7th Grade NTI DAY #31

Contents:

- **Language Arts**
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NTI Days 31-32

COMMONLIT

Name: _____ Class: _____

The Raven

By Edgar Allan Poe
1845

Edgar Allan Poe (1809-1849) was an American author, poet, and literary critic whose works are still widely read today. "The Raven" is perhaps his most famous poem, celebrated for its musicality, form, and supernatural atmosphere. As you read, take notes on the symbolic nature of the raven's visit, as well as how the poem's structure and form contribute to its mood.

"The Raven" by Kevin Dooley is licensed under CC BY 2.0

[1] Once upon a midnight dreary, while I pondered, weak and weary,
Over many a quaint and curious volume of forgotten lore —
While I nodded, nearly napping, suddenly there came a tapping,
As of some one gently rapping, rapping at my chamber door.
[5] "'Tis some visitor," I muttered, "tapping at my chamber door —
Only this and nothing more."

Ah, distinctly I remember it was in the bleak December;
And each separate dying ember wrought its ghost upon the floor.
Eagerly I wished the morrow; — vainly I had sought to borrow
[10] From my books surcease[1] of sorrow — sorrow for the lost Lenore —
For the rare and radiant maiden whom the angels name Lenore —
Nameless here for evermore.

And the silken, sad, uncertain rustling of each purple curtain
Thrilled me — filled me with fantastic terrors never felt before;
[15] So that now, to still the beating of my heart, I stood repeating
"'Tis some visitor entreating entrance at my chamber door —
Some late visitor entreating entrance at my chamber door; —
This it is and nothing more."

Presently my soul grew stronger; hesitating then no longer,
[20] "Sir," said I, "or Madam, truly your forgiveness I implore;
But the fact is I was napping, and so gently you came rapping,
And so faintly you came tapping, tapping at my chamber door,
That I scarce was sure I heard you" — here I opened wide the door; —
Darkness there and nothing more.

1. the act or process of being brought to an end

[25] Deep into that darkness peering, long I stood there wondering, fearing,
Doubting, dreaming dreams no mortal ever dared to dream before;
But the silence was unbroken, and the stillness gave no token,
And the only word there spoken was the whispered word, "Lenore?"
This I whispered, and an echo murmured back the word, "Lenore!" —
[30] Merely this and nothing more.

Back into the chamber turning, all my soul within me burning,
Soon again I heard a tapping somewhat louder than before.
"Surely," said I, "surely that is something at my window lattice;
Let me see, then, what thereat is, and this mystery explore —
[35] Let my heart be still a moment and this mystery explore; —
'Tis the wind and nothing more!"

Open here I flung the shutter, when, with many a flirt and flutter,
In there stepped a stately Raven of the saintly days of yore;
Not the least obeisance[2] made he; not a minute stopped or stayed he;
[40] But, with mien[3] of lord or lady, perched above my chamber door —
Perched upon a bust of Pallas[4] just above my chamber door —
Perched, and sat, and nothing more.

Then this ebony bird beguiling[5] my sad fancy into smiling,
By the grave and stern decorum of the countenance[6] it wore,
[45] "Though thy crest be shorn and shaven, thou," I said, "art sure no craven,[7]
Ghastly grim and ancient Raven wandering from the Nightly shore —
Tell me what thy lordly name is on the Night's Plutonian shore!"[8]
Quoth the Raven "Nevermore."

Much I marvelled this ungainly fowl to hear discourse so plainly,
[50] Though its answer little meaning — little relevancy bore;
For we cannot help agreeing that no living human being
Ever yet was blessed with seeing bird above his chamber door —
Bird or beast upon the sculptured bust above his chamber door,
With such name as "Nevermore."

[55] But the Raven, sitting lonely on the placid[9] bust, spoke only
That one word, as if his soul in that one word he did outpour.
Nothing farther then he uttered — not a feather then he fluttered —
Till I scarcely more than muttered "Other friends have flown before —
On the morrow he will leave me, as my Hopes have flown before."
[60] Then the bird said "Nevermore."

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2. acknowledgement of another's superiority, such as in the form of a bow
3. a demeanor or air
4. Athena, the Greek goddess of wisdom
5. **Beguile** ***(verb):*** to charm or enchant, often in a deceptive way
6. **Countenance** ***(noun):*** a person's face or facial expression
7. a coward
8. Pluto is the Roman god of death, also known as Hades in Greek mythology. The Plutonian shore is a reference to the afterlife or underworld.

Startled at the stillness broken by reply so aptly spoken,
"Doubtless," said I, "what it utters is its only stock and store
Caught from some unhappy master whom unmerciful Disaster
Followed fast and followed faster till his songs one burden bore —
[65] Till the dirges[10] of his Hope that melancholy burden bore
Of 'Never — nevermore.'"

But the Raven still beguiling all my fancy into smiling,
Straight I wheeled a cushioned seat in front of bird, and bust and door;
Then, upon the velvet sinking, I betook myself to linking
[70] Fancy unto fancy, thinking what this ominous[11] bird of yore —
What this grim, ungainly, ghastly, gaunt, and ominous bird of yore
Meant in croaking "Nevermore."

This I sat engaged in guessing, but no syllable expressing
To the fowl whose fiery eyes now burned into my bosom's core;
[75] This and more I sat divining, with my head at ease reclining
On the cushion's velvet lining that the lamp-light gloated o'er,
But whose velvet-violet lining with the lamp-light gloating o'er,
She shall press, ah, nevermore!

Then, methought, the air grew denser, perfumed from an unseen censer[12]
[80] Swung by Seraphim[13] whose foot-falls tinkled on the tufted floor.
"Wretch," I cried, "thy God hath lent thee — by these angels he hath sent thee
Respite — respite and nepenthe[14] from thy memories of Lenore;
Quaff,[15] oh quaff this kind nepenthe and forget this lost Lenore!"
Quoth the Raven "Nevermore."

[85] "Prophet!" said I, "thing of evil! — prophet still, if bird or devil! —
Whether Tempter[16] sent, or whether tempest[17] tossed thee here ashore,
Desolate yet all undaunted, on this desert land enchanted —
On this home by Horror haunted — tell me truly, I implore —
Is there — is there balm in Gilead?[18] — tell me — tell me, I implore!"
[90] Quoth the Raven "Nevermore."

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9. **Placid** ***(adjective):*** calm and peaceful, with little movement or activity
10. mournful songs or poems
11. **Ominous** ***(adjective):*** suggesting that something bad is going to happen
12. a vessel for burning incense
13. an order of angels
14. Nepenthe refers to a substance capable of causing forgetfulness of pain and sorrow.
15. to drink deeply
16. also known as "the Devil"
17. **Tempest** ***(noun):*** a violent, windy storm
18. This is a reference to the Biblical quote from Jeremiah 8:22 — "Is there no balm in Gilead; is there no physician there?"

"Prophet!" said I, "thing of evil! — prophet still, if bird or devil!
By that Heaven that bends above us — by that God we both adore —
Tell this soul with sorrow laden if, within the distant Aidenn,[19]
It shall clasp a sainted maiden whom the angels name Lenore —
[95] Clasp a rare and radiant maiden whom the angels name Lenore."
Quoth the Raven "Nevermore."

"Be that word our sign of parting, bird or fiend!" I shrieked, upstarting —
"Get thee back into the tempest and the Night's Plutonian shore!
Leave no black plume as a token of that lie thy soul hath spoken!
[100] Leave my loneliness unbroken! — quit the bust above my door!
Take thy beak from out my heart, and take thy form from off my door!"
Quoth the Raven "Nevermore."

And the Raven, never flitting, still is sitting, still is sitting
On the pallid[20] bust of Pallas just above my chamber door;
[105] And his eyes have all the seeming of a demon's that is dreaming,
And the lamp-light o'er him streaming throws his shadow on the floor;
And my soul from out that shadow that lies floating on the floor
Shall be lifted — nevermore!

19. Aidenn is a variant spelling of the Biblical Eden.
20. **Pallid** ***(adjective):*** pale or white

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. PART A: Which of the following best explains the relationship between the speaker and Lenore?
   A. Lenore was the speaker's girlfriend who broke up with him.
   B. Lenore was the speaker's lover but she has recently died.
   C. Lenore is the speaker's friend whom the speaker is currently in love with.
   D. Lenore and the speaker are enemies; the speaker believes she has cursed him.

2. PART B: Which phrase from the poem best supports the answer to Part A?
   A. "vainly I had sought to borrow / From my books surcease of sorrow" (Lines 9-10)
   B. "the rare and radiant maiden" (Line 11)
   C. "maiden whom the angels name Lenore — / Nameless here for evermore" (Lines 11-12)
   D. "respite and nepenthe from thy memories of Lenore" (Line 82)

3. PART A: Which of the following best describes a central theme of the text?
   A. Loss and grief can have powerful effects on the mind.
   B. The supernatural is proof that death is not the end.
   C. Fear is only a state of mind, and cannot significantly harm anyone.
   D. Evil deeds will always come back to haunt us.

4. PART B: Which TWO of the following quotes best support the answer to Part A?
   A. "'Tis some visitor,' I muttered, 'tapping at my chamber door — / Only this and nothing more.'" (Lines 5-6)
   B. "Eagerly I wished the morrow; — vainly I had sought to borrow / From my books surcease of sorrow — sorrow for the lost Lenore — " (Lines 9-10)
   C. "Then, upon the velvet sinking, I betook myself to linking / Fancy unto fancy, thinking what this ominous bird of yore — / What this grim, ungainly, ghastly, gaunt, and ominous bird of yore / Meant in croaking 'Nevermore.'" (Lines 69-72)
   D. "Then, methought, the air grew denser, perfumed from an unseen censer / Swung by Seraphim whose foot-falls tinkled on the tufted floor." (Lines 79-80)
   E. "'Prophet!' said I, 'thing of evil! — prophet still, if bird or devil! — / Whether Tempter sent, or whether tempest tossed thee here ashore'" (Lines 85-86)
   F. "And his eyes have all the seeming of a demon's that is dreaming, / And the lamp-light o'er him streaming throws his shadow on the floor; / And my soul from out that shadow that lies floating on the floor / Shall be lifted — nevermore!" (Lines 105-108)

5. Summarize how the speaker views the raven over the course of the poem. Cite evidence in you answer.

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6. How do the allusions, or references, made to Pallas (Athena) and Pluto (Hades) inform the character of the raven?
   - A. These allusions make the raven seem otherworldly and informs his symbolic nature as a possible messenger from the afterlife.
   - B. These allusions imply that the raven is far more powerful than it at first seems and it is there to cast judgement on the speaker.
   - C. These allusions contribute to the raven's characterization as the speaker's punishment, as classical gods were often seen as cruel and petty.
   - D. These allusions remind the reader that the speaker is mentally unbalanced and mistaking a raven for a god.

7. Why does the speaker react poorly to the raven's response of "Nevermore" in stanzas 15-16?
   - A. The speaker is unsettled by the raven's repetition of "Nevermore" because he believes the raven learned it from a depressed former master and intends to make him his new owner.
   - B. The speaker begs the raven to leave, to which the raven responds "Nevermore"€œ; the speaker becomes frustrated in stanzas 15-16 as he attempts to make it leave.
   - C. In stanzas 15-16, the speaker asks the raven if there is an afterlife and if he will be reunited with Lenore there, to which the raven answers "Nevermore"€œ; the speaker takes these answers seriously and thus becomes upset.
   - D. The speaker is frustrated by the bird's catchphrase and begs it to stop talking.

