosaur Stomping Grounds.* By having your students watch these, they will be able to see the real stomping grounds as well as other dinosaur track sites and fossil areas Buck visited.

   Dinosaur Stomping Grounds, near Moab, UT
   https://www.youtube.com/watch?v=9UWgkOU1Oxk

   Mill Canyon Dinosaur Tract Site, near Moab, UT
   https://www.youtube.com/watch?v=wnmlHCK9V8U

   Mill Canyon Dinosaur Fossil Trail, near Moab, UT
   https://www.youtube.com/watch?v=OR9FfBOacB4

2. A paleontologist from the Field Museum of Natural History in Chicago talks about the Siats meekerorum, a newly discovered dinosaur species that Buck and Toni read about.

https://www.treehugger.com/natural-sciences/meet-new-dinosaur-siats-meekerorum-video.html