8. Which TWO of the following quotes best embody how the imagery develops the supernatural atmosphere of the poem?
   A. "Ah, distinctly I remember it was in the bleak December" (Line 7)
   B. "Back into the chamber turning, all my soul within me burning, / Soon again I heard a tapping somewhat louder than before." (Lines 31-32)
   C. "Not the least obeisance made he; not a minute stopped or stayed he; / But, with mien of lord or lady, perched above my chamber door — " (Lines 39-40)
   D. "Straight I wheeled a cushioned seat in front of bird, and bust and door; / Then, upon the velvet sinking, I betook myself to linking / Fancy unto fancy, thinking what this ominous bird of yore — "(Lines 68-70)
   E. "Then, methought, the air grew denser, perfumed from an unseen censer / Swung by Seraphim whose foot-falls tinkled on the tufted floor." (Lines 79-80)
   F. "And the Raven, never flitting, still is sitting, still is sitting / On the pallid bust of Pallas just above my chamber door; / And his eyes have all the seeming of a demon's that is dreaming, / And the lamp-light o'er him streaming throws his shadow on the floor (Lines 103-106).

9. How does the overall use of repetition in the poem contribute to its mood?
   A. The poem's repetitive and rigid structure contrasts the speaker's declining mental state, thus contributing to the crazed mood of the poem.
   B. The poem's repetition of the negative response "Nevermore" contributes to the lethargic and dispassionate mood of the poem.
   C. The poem's use of repetition and alliteration creates a dreamy mood, as the author thinks of his love, Lenore.
   D. The poem's use of repetition — namely the tapping, the narrator's calls for Lenore, and the raven's catchphrase of "Nevermore" — contributes to the overall suspenseful, eerie mood.

10. How does the poem's use of internal rhyme contribute to the tone of the piece? Cite at least one example in your answer.

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Discussion Questions

Directions: Brainstorm your answers to the following questions in the space provided. Be prepared to share your original ideas in a class discussion.

1. How do we deal with grief? Find evidence from "The Raven," from your experience, and from other works of literature or art.

2. In the context of this poem, how are we changed by love? Cite evidence from "The Raven," from your experience, and from other works of literature or art.

7th Grade Math NTI Day 3!

Name _____ Date _____ Class _____

LESSON 8-1

Similar Shapes and Scale Drawings

Reteach

The dimensions of a scale model or scale drawing are related to the actual dimensions by a *scale factor.* The **scale factor** is a ratio.

The length of a model car is 9 in. → $\frac{9\text{ in.}}{162\text{ in.}} = \frac{9 \div 9}{162 \div 9} = \frac{1}{18}$

The length of the actual car is 162 in. →

$\frac{9}{162}$ can be simplified to $\frac{1}{18}$. → The scale factor is $\frac{1}{18}$.

If you know the scale factor, you can use a proportion to find the dimensions of an actual object or of a scale model or drawing.

- The scale factor of a model train set is $\frac{1}{87}$. A piece of track in the model train set is 8 in. long. What is the actual length of the track?

  $\frac{\text{model length}}{\text{actual length}} = \frac{8}{x}$ $\quad \frac{8}{x} = \frac{1}{87}$ $\quad x = 696$

  The actual length of track is 696 inches.

- The distance between 2 cities on a map is 4.5 centimeters. The map scale is 1 cm : 40 mi.

  $\frac{\text{distance on map}}{\text{actual distance}} = \frac{4.5\text{ cm}}{x\text{ mi}} = \frac{1\text{ cm}}{40\text{ mi}}$

  $x = 180$

  The actual distance is 180 miles.

Identify the scale factor.

1. Photograph: height 3 in.
   Painting: height 24 in.

   $\frac{\text{photo height}}{\text{painting height}} = \frac{\text{in.}}{\text{in.}} = \_\_$

2. Butterfly: wingspan 20 cm
   Silk butterfly: wingspan 4 cm

   $\frac{\text{silk butterfly}}{\text{butterfly}} = \frac{\text{cm}}{\text{cm}} = \_\_$

Solve.

3. On a scale drawing, the scale factor is $\frac{1}{12}$. A plum tree is 7 inches tall on the scale drawing. What is the actual height of the tree?

   _____

4. On a road map, the distance between 2 cities is 2.5 inches. The map scale is 1 inch:30 miles. What is the actual distance between the cities?

   _____

Day 31

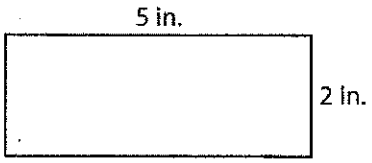
Name _____ Date _____ Class _____

LESSON 8-1

Similar Shapes and Scale Drawings

Practice and Problem Solving: A/B

1. The plan of a terrace is shown at right. The scale is 2 inches : 6 feet. What are the length and width of the terrace? Find the terrace's area.

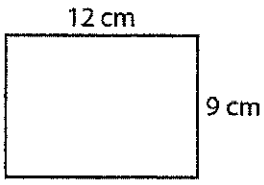


Length: _____

Width: _____

Area: _____

2. The floor plan of a ballroom is shown at right. The scale is 3 centimeters : 4 meters. What are the length and width of the ballroom? Find the ballroom's area.



Length: _____

Width: _____

Area: _____

3. A garage floor measures 150 feet by 120 feet. A scale drawing of the floor on grid paper uses a scale of 1 unit : 15 feet. What are the dimensions of the drawing?

_____

4. The scale model of a skyscraper being built is 4.2 feet tall.
   a. When it is finished, the skyscraper will be 525 meters tall. What scale was used to make the model?

   _____

   b. The model is made out of a stack of plywood sheets. Each sheet is 0.6 inch thick. How many sheets of plywood tall is the model?

   _____

5. You have been asked to build a scale model of a restaurant out of bottle caps. The restaurant is 20 feet tall. Your scale is 2.4 cm : 1 foot.
   a. A bottle cap is 1.2 cm tall. About how many bottle caps tall will your model be?

   _____

   b. You are out of bottle caps, and decide to use popsicle sticks instead. You measure them, and they are 15.2 cm tall. How many popsicle sticks tall will your model be?

   _____

Social Studies 7th Grade

The President Has Been Killed

Day 31

by Rachel Howard

John F. Kennedy's motorcade moments before assassination

On November 22, 1963, Michael's father woke him up early. He opened Michael's bedroom door with a bang, holding an alarm clock shaped like a cat in his hand, a wake-up song trilling as he danced around Michael's bed.

"Time to get up, son! It's a beautiful day."

Michael groaned and cracked his eyes open. His mother was standing in the doorway with her arms crossed, smiling indulgently at her husband. She was still in her nightgown, but Michael's father was already dressed in a suit and tie for work.

"Happy birthday, Michael," she said.

"Thanks, Mom," Michael said. "Dad, can you turn off that racket?"

"You don't like the alarm clock?" his dad said doubtfully, looking down at the tinny cartoonish thing. He cranked it to turn it off.

"Anyway!" Michael's mother said, "I have breakfast all prepared for you-chocolate-chip pancakes with bananas and syrup on top. Go ahead and get dressed, and we'll meet you in the kitchen."

Michael's father tousled his hair on his way out of the room, closing the door behind him.

Michael stretched. He was fifteen today, only three months into high school. He got out of bed and pulled the shades up on his window: his father had been right; it was a beautiful day. The sky was a

clear blue, and the tall pine trees in the backyard waved in a slight breeze. Los Angeles was a good place to have a birthday in November. Michael's cousins lived in New Jersey, and their birthdays, in October and December, were always cold and wet.

He whistled as he got dressed, and then walked through the long ranch-style house to the kitchen, where his mother was sitting with the baby and his father was standing by the sink drinking coffee out of a mug.

"Ah, the sleepyhead finally rises!" his father said.

Michael sat down to a plate of delicious-looking pancakes and immediately dug in. On a wood stand, the small black-and-white television was turned on. Walter Cronkite was talking about President Kennedy's trip to Texas and what Mrs. Kennedy was wearing.

"Oh, I love that little pillbox," his mother said, as an image of the first couple walking down the steps of an airplane popped up on the screen.

"That woman has more style than what-all," his father said, taking a seat next to Michael at the table.

"She really is the most elegant woman I've ever seen," Michael's mother said. "Sometimes I wonder what it would be like to be her friend. You know, I bet she is the best confidante a woman could have. Remember that Christmas special? She makes just the most lovely home-so welcoming, too."

Michael's mother had forced the whole family to watch the Christmas special a year earlier, when Mrs. Kennedy had welcomed a whole crew of cameramen into the White House to show off how she'd had it decorated. Michael's Aunt Martha, who wasn't much impressed by Mrs. Kennedy (she seemed to be the only one), said that wasn't it odd that Mrs. Kennedy acted as if she herself had decorated the whole thing when clearly the servants had done it.

"I better be off to work," Michael's father said. He rose from the table and kissed Michael's mother and the baby. "Listen now, son: you have a *terrific* day. This is your fifteenth birthday, after all. It will never happen again! I'll see you all at dinner tonight. Lobster, Karen?" he asked, looking to Michael's mother, winking.

"Have a good day, dear," Michael's mother said, rolling her eyes.

Once he left, the kitchen was quiet but for Walter Cronkite's voice and Michael's baby sister's cooing. Michael finished his breakfast quickly and shoved his school things into his bag. "See you later, Mom," he said.

"Get to school safe," she said. "And happy birthday."

Michael's bicycle was where he had left it at the bottom of their long hilly driveway. He scooped it up and careened off down the hill toward school, falling in line with other kids already on their way.

At school, Michael locked his bike in the usual spot, where his best friend Freddy was waiting for him.

"Happy birthday, Mikey!" Freddy said, giving him a one-armed hug. They walked into school together, discussing the astronauts and whether or not they were able to go to the bathroom in their space suits.

"Ew, that is *so gross*," Helen, Freddy's twin sister said, overhearing them as they sat down in homeroom.

"It's a legitimate concern, Helen," Freddy said, wide-eyed and innocent.

The morning passed the way school mornings always did-like the drip-drip of a leaky faucet. Michael just couldn't get the hang of school. He hid all of his report cards from his parents.

At noon, Michael and Freddy were sitting at the lunch table in the far right corner of the cafeteria, where they always sat. The cafeteria was loud, screams and laughter reverberating off the cement walls. Michael's mother had packed him a miniature cake with lemon frosting, Michael's favorite. Suddenly, the principal's voice crackled over the public address system, a not infrequent occurrence but one that always signaled something important.

"Students, students-attention please."

As if the principal were standing right there in the cafeteria, telling them all to hush, the students became quiet.

"I regret to inform you that President Kennedy has been killed."

The silence in the cafeteria became thick with fear. Michael's heart started pounding, and his arms felt like lead. He began to sweat.

"Please return to your homerooms immediately for more information about this event from your teachers."

There was a rush to the cafeteria doors. President Kennedy was one of the most vital, wonderful men Michael had ever seen. His Boston accent had made Michael think of power and intelligence; he couldn't believe he would never hear it again.

Michael and Freddy sat down in their homeroom next to Helen, who was crying hysterically. Only then did Michael realize he had left his miniature cake in the cafeteria, the lemon frosting likely dripping all over the plastic table.

Name: _____ **Date:** _____

1. Where is Michael when he finds out that President Kennedy has been killed?

A. in homeroom at school

B. in the school cafeteria

C. at home

D. outside the school

2. What is the turning point in this story?

A. Michael's arrival at his school

B. the students' return to their homerooms from the cafeteria

C. the principal's announcement of President Kennedy's death

D. Walter Cronkite's broadcast of the Kennedys' trip to Texas

3. President Kennedy was an important figure to Michael. What evidence from the passage supports this conclusion?

A. Walter Cronkite was talking about President Kennedy's trip to Texas on the television.

B. After the principal's announcement, Michael and Freddy sat down in their homeroom next to Helen, who was crying hysterically.

C. Michael's mother had forced the whole family to watch the Christmas special a year earlier.

D. President Kennedy was one of the most vital, wonderful men Michael had ever seen.

4. Based on the passage, what was Mrs. Kennedy most widely recognized for?

A. her willingness to travel publicly with President Kennedy

B. her ability to keep a friend's secrets

C. her style and taste in clothing and decorations

D. her sense of humor and pleasant personality

5. What is this passage mostly about?

A. how Michael celebrated the morning of his fifteenth birthday with his family and friends

B. how Michael found out that President Kennedy was killed, and his day leading up to that point

C. how the death of President Kennedy affected all schoolchildren of that era

D. how Mrs. Kennedy was a style icon for women across the United States in the early 1960s

6. Read this paragraph from the story.

"Michael's mother had forced the whole family to watch the Christmas special a year earlier, when Mrs. Kennedy had welcomed a whole crew of cameramen into the White House to show off how she'd had it decorated. Michael's Aunt Martha, who wasn't much impressed by Mrs. Kennedy (she seemed to be the only one), said that wasn't it odd that Mrs. Kennedy acted as if she herself had decorated the whole thing when clearly the servants had done it."

In this paragraph the author notes opinions of Mrs. Kennedy. How does she do this?

A. by illustrating two similar reactions to Mrs. Kennedy's decorations

B. by highlighting Michael's Aunt Martha's opinion of Mrs. Kennedy as unusual

C. by discussing Mrs. Kennedy's Christmas special in full detail

D. by describing Michael's Aunt Martha and her relationship with Michael

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

Michael's morning passes the way school mornings always do. _____, his day takes an unexpected turn when he finds out President Kennedy has been killed.

A. However

B. For example

C. Consequently

D. Moreover

8. When the principal announces that President Kennedy has been killed, Michael rushes straight to homeroom from the cafeteria. What does Michael leave behind?

9. How does Michael feel when he finds out that President Kennedy has been killed? Use two specific pieces of evidence from the text to support your answer.

10. Based on the information in this story, how important were President Kennedy and Mrs. Kennedy to regular Americans like Michael and his family in the early 1960s? Give three examples from the text demonstrating their importance.

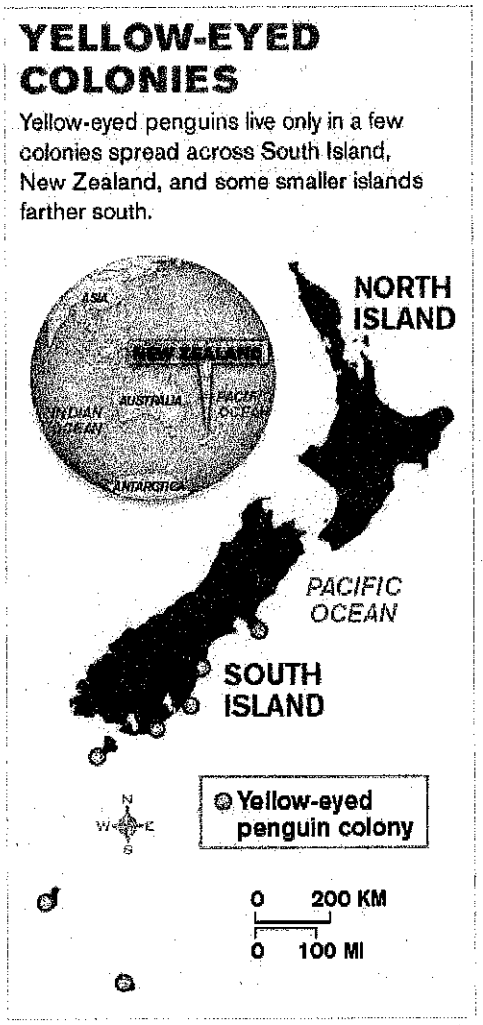
7th Science NTI Day 31 & 32 Article

Helping an Elusive Bird

Can scientists save the rarest penguin on Earth?

APRIL 17, 2017 By Jacob Batchelor. Science World Magazine.

Where would you expect to find a penguin? The thick undergrowth of a New Zealand forest might be the last place on your mind. But this environment is home to the mysterious yellow-eyed penguin (*Megadyptes antipodes*). It's the rarest species of penguin in the world.



JIM MCMAHON/MAPMAN®

The yellow-eyed penguin lives in only a few places. It's found in certain parts of New Zealand and several smaller islands in the sub-Antarctic (*see map*). It nests there, hidden in thick, low-lying shrubs. For penguins, that's an unusual habitat—a living thing's natural home (see *Penguins Compared*). Many penguin species, like Emperor penguins, nest in open areas. They also live together in large groups. But yellow-eyed penguins like privacy. They make their nests out of sight from each other and curious humans.

Experts think fewer than 2,000 breeding pairs of yellow-eyed penguins live in the wild. And the population is shrinking. In 2015, the number of breeding pairs on mainland New Zealand dropped by half. Scientists and conservationists are studying threats to the penguins. They're trying to learn what may have wiped out such a large number of them. Many worry that the endangered birds could soon disappear.

A THREATENED EXISTENCE

Life is hard for the yellow-eyed penguin. Only 18 out of 100 chicks survive their first year. That's about average for a seabird. But the survivors must overcome many threats during their lifetime.

Yellow-eyed penguins nest in thick vegetation, but they spend most of their time in the ocean. They dive 40 to 120 meters (131 to 394 feet) below the water's surface. There, they catch fish and other prey. But life at sea can be dangerous for the birds. Commercial fishermen catch yellow-eyed penguins in their nets by mistake. Fishing affects the penguins in another way. Some species of fish are caught faster than their populations can breed. This causes the fish to drop in numbers. *Overfishing* forces penguins to compete with other predators for food.

DANILO HEGG

Only 18 percent of chicks survive the first year

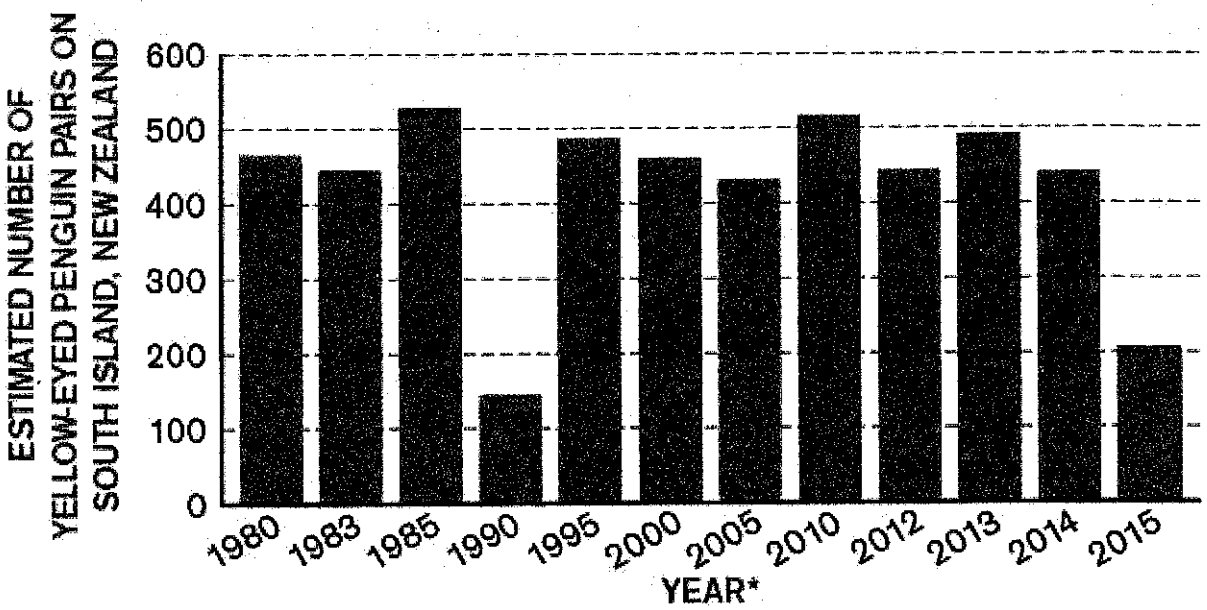
Climate change is also affecting the fish that yellow-eyed penguins eat. Ocean temperatures have risen by about 0.07°C (0.13°F) per decade over the past century. Warming waters can drive fish deeper or farther out to sea, where it's cooler. That's farther from the penguins' nesting grounds. As a result, biologists think that yellow-eyed penguins must use more energy when they hunt. At the same time, they're catching fewer or less-nutritious fish. This causes the penguins to have a *caloric deficit*. That means they're burning more calories than they're taking in.

Life on the shore isn't any easier for yellow-eyed penguins. People have cleared land for farming. This has destroyed much of the birds' forest habitat. People have also brought invasive, or non-native, animals into the penguins' habitat. Some are ferrets and stoats. These predators often

eat the penguins' eggs. And stressed-out, underfed penguins easily catch diseases, like *avian diphtheria*. That's a deadly bacterial infection in birds.

FALLING NUMBERS

In the 1990s, yellow-eyed penguin populations on South Island, New Zealand, hit their lowest levels ever recorded. Biologists worry that a recent decline could signal that the penguins' numbers are headed for an even bigger drop.



*Data was not collected for certain years.

SOURCE: YELLOW-EYED PENGUIN TRUST

"They're facing a suite of problems on land and at sea," says Trudi Webster. She's a science adviser for the Yellow-eyed Penguin Trust, an organization in New Zealand that protects the penguins. "And there are interactions between all of these problems that just make it worse."

Some mix of these problems led to great penguin losses from 2014 to 2015. It was one of the biggest drops in yellow-eyed penguin populations ever known. The number of breeding pairs on South Island, New Zealand, fell from about 439 to just 205 (see *Falling Numbers*). Scientists need to come up with solutions fast, or the bird may soon die out completely. Luckily, no one is giving up yet.

NEW HOPE?

Researchers like Webster are concerned about yellow-eyed penguins' future. But they're also hopeful. Over the past two decades, scientists and volunteers have worked hard to protect the birds.

Many successful programs involve local citizens and conservation groups working together. They trap and kill invasive animals that eat penguin eggs and chicks. Other organizations have set up rehabilitation centers. They take in underweight penguins to feed them and provide medical treatment.

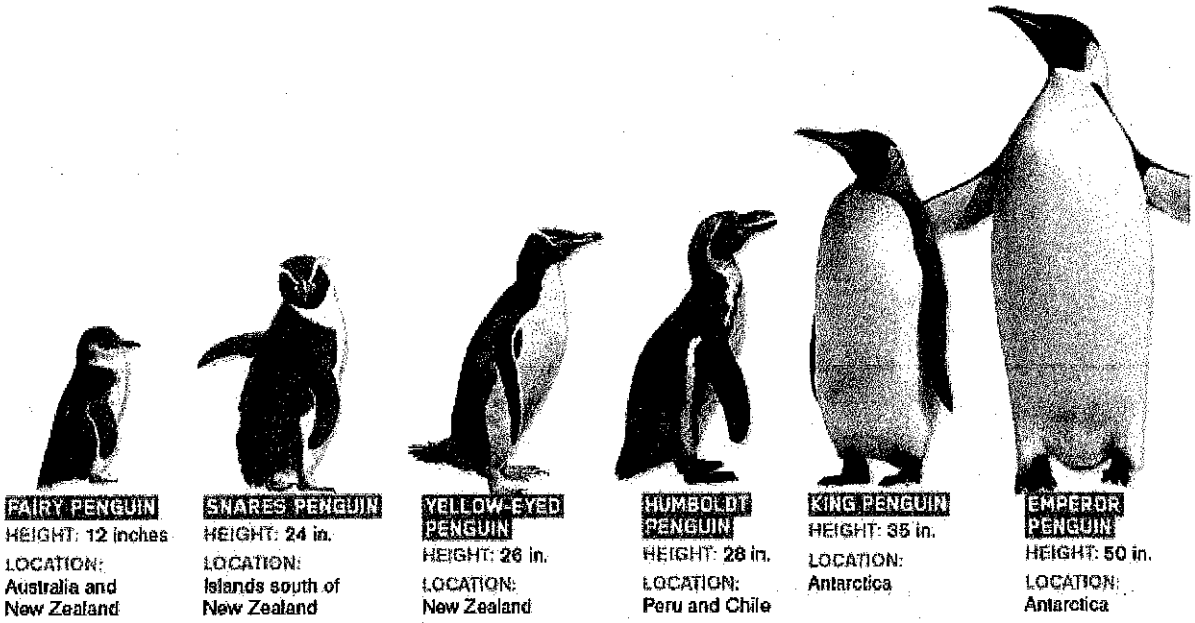
A NEW HOME: Much of the penguins' habitat has been destroyed, so volunteers create wooden nesting shelters for the birds.

One of the most exciting projects starts at the nest. Yolanda van Heezik is a wildlife biologist at the University of Otago in New Zealand. She and her students are working to find yellow-eyed penguin "superbreeders." These are penguins that naturally produce more, and healthier, chicks than average. Their chicks also have a higher survival rate. They often go on to become superbreeders themselves.

Van Heezik wants to figure out what makes these penguins superbreeders. She says this could be a key to boosting breeding rates among other yellow-eyed penguins. Some studies will look at *genes*, or units of hereditary material. These studies will try to find out if certain genes affect breeding and survival rates. Researchers are also studying the parenting habits of superbreeders. They hope to get ideas on how to increase the number of chicks that survive their first year. For example, researchers are looking at the way superbreeders feed their chicks. Maybe they do it in a way that's better for the chicks' health.

PENGUINS COMPARED

The yellow-eyed penguin is a midsize penguin species. See how it compares with some of its penguin relatives.



LOUISE HEUSINKVELD/GETTY IMAGES (FAIRY); BARRY BLAND/NATUREPL.COM (SNARES); CONNIE BRANSILVER/PHOTO RESEARCHERS, INC. (YELLOW-EYED); JERRY YOUNG/DORLING KINDERSLEY/GETTY IMAGES (HUMBOLOT); MALCOLM SCHUYL/THE IMAGE WORKS (KING); FRANK KRAHMER/PHOTOGRAPHER'S CHOICE RF/GETTY IMAGES (EMPEROR)

Yellow-eyed penguins will still face many problems. But these research, breeding, and conservation programs could give them a fighting chance. "They're a fantastic penguin," says Van Heezik. "I just hope we can come up with a solution to save them." ■

Name: _____

FEELING THE PRESSURE

In "Helping an Elusive Bird" (p. 20), you learned that yellow-eyed penguins can dive up to 120 meters (394 feet) underwater to find food. The deeper the penguins dive, the more *water pressure*, or force pushing down on them from the water above, they experience on their bodies. The chart below shows how water pressure changes with depth in the ocean. Use the data in the chart to answer the questions that follow.

WATER DEPTH AND PRESSURE

Water Depth (meters)	Water Pressure (bars)
0	0
500	50
1,000	100
1,500	150
2,000	200
2,500	250
3,000	300
3,500	350
4,000	400
4,500	450

GRAPH IT: Use a separate sheet of paper to draw a line graph showing how pressure changes with water depth. Don't forget to label the *x*- and *y*-axes and give your graph a title.

ANALYZE IT

1. By how many bars does water pressure increase with every 50 meters depth?

2. At what depth does the water pressure reach 275 bars?

3. Use your graph to estimate the approximate water pressure at the maximum depth reached by yellow-eyed penguins.

4. Emperor penguins are believed to be the deepest-diving birds. They have been known to reach depths of 565 meters. How much more pressure do they experience at that depth than at the maximum depth of a yellow-eyed penguin?

5. The record for the deepest dive by a person was more than 300 meters beneath the surface. How do you think it would feel 300 meters beneath the surface? Explain your answer.

Name: _____

HOW TO SAVE A SPECIES

In "Helping an Elusive Bird" (p. 20), you read about scientists' efforts to save the dwindling population of yellow-eyed penguins. More than 16,000 species of animals are at high risk of dying out. To decide which organisms to help first, some conservationists have suggested a *triage system*—an idea borrowed from the process hospitals use to prioritize patients' treatment based on the severity of their conditions.

Use the information below to learn how this idea could be applied to endangered species. Then complete the rest of the skills sheet to develop an argument for or against this idea.

Conservation Triage

Because funds for protecting endangered animals are limited, some scientists have suggested adopting a triage system for making conservation decisions. This system would rank organisms based on how costly and worthwhile it would be to save them. Then conservationists would use that ranking to determine which organisms receive the most resources for their protection.

The system would give priority to organisms that play a critical role in an ecosystem, such as predators like wolves that are at the top of the food chain. If these animals were to disappear, it would affect many other organisms. Organisms that have a lower chance of being saved would receive little funding or time from scientists.

Critics of the triage system say that every organism deserves a chance. They also argue that it can be difficult to know when a species is truly beyond help. For example, in 1987 there were only 27 California condors left on Earth. Scientists took all the birds into captivity, bred them, and reintroduced the condors back into the wild. Now there are roughly 450 California condors living in the wild.

(continued on the following page)

Name: _____

HOW TO SAVE A SPECIES

("HOW TO SAVE A SPECIES" CONTINUED)

WHAT DO YOU THINK? Create a list of the pros and the cons of conservation triage to identify which side of the argument you support.

Pros	*Cons*

FORM YOUR OPINION In a few sentences, state your opinion about whether scientists should use conservation triage to decide which animals to help.

_____

_____

_____

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7th Grade NTI DAY #32

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- Math
- Science
- Social Studies

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7th Grade Math NT Way 32

Name _____ Date _____ Class _____

LESSON 8-2

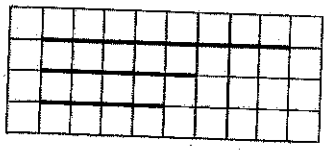
Geometric Drawings

Reteach

In this lesson, you learned two different sets of conditions for drawing a triangle.

Three Sides

Can these three sides form a triangle?



The condition that a triangle can be formed is based on this fact:

The sum of the lengths of two shorter sides is greater than the length of the longest side.

What are the lengths of the shorter sides?

4 and **5** units

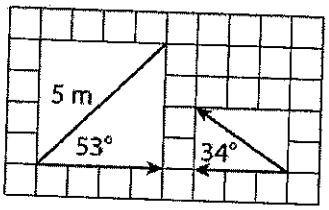
What is the length of the longest side?

8 units

Is **4 + 5 > 8**? Yes.

Two Angles and a Side

Why is a common, or included, side needed? Do these angles and side form a triangle?



The condition that a triangle can be formed is based on this fact:

The sum of the measures of the angles in a plane triangle is 180 degrees.

What would be the measure of the third angle in a triangle formed from these parts?

$180° = 53° + 34° + x°$

$x° = 180° - 87°$

$x = 93°$

A triangle can be formed, with the angles 53° and 93° having the 5-meter side in common.

Answer the questions about triangle drawings.

1. Can a triangle be formed with three sides of equal length? Explain using the model above.

_____

_____

2. Can a triangle be formed with angles having measures of 30°, 70°, and 110°? Explain using the model above.

_____

_____

Day 32

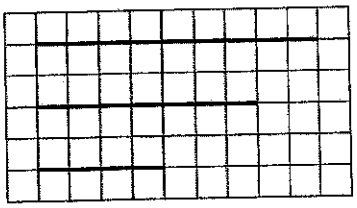
Name _____ Date _____ Class _____

LESSON 8-2

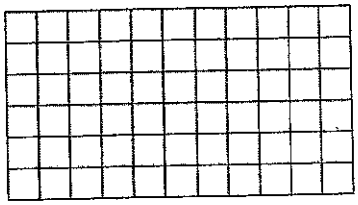
Geometric Drawings

Practice and Problem Solving: A/B

Use each set of line segments to sketch a triangle. If a triangle cannot be drawn, explain why.

1. 

Sketch:



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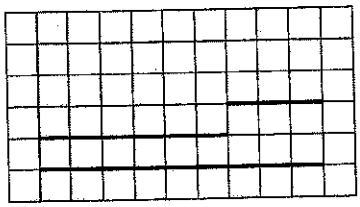
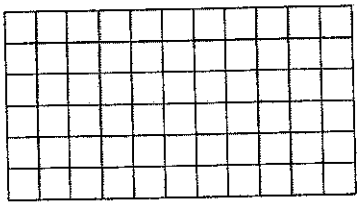
2. 

Sketch:



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Can each set of line segments form a triangle? Why or why not?

3. $\overline{AB} = \frac{1}{2}$ mile

$\overline{BC} = \frac{1}{3}$ mile

$\overline{AC} = \frac{1}{4}$ mile

_____

_____

4. $\overline{DE} = 0.205$ kilometer

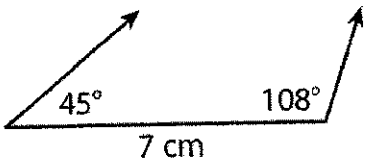
$\overline{EF} = 0.01$ kilometer

$\overline{DF} = 0.02$ kilometer

_____

_____

How many triangles are formed by the angles and sides—unique triangle, no triangle, or many triangles?

5. 

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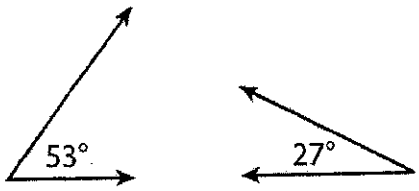
6. 

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The Social Studies 7th Grade

Day 32

The Night Before the Invasion

by Rachel Howard

Germans at Poland's border on September 1, 1939

Summers in Warsaw are relatively mild: a bit humid, not too warm. That summer, 1939, Eleanor's family had spent all of July and August visiting her grandparents, who lived on a farm in the country. She and her older sister Mary had spent the month hiking all around their grandparents' property and the surrounding farms, collecting leaves and flowers to dry and keep in their scrapbooks. Each evening, they would carefully hang the day's treasures up on a nail in the loft where they slept. Their grandfather helped them label the plants with a piece of cloth that they tied to the nail. By the end of the month, they had quite a collection-the loft was fragrant with the smell of dried flowers and grass, and the shadows of the plants were stiff and looked like winter.

At the end of August, they packed up their big trunk in preparation for returning to the city. Eleanor was sitting in the kitchen helping her mother and grandmother pack sandwiches and apples for the train trip.

"Are you sure you want to go back?" Eleanor's grandmother asked her mother.

"What else could we do?" her mother said. She shrugged. When Eleanor's mother shrugged like that, it meant that Eleanor's father had probably made the decision.

"Stay here, Rebecca. Stay with the children."

Eleanor's mother shook her head. "Joseph has already decided," she said. "We're going to wait it out."

Eleanor's grandmother shook her head. "This is a bad idea," she said.

Eleanor's mother did not respond. They finished packing the lunches in silence.

That night in bed, Eleanor couldn't sleep. They would have to leave the farm very early the next morning, but Eleanor's mind was busy-as her mother would say, it was whirring and stirring, mostly with questions. Why would it be a bad idea to go home? Why wouldn't her mother want to go back? Her father was there, had been working all summer in the dental office he owned with his brother. She poked Mary to see if she was awake, but Mary just groaned and turned over in bed.

Eleanor stared at the wooden ceiling of the loft. For some reason, she felt scared. Maybe it was the way her grandmother's voice sounded. Or the strange cryptic warning she had given her mother. At eleven years old, Eleanor knew some things about the world, but not much. She was just beginning to get a feel for the ways people spoke and the hidden messages in their words. Either way, Eleanor was not sure she wanted the summer to end.

The next morning, Eleanor's mother woke them up gently. It was still dark out, and Eleanor's grandparents were asleep. Mary carried the basket full of food, their mother carried their trunk with a sling, and Eleanor held her little brother Alfred's hand as they walked a mile in the woods to the train station. On the train, all three children fell asleep. Eleanor woke up at one point to see her mother staring out the window, her arms crossed over her chest, her eyebrows furrowed low over her eyes.

When they reached Warsaw, their father was at the train station with Uncle Abraham. Eleanor was excited to see her father, and she ran into his arms when he held them out for a hug. He picked her up easily, and she felt immediately safe-all of her worries and fears from the night before melted away as he welcomed the rest of the family and they walked back to their home.

At the house, Mary went to her room to read and Alfred took a nap. Eleanor sat on the floor of the front room listening to the radio behind the couch as her parents talked. Eleanor was sure they didn't realize she was there.

"I'm worried, Joseph," her mother said.

"I have very good sources who say that it's going to be fine. Hitler signed a nonaggression pact with us... He can't flout international law and opinion so easily."

"Look what happened to Austria last year! And Czechoslovakia. Did you not hear about this Eichmann person in Prague? Jews had to pay damages when their homes and businesses were vandalized! Do you not get the news in Warsaw?"

Eleanor turned the volume of the radio down and inched closer to the back of the couch. Maybe this is what her grandmother was worried about... This Eichmann person.

"Rebecca, please be realistic and calm. Has your mother put hysterical notions in your head?"

"This isn't about my mother. This is about what's happening in Poland." Eleanor's mother sounded furious. She stood abruptly and left the room.

Eleanor's father sighed and leaned back into the couch so it creaked. He looked over the back of the couch and saw Eleanor lying on the floor.

"You little sneak," he said, and smiled. "Don't listen to your mother. Poland is a civilized country, just

like any other."

Eleanor nodded. She didn't know what he was talking about, but she knew she had never seen her mother so angry.

The next morning, September 1, Eleanor and Mary were playing in the street with their friends who lived in the neighborhood. Suddenly, their mothers all ran out of their houses and called for the children to come back inside, immediately. Once inside, Eleanor's mother locked the doors and closed the shutters on the windows. Planes screeched overhead, and on the radio, static was interspersed with German. Eleanor's father came home from work early, and the family ate boiled potatoes and cold meat for dinner-all they had left in the pantry, since the groceries had closed early.

That night, Eleanor and Mary held hands in their bed. "What happened today?" Eleanor said.

"The Germans invaded Poland," Mary said. "We are going to war with them."

Eleanor was quiet. She had heard that in Germany, Jews were not allowed to work anymore, and had to have a special stamp in their passport. She wondered what would happen in the morning.

Name: _____ **Date:** _____

1. How old is Eleanor at the time the events described by the passage are taking place?

A. fifteen

B. thirteen

C. eleven

D. nine

2. What is the climax of this story?

A. The climax of the story is Eleanor's sleepless night before the train trip.

B. The climax of the story is Rebecca's argument with Joseph.

C. The climax of the story is Germany's invasion of Poland.

D. The climax of the story is the conversation between Eleanor's mother and grandmother.

3. Eleanor's mother does not want to leave the grandparents' house.

What evidence supports this statement?

A. She does not respond when the grandmother says leaving is a bad idea.

B. She says that the family is going to "wait it out."

C. She wakes the children up gently on the morning of the train trip.

D. She says that Joseph has already decided the family would leave.

4. How does Eleanor feel about leaving her grandparents' house?

A. excited and cheerful

B. worried and confused

C. indifferent and bored

D. sad and upset

5. What is this passage mostly about?

A. a young girl's visit to her grandparents' house in the Polish countryside

B. a young girl's attempts to listen in on private conversations

C. a young girl and her family in the days before Germany's invasion of Poland

D. the effects of Germany's invasion of Poland on the country as a whole

6. Read this sentence from the story.

"Eleanor woke up at one point to see her mother staring out the window, her arms crossed over her chest, her eyebrows furrowed low over her eyes."

With this sentence, what might the author be telling readers about Eleanor's mother?

A. Eleanor's mother is very tired.

B. Eleanor's mother is deeply worried.

C. Eleanor's mother is very comfortable on the train.

D. Eleanor's mother wants to go home to Warsaw.

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

Eleanor had been worried and scared when she left her grandparents' house, ___ she felt safe as soon as her father picked her up at the train station.

A. but

B. and

C. if

D. because

8. Eleanor's father, Joseph, does not think that Germany will invade Poland. Provide two pieces of evidence from the text to support this statement.

_____

_____

_____

9. How does Eleanor's mother, Rebecca, feel about the likelihood that Germany will invade Poland? Use three pieces of evidence from the passage to support your answer.

_____

_____

_____

10. Throughout the passage, Eleanor does not fully know what is happening with the war, Germany, and the potential invasion of Poland. How do the actions, words, and feelings of Eleanor's family members affect how Eleanor feels throughout the passage? Use evidence from the text to support your answer.

_____

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7th Grade NTI DAY #33

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- **Math**
- **Science**
- **Social Studies**

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NTI Day 33

COMMONLIT

Name: _____ Class: _____

At A Window

By Carl Sandburg
1914

Carl Sandburg (1878-1967) was an American poet and writer who won three Pulitzer Prizes in his lifetime. His work is known for the way it plays tribute to the common man. "At A Window" was published in Poetry in 1914. As you read, make notes about the poet's evolving tone.

[1] Give me hunger,
O you gods that sit and give
The world its orders.
Give me hunger, pain and want,
[5] Shut me out with shame and failure
From your doors of gold and fame,
Give me your shabbiest, weariest hunger!

But leave me a little love,
A voice to speak to me in the day end,
[10] A hand to touch me in the dark room
Breaking the long loneliness.
In the dusk of day-shapes
Blurring the sunset,
One little wandering, western star
[15] Thrust out from the changing shores of shadow.
Let me go to the window,
Watch there the day-shapes of dusk
And wait and know the coming
Of a little love.

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. PART A: Which of the following best states a central theme of this poem? [RL.2]
   A. Love is a beautiful thing, and something not worth settling for.
   B. Sometimes life's worst hardships are preferable to the pain that can be experienced from love.
   C. Ask for what you wish for most in life, and sometimes you shall receive.
   D. Loneliness is the worst kind of suffering.

2. PART B: Which phrase from the poem best supports the answer to Part A? [RL.1]
   A. "Give me hunger, pain and want, / Shut me out with shame and failure" (Lines 4-5)
   B. "Give me your shabbiest, weariest hunger! / But leave me a little love" (Lines 7-8)
   C. "One little wandering, western star / Thrust out from the changing shores of shadow" (Lines 14-15)
   D. "And wait and know the coming / Of a little love" (Lines 18-19)

3. PART A: What does the word "want" most closely mean as it is used in line 4? [RL.4]
   A. Starvation
   B. Desire
   C. Poverty
   D. Glory

4. PART B: Which phrase from stanza 1 provides the best clue to the answer to Part A? [RL.1]
   A. "Give me hunger, pain" (Line 4)
   B. "shame and failure" (Line 5)
   C. "doors of gold and fame" (Line 6)
   D. "shabbiest, weariest" (Line 7)

5. How does the poet's use of alliteration contribute to the poem's changing tone? Explain your answer, citing specific evidence from the text. [RL.4]

_____

_____

_____

_____

_____

_____

_____

Discussion Questions

Directions: Brainstorm your answers to the following questions in the space provided. ~~Be prepared to share your original ideas in a class discussion.~~

1. Carl Sandburg often drew inspiration from perils of the industrial revolution in his work. Many argued that industrialization, or the process of turning an agricultural society into one dependent of the manufacturing of good and services by machines, was responsible for the loss of rural values and the employment of individuals for manual labor. Can this work by Carl Sandburg be read as a comment on industrialization? Explain your answer.

2. How are we changed by love? Use evidence from this text, your own experience, and other literature or art in your answer.

3. In the context of this poem, what does it mean to feel alone? Cite evidence from this text, your own experience, and other literature or art in your answer.

7th Grade Math M Day 3 3

Name _____ Date _____ Class _____

LESSON 8-3

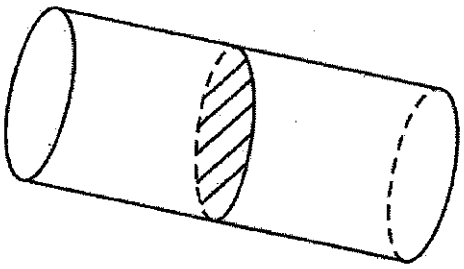
Cross Sections

Reteach

Cross sections can take a variety of shapes, but they are generally related to the parts of the figures from which they are formed. The angle at which the intersecting plane "cuts" the figure is also a factor in determining the shape of the cross section. However, the cross section is always defined as a plane figure in the situations presented here.

Example 1

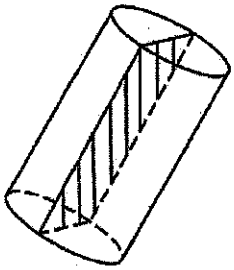
When the intersecting plane is *parallel* to the base(s) of the figure, the cross section is often related to the shape of the base. In this cylinder, the cross section is congruent to the bases.



What is the shape of the cross section?
The cross section is a circle that is congruent to each of the bases of the cylinder.

Example 2

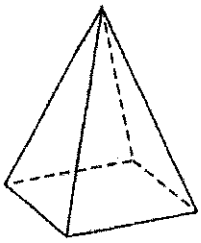
When the intersecting plane is *perpendicular* to the base(s) of the figure, the cross section is not always the same shape as the base. In this cylinder, the cross section is a rectangle, not a circle.



What is the cross section?
A rectangle having a length equal to the height of the cylinder and a width equal to the diameter of the cylinder.

For each solid, draw at least two cross sections with two different shapes. Describe the cross sections.

1.



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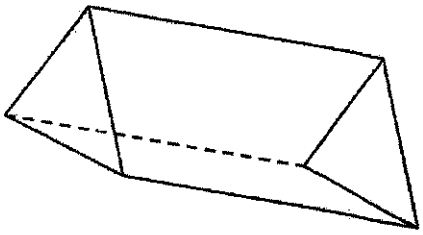
2.



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Name _____ Date _____ Class _____

LESSON 8-3

Cross Sections

Practice and Problem Solving: A/B

What is the common set of points for these figures called—an *intersection* or a *cross section*? Place a check mark by the correct name. Describe the geometric figure formed by the common points. Assume that the two figures have more than one point in common.

1. A circle and the lateral surface of a cone.

   Cross section _____ Intersection _____

   Figure formed: _____

2. The edge of a square and the base of a pyramid.

   Cross section _____ Intersection _____

   Figure formed: _____

3. A plane that is perpendicular to the base of a cube and slices through the cube.

   Cross section _____ Intersection _____

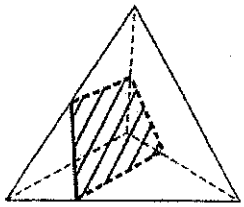
   Figure formed: _____

4. A circle with an area bigger than the base of a pyramid and slicing parallel to the base through the pyramid between its apex and its base.

   Cross section _____ Intersection _____

   Figure formed: _____

Name or describe the geometric figure that is shaded. Each shaded region results from a plane passing through the solid.

5. 

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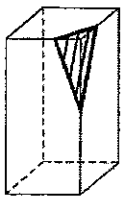
6. 

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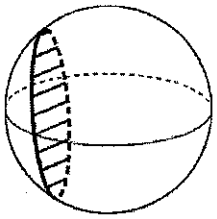
7. 

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8. 

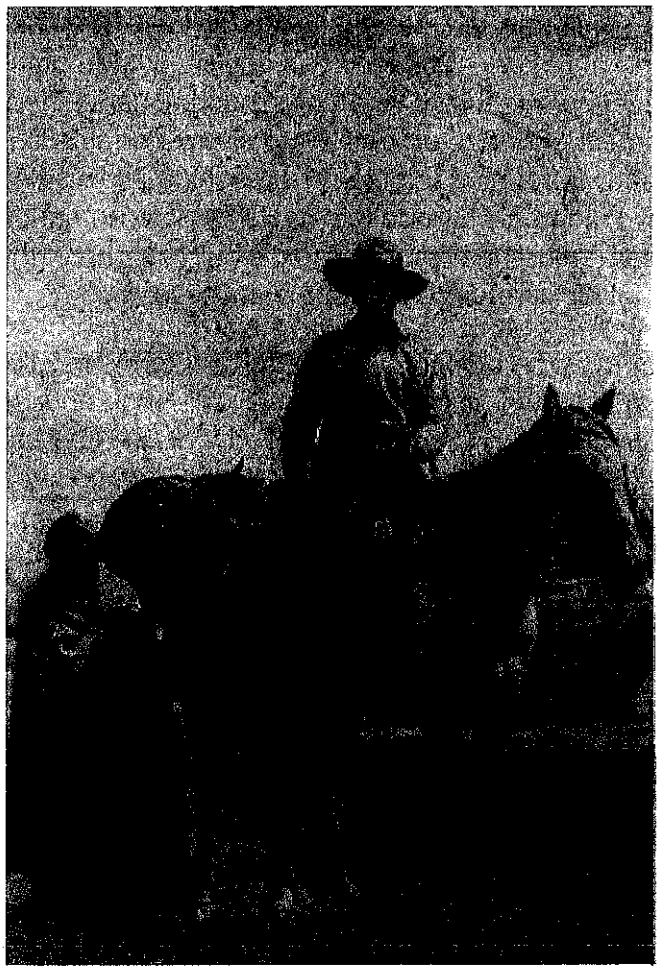
   _____

An Urgent Message

Social Studies 7th Grade

Day 33

by ReadWorks



In California, Charlie had plans to make it big. It was June 1860, and Charlie had arrived in Sacramento two months earlier, after a long, difficult journey in a covered wagon from Missouri. He had left behind his mother and his little brother, Jim. His father had died a few years ago when Cherokee Indians attacked the frontier town he was helping to build. Charlie desperately wanted to make money quickly so his mom and brother could have an easier life. When he heard rumors that the gold mines in California promised a quick and easy fortune to anyone who got there fast enough, Charlie immediately boarded the next wagon train west.

Once he got to Sacramento and witnessed the throngs of greedy crowds set to pounce on the streams and rivers around the city, and sift for gold, Charlie realized there was simply too much competition for those precious little nuggets. He had come a few years too late-the gold was disappearing. If he was going to make a quick fortune, he would have to think of some other way. He studied the rugged miners, who carried flimsy little mesh pans to strain gold out from the riverbeds, and after a few days, an idea struck him. If he could devise a new and improved mining tool to sell to the hordes of prospectors, he could easily become a millionaire.

These people would buy anything if it could help them discover their prized metal. For the next two months Charlie lived off the meager savings he had brought with him from Missouri, and labored day in and day out in the bare little room he rented from an old widow. He was busy constructing his new invention. It was to be a giant wood-and-mesh dredge, which could gather up large amounts of soil from the riverbeds at once and sift through the rocks mechanically. It folded up when not in use, so it was also easy to carry around. If gold-miners used this device instead of the small handheld mesh pans, the whole process would be much less time-consuming, Charlie thought. Sure, there were other mining machines being invented, but none of them were easily portable like Charlie's, nor were they affordable to the common man. Once he had given the machine its finishing touches, Charlie hired a covered wagon, and secretly loaded his dredge into it. He went to an out-of-the-way stream and tested it out. It really did separate the heavy rocks (gold would be one of these) from the lighter ones! Charlie now knew for sure that his invention would be a success.

He kept his dredge secret for the time being and wrote a letter to his pal Ted in Texas, who was planning to set out for California in two months and join Charlie in the quest for riches. Ted's father was a wealthy rancher, and in his letter, Charlie asked Ted if he wanted to go into business together. They could open a shop to sell tools to the miners, but first they would need Ted's dad to lend them money so they could rent a space for the shop. Charlie asked Ted if he could send part of the money along right away, so he could get started. As soon as he finished writing the letter, Charlie took it to a station in Sacramento with a sign that read "Pony Express."

Inside, a slight, wiry young man, not much older than 16, took the letter and put it into a saddle pouch filled with a pile of others just like it. "Guaranteed 14-day delivery to Missouri," the boy said. "And local mail service from there to Texas. That'll be five dollars." Charlie winced as he took the money out of his bag. His savings were dwindling fast.

"Take good care of that letter, now," said Charlie. "It's really important and needs to get there quick." He was beginning to feel a little nervous about leaving his precious letter in the hands of a mere boy. If the message didn't get to Ted in time, Charlie would run out of money and be forced to live on the streets. He needed Ted to let him know quickly whether he was willing to put up the money and go along with the plan.

"We'll do our very best for you," said the young horse rider. "I give you my word."

Charlie looked the young man up and down. His honest, direct stare made him feel a bit more comfortable. He'd heard stories of how Pony Express riders had to vow on oath not to use bad words, gamble, or drink while they worked for the company. They always had to be in tip-top physical shape in case they encountered any vicious Indians along the way. The Indian tribes were furious that more and more of their land was being invaded, so they were striking back by attacking caravans and riders moving west. Several Pony Express riders had so far been killed *en route*. Charlie prayed that no disaster would strike the string of riders who would ferry his letter along.

Later that evening, the young rider, Johnny Gray, rode the first leg of the journey to Texas. The letters were secured firmly under his saddle, in a pouch called a *mochila*. He rode 100 miles at a fast gallop, and then passed the *mochila* along to another rider who took it through the dangerous territory of the Sierra Nevada Mountains before passing it onto the next man. Each rider would stop several times along the way to change horses, because a single horse would not be able to keep up such a fast galloping speed (around 25 miles an hour) for the 1,900-mile journey to Texas. After a few more turnovers, the package finally reached St. Joseph, Missouri, and the local mailman delivered it to the

cattle ranch where Ted lived. It arrived at his doorstep, as promised, just over two weeks after Charlie sent it.

Ted, a young man always up for adventure, felt his heart race with excitement when he read about Charlie's invention and the possibility of starting a business with his friend. He believed that Charlie had indeed invented a useful tool-his friend had always been good with science and machines. Ted told his father all about the plan, and the old man liked Charlie's idea too. He gave a hefty sum of money to Ted for the business, and Ted set out to California right away, a month and a half earlier than he had planned. He sent Charlie the news and a bit of extra cash, via the Pony Express, so Charlie would know as soon as possible that Ted was already on his way.

This time, though, there was trouble as Ted's letter made its way back to California. When the Pony Express rider, Bill Cody, arrived with the letter at the Nevada station where he was supposed to hand off the *mochila* to the next rider, he found the station had been ransacked by the local Paiute Indian tribe. The stationmaster and the next rider were both killed-Bill found their bodies riddled with Indian arrows. Bill decided not to think of the devastation in front of him and just kept riding, driving his horse hard until he got to the next station. For a good part of the way fierce Indian warriors chased him, but luckily his powerful horse was fast enough to outrun them. The *mochila* continued on the Pony Express trail, and Ted's letter reached the Sacramento office right on time.

Charlie had been waiting in nervous anticipation at the door of the Pony Express office when the letter arrived. He was down to his last few dollars and was surviving on only bread and cheap coffee. When the stationmaster handed him the envelope, he tore it open right away. As he scanned the message, a smile broke out onto his face and he pumped his fist in the air.

"Hooray," he shouted, jumping up and down. "It's all going to be ok!" He approached the Express rider who had just landed with the mail and heartily shook his hand. "Thanks so much," he said. "You've just helped my business plans come to life!"

The rider just smiled and nodded. He chose not to tell Charlie that his letter could have been lost along the way had he ended up in a dispute with the Native Americans. What mattered was that in the end, Charlie's letter had arrived on time. As far as the rider was concerned, it was a job well done, and there was nothing more to say about it.

Name: _____ **Date:** _____

1. What did Charlie invent?

A. Charlie invented the system for the Pony Express.

B. Charlie invented a dredge to help sift gold from rocks.

C. Charlie invented a wagon for transporting gold.

D. Charlie invented a machine that created gold.

2. What motivated Charlie to make his invention?

A. He wanted an easier way to transport gold.

B. He wanted a more efficient system for carrying mail.

C. He wanted money to bring Ted to California.

D. He wanted to make a fortune and there was too much competition mining for gold.

3. In the story, the author describes Charlie as very nervous to hand his letter to the Pony Express rider. Based on this evidence, what conclusion can be made?

A. Charlie is beginning to go insane.

B. The Pony Express rider was an irresponsible person.

C. The Pony Express is not always reliable.

D. The letter does not contain any important information.

4. Based on the story, what is the biggest threat to Pony Express riders?

A. conflicts with Native Americans

B. extreme weather conditions

C. disease and hunger

D. other Pony Express riders

5. What is the main idea of the story?

A. Charlie needed to get a message to Ted in order to start his business.

B. Ted's father is very wealthy and likes to invest his money.

C. The Pony Express allows for long distance communication.

D. Charlie makes a fortune from collecting gold.

6. Read the following sentence: "If he could **devise** a new and improved mining tool to sell to the hordes of prospectors, he could easily become a millionaire."

As used in the passage, what does the word "**devise**" mean?

A. remember
B. invent
C. repair
D. buy

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

Charlie was nervous about sending a letter through the Pony Express _____ the riders often encounter attacks from Indian tribes.

A. nevertheless
B. but
C. particularly
D. because

8. Why did Charlie need to get a letter to his friend Ted?

_____

_____

_____

9. Was it easy for Charlie's letter to be sent to Ted? Use evidence from the story to support your answer.

_____

_____

_____

10. Explain whether Charlie was able to start making his business dream come true on his own. Use evidence from the story to support your answer.

7th Grade NTI DAY #34

Contents:

- Language Arts
- Math
- Science
- Social Studies

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NTI Day 34

COMMONLIT

Name: _____ Class: _____

The Blind Men and the Elephant

By John Godfrey Saxe
1873

John Godfrey Saxe (1816-1887) was an American poet best known for the following poem. "The Blind Man and the Elephant" is a re-telling of an Indian parable, featuring six blind men who wish to observe an elephant. As you read carefully, take notes on the message behind the parable.

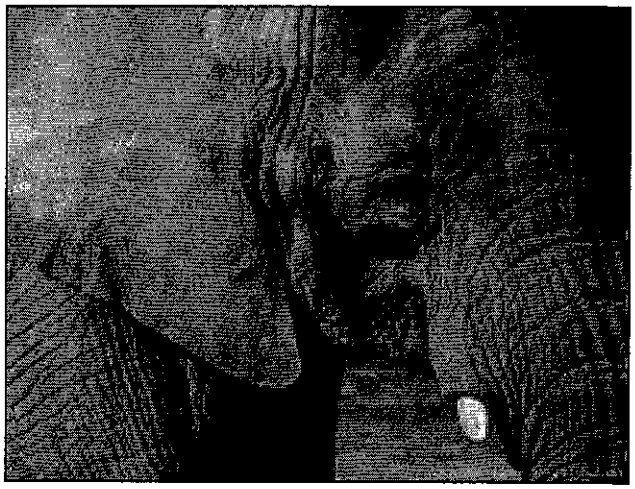
It was six men of Indostan
To learning much inclined,
Who went to see the Elephant
Though all of them were blind,
That each by observation
Might satisfy his mind.

The First approached the Elephant
And, happening to fall
Against his broad and sturdy side,
At once began to bawl:
"God bless me, but the Elephant
Is very like a wall!"

The Second, feeling the tusk,
Cried, "Ho! what have we here
So very round and smooth and sharp?
To me 'tis very clear
This wonder of an Elephant
Is very like a spear!"

The Third approached the animal
And, happening to take
The squirming trunk within his hands,
Thus boldly up he spake:
"I see," quoth he, "The Elephant
Is very like a snake!"

The Fourth reached out an eager hand,
And felt about the knee:
"What most the wondrous beast is like
Is very plain," quoth he;
"Tis clear enough the Elephant
Is very like a tree!"



The Fifth, who chanced to touch the ear,
Said, "Even the blindest man
Can tell what this resembles most;
Deny the fact who can:
[35] This marvel of an elephant
Is very like a fan!"

The Sixth no sooner had begun
About the beast to grope
Then, seizing on the swinging tail
[40] That fell within his scope,
"I see," quoth he, "the Elephant
Is very like a rope!"

And so these men of Indostan
Disputed loud and long,
[45] Each in his own opinion
Exceeding stiff and strong.
Though each was partly in the right,
They all were in the wrong!

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. PART A: Which of the following best summarizes a central theme of the text? [RL.2]
   A. In order to understand something entirely, it must be viewed from different perspectives.
   B. Learning is not a noble pursuit if it only leads to controversy and debate.
   C. Comedy can teach people how to see themselves clearly.
   D. Nature is designed to confuse and frighten mankind.

2. PART B: Which of the following best supports the answer to Part A? [RL.1]
   A. "It was six men of Indostan / To learning much inclined" (Lines 1-2)
   B. "Who went to see the Elephant / Though all of them were blind" (Lines 3-4)
   C. "And so these men of Indostan / Disputed loud and long, / Each in his own opinion / Exceeding stiff and strong." (Lines 43-46)
   D. "Though each was partly in the right, / They all were in the wrong!" (Lines 47-48)

3. How does the speaker play with the meaning of the word "blind"? [RL.4]
   A. He uses the word "blind" to describe the men's physical blindness, but also their ignorance of basic ideas because of their focus on academia and becoming scholars.
   B. He uses the word "blind" to describe the men's physical blindness, but also their lack of attunement to and respect of nature (i.e. being blind to the shape of an animal).
   C. He uses the word "blind" to describe the men's physical blindness, but also their introspective blindness—for the men know little about themselves and others.
   D. He uses the word "blind" to describe the men's physical blindness, but also their inability to recognize bigger things (like the whole shape of an elephant) because of their preoccupation with the smaller things (like parts of the elephant).

4. Which of the following best describes the overall tone of the poem? [RL.4]
   A. Suspicious, as speaker relates that the men seem guarded about what they sense
   B. Playful, as the speaker recounts the men's comedic attempts to understand an elephant
   C. Mocking, as the speaker criticizes the men for their failed attempt to see an elephant
   D. Angry, as speaker describes the men arguing over what the elephant looks like

5. As a parable, or a simple story used to illustrate a lesson, what knowledge or moral does the poem impart to the audience? [RL.2]

Discussion Questions

Directions: Brainstorm your answers to the following questions in the space provided. ~~***Be prepared to share your original ideas in a class discussion.***~~

1. What makes a thing what it is? Is the way it is seen/perceived by others, or is it something else?

2. What makes a person who they are—their reputations, their genes, their actions, or something else? Explain your answer.

3. What is "identity" and where does it come from? Use evidence from this text, from your own experience, and from other art or literature to answer this question. How does this poem help you understand the concept of identity?

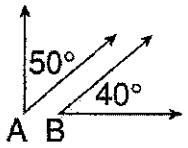
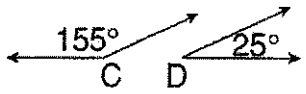
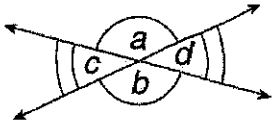
7th Grade NTI Math Day 34

Name _____ Date _____ Class _____

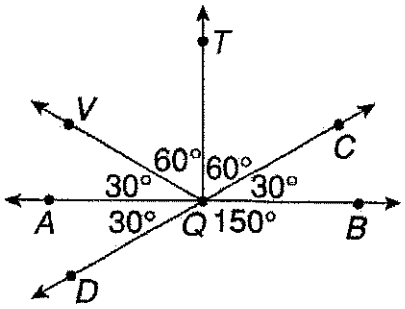
LESSON 8-4

Angle Relationships

Reteach

Complementary Angles	Supplementary Angles	Vertical Angles
		
Two angles whose measures have a sum of 90°.	Two angles whose measures have a sum of 180°.	Intersecting lines form two pairs of vertical angles.

Use the diagram to complete the following.



1. Since $\angle AQC$ and $\angle DQB$ are formed by intersecting lines, $\overleftrightarrow{AQB}$ and $\overleftrightarrow{CQD}$, they are:

   _____

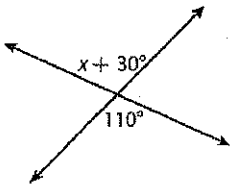
2. The sum of the measures of $\angle AQV$ and $\angle VQT$ is: _____
   So, these angles are:

   _____

3. The sum of the measures of $\angle AQC$ and $\angle CQB$ is: _____

   So, these angles are: _____

Find the value of *x* in each figure.

4. 

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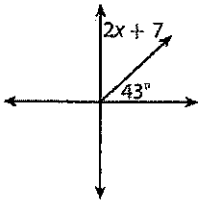
5. 

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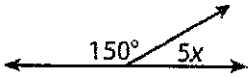
6. 

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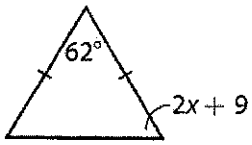
7. 

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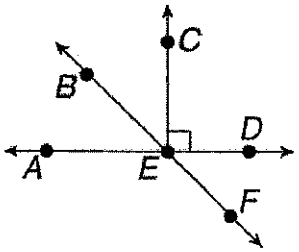
Name _____ Date _____ Class _____

LESSON 8-4

Angle Relationships

Practice and Problem Solving: A/B

For Exercises 1–3, use the figure.



1. Name a pair of vertical angles.

_____

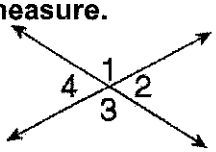
2. Name a pair of complementary angles.

_____

3. Name a pair of supplementary angles.

_____

Use the diagram to find each angle measure.



4. If m∠1 = 120°, find m∠3.

_____

5. If m∠2 = 13°, find m∠4.

_____

6. If m∠3 = 110°, find m∠2.

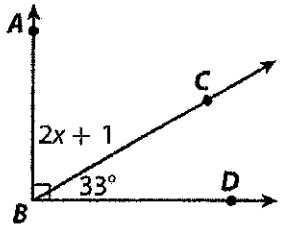
_____

7. If m∠4 = 65°, find m∠1.

_____

Find the value of *x* in each figure.

8.



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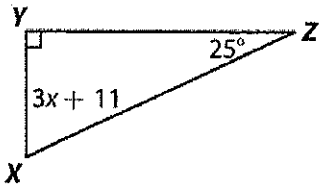

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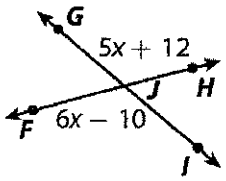

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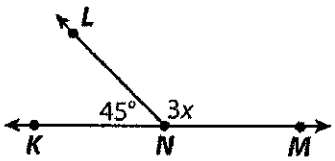

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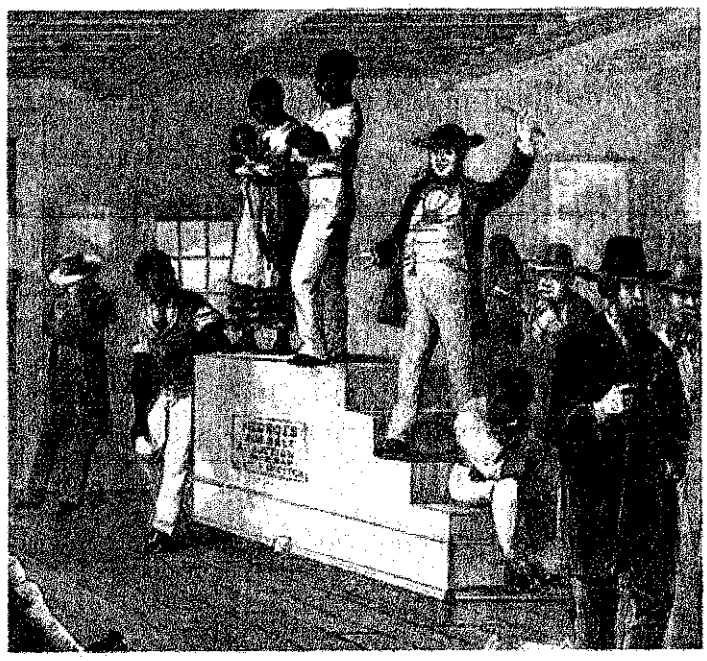
An Account from the Slave Trade: Love Story of Jeffrey and Dorcas

by Price M. Butler

Social Studies 7th Grade

Day 34



Excerpt from *What Became of the Slaves on a Georgia Plantation? Great Auction Sale of Slaves* by Price M. Butler

Jeffrey, chattel No. 319, marked as a "prime cotton hand," aged 23 years, was put up. Jeffrey being a likely lad, the competition was high. The first bid was $1,100, and he was finally sold for $1,310. Jeffrey was sold alone; he had no incumbrance in the shape of an aged father or mother, who must necessarily be sold with him; nor had he any children, for Jeffrey was not married. But Jeffrey, chattel No. 319, being human in his affections, had dared to cherish a love for Dorcas, chattel No. 278; and Dorcas, not having the fear of her master before her eyes, had given her heart to Jeffrey. Whether what followed was a just retribution on Jeffrey and Dorcas, for daring to take such liberties with their master's property as to exchange hearts, or whether it only goes to prove that with black as with white the saying holds, that "the course of true love never did run smooth," cannot now be told. Certain it is that these two lovers were not to realize to consummation of their hopes in happy wedlock. Jeffrey and Dorcas had told their loves, had exchanged their simple vows, and were betrothed, each to the other as dear, and each by the other as fondly beloved as though their skins had been of fairer color. And who shall say that, in the sight of Heaven and all holy angels, these two humble hearts were not as closely wedded as any two of the prouder race that call them slaves?

Be that as it may, Jeffrey was sold. He finds out his new-master; and' hat in hand, the big tears standing in his eyes, and his voice trembling with emotion, he stands before that master and tells his simple story, praying that his betrothed may be bought with him. Though his voice trembles, there is

no embarrassment in his manner; his fears have killed all the bashfulness that would naturally attend such a recital to a stranger, and before unsympathizing witnesses; he feels that he is pleading for the happiness of her he loves, as well as for his own, and his tale is told in a frank and manly way.

"I loves Dorcas, young Mas'r; I loves her well an' true; she says she loves me, and I know she does; de good Lord knows I loves her better than I loves any one in de wide world--never can love another woman half as well. Please buy Dorcas, Mas'r. We're be good sarvants to you long as we live. We're be married right soon, young Mas'r, and de chillun will be healthy and strong, Mas'r, and dey'll be good sarvants, too. Please buy Dorcas, young Mas'r. We loves each other a heap--do, really true, Mas'r."

Jeffrey then remembers that no loves and hopes of his are to enter into the bargain at all, but in the earnestness of his love he has forgotten to base his plea on other ground till now, when he bethinks him and continues, with his voice not trembling now, save with eagerness to prove how worthy of many dollars is the maiden of his heart:

"Young Mas'r, Dorcas prime woman--A1 woman, sa. Tall gal, sir; long arms, strong, healthy, and can do a heap of work in a day. She is one of de best rice hands on de whole plantation; worth $1,200 easy, Mas'r, an' fus'rate bargain at that."

The man seems touched by Jeffrey's last remarks, and bids him fetch out his "gal, and let's see what she looks like."

Jeffrey goes into the long room, and presently returns with Dorcas, looking very sad and self-possessed, without a particle of embarrassment at the trying position in which she is placed. She makes the accustomed curtsy, and stands meekly with her hands clasped across her bosom, waiting the result. The buyer regards her with a critical eye, and growls in a low voice that the "gal has good p'ints." Then he goes on to a more minute and careful examination of her working abilities. He turns her around, makes her stoop, and walk; and then he takes off her turban to look at her head that no wound or disease be concealed by the gay handkerchief; he looks at her teeth, and feels of her arms, and at last announces himself pleased with the result of his observations, whereat Jeffrey, who has stood near, trembling with eager hope, is overjoyed, and he smiles for the first time. The buyer then crowns Jeffrey's happiness by making a promise that he will buy her, if the price isn't run up too high. And the two lovers step aside and congratulate each other on their good fortune. But Dorcas is not to be sold till the next day, and there are twenty-four long hours of feverish expectation.

Early next morning is Jeffrey alert, and, hat in hand, encouraged to unusual freedom by the greatness of the stake for which he plays, he addresses every buyer, and of all who will listen he begs the boon of a word to be spoken to his new master to encourage him to buy Dorcas. And all the long morning he speaks in his homely way with all who know him, that they will intercede to save his sweetheart from being sold away from him forever. No one has the heart to deny a word of promise and encouragement to the poor fellow, and, joyous with so much kindness, his hopes and spirits gradually rise until he feels almost certain that the wish of heart will be accomplished. And Dorcas, too, is smiling, for is not Jeffrey's happiness her own?

At last comes the trying moment, and Dorcas steps up on the stand.

But now a most unexpected feature in the drama is for the first time unmasked: *Dorcas is not to be sold alone*, but with a family of four others. Full of dismay, Jeffrey looks to his master, who shakes his

head, for, although he might be induced to buy Dorcas alone, he has no use for the rest of the family. Jeffrey reads his doom in his master's look, and turns away, the tears streaming down his honest face.

So Dorcas is sold, and her toiling life is to be spent in the cotton fields of South Carolina, while Jeffrey goes to the rice plantation of the Great Swamp.

And to-morrow, Jeffrey and Dorcas are to say their tearful fare-well, and go their separate ways in life, to meet no more as mortal beings.

Name: _____ **Date:** _____

1. Who was Jeffrey?

A. a slave

B. a slave owner

C. an auctioneer

D. "Chattel No. 278"

2. A critical moment in the account occurs when Jeffrey asked his new master to buy Dorcas. Why did Jeffrey ask his new master to buy Dorcas?

A. because she was a good worker

B. because he loved her

C. because he wanted to protect her

D. because they were married

3. Jeffrey's master agreed to buy Dorcas because he thought she would be a good worker. What evidence from the passage supports this conclusion?

A. "The buyer then crowns Jeffrey's happiness by making a promise that he will buy her, if the price isn't run up too high."

B. "She makes the accustomed curtsy, and stands meekly with her hands clasped across her bosom, waiting the result. The buyer regards her with a critical eye."

C. "Then he goes on to a more minute and careful examination of her working abilities. He turns her around, makes her stoop, and walk."

D. "'Young Mas'r, Dorcas prime woman--A1 woman, sa. Tall gal, sir; long arms, strong, healthy, and can do a heap of work in a day.'"

4. Read the following sentence from the passage: "Hat in hand, the big tears standing in his eyes, and his voice trembling with emotion, he stands before that master and tells his simple story, praying that his betrothed may be bought with him."

Based on this evidence, how was Jeffrey feeling?

A. angry

B. excited

C. proud

D. passionate

5. What is this passage mostly about?

A. two slaves who were in love

B. an auction where slaves were sold

C. two slaves on a rice plantation

D. the wedding of two slaves

6. Read the following sentences: "We're be good sarvants to you long as we live. We're be married right soon, young Mas'r, and de chillun will be healthy and strong, Mas'r, and dey'll be good sarvants, too."

Why did the author write Jeffrey's dialogue this way?

A. to show how earnest Jeffrey was in his plea

B. to convey how much Jeffrey loved Dorcas

C. to express Jeffrey's status as a slave

D. to convey how Jeffrey sounded when he spoke

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

Jeffrey's master agreed to buy Dorcas if the price does not get too high. _____, Jeffrey was overjoyed.

A. Initially

B. As a result

C. However

D. For instance

8. Why were Jeffrey and Dorcas forced to say a "tearful fare-well"?

_____

_____

_____

9. Explain why Jeffrey's master did not buy Dorcas.

10. Explain how the saying "the course of true love never did run smooth" relates to the passage.

7th Grade Science NTI Days 33 & 34 Reading

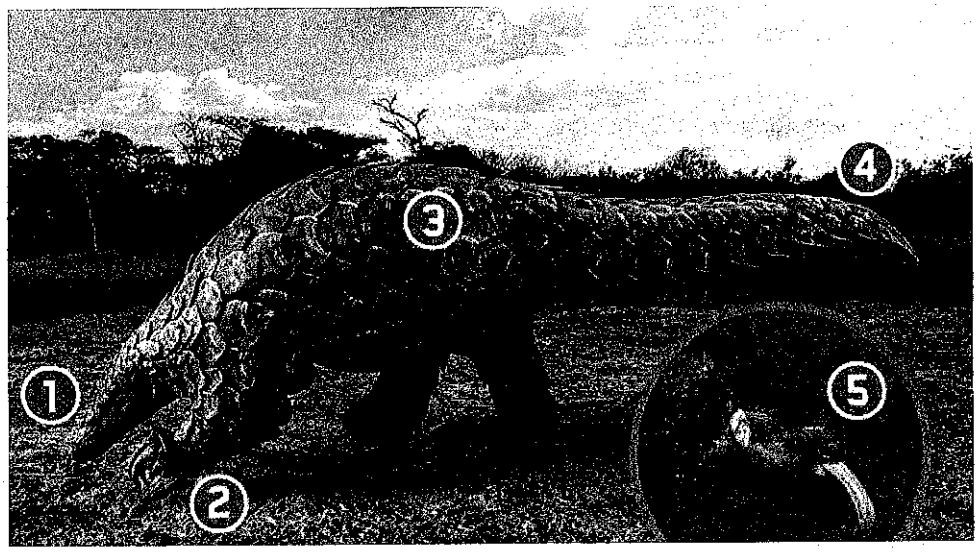
Plight of the Pangolin

How conservationists are trying to save the world's most trafficked mammal from extinction

APRIL 13, 2020 By Kimberly Y. Masibay, Science World Magazine

AS YOU READ, THINK ABOUT the reasons people might illegally remove animals from the wild.
Night fell near Kruger National Park in South Africa. Harriet Nimmo and an armed guard walked quietly through the brush. They were protecting a pangolin named Aura as she ate ants. Aura was rescued from *poachers* and brought to Rhino Revolution. Nimmo works there as a conservationist. Her organization cares for threatened animals, like Aura. When they're healthy enough, they return to the wild.

Pangolins are the only mammals completely covered with scales, but that's not their only special adaptation.



BRENT STIRTON/REPORTAGE ARCHIVE/GETTY IMAGES (PANGOLIN); ROLAND SEITRE/NATUREPL.COM (INSET)

1

NOSE: Pangolins have an excellent sense of smell that allows them to sniff out insects. Their long snout helps them to forage into ant and termite nests.

2

CLAWS: Long, curved claws help ground-dwelling pangolins dig and tree-dwelling species climb trees.

3

ARMOR: Scales cover the bodies of pangolins, protecting them from predators.

4

TAIL: Pangolins that live on the ground walk on their hind legs and use their tail for balance. Those that live in trees have a *prehensile* tail that can grip branches.

5

TONGUE: A long, sticky tongue—the longest of any mammal— allows pangolins to slurp up ants and termites.

With their long noses and tails, pangolins look like anteaters. But they don't have fur like anteaters. Instead, pangolins are covered with scales from head to tail. The scales overlap to protect them. And this armor is what hunters are after. Pangolin scales are wanted in parts of Asia for use in traditional medicines. Pangolin meat is also considered a luxury. *(At press time, pangolins were suspected as a possible source of a new coronavirus. The deadly virus was discovered in China late last year.)* As a result, the animals have been nearly wiped out.

Experts figure that millions of pangolins are captured or killed and sold each year. They're the most *trafficked* (illegally traded) mammal in the world. That's why Aura and other rescued pangolins need guards just to go out for a snack. Conservation groups like Rhino Revolution are willing to take these extreme measures. They want to save the last few pangolins, before they're gone for good.

Pangolins are often close to dying when they get to Rhino Revolution's treatment center. Poachers stuff the animals into cages without food and water. Veterinary nurses must care for the rescued pangolins around the clock. At first, they're given liquid food. It flows through a tube into their stomachs. When they get stronger, they can find food for themselves outdoors. Rescue workers follow them closely.

Pangolins feed only on ants and termites. They can eat more than 1 kilogram (2.2 pounds) of insects each night. Pangolins are adapted in unique ways for finding these bugs. With their strong sense of

smell, they sniff out ant and termite nests. Then they dig into them with their long, sharp claws. Their thick scales protect them while they eat. The scales stop the swarming insects from biting them. Pangolins have no teeth, because they don't need them. Their sticky tongues are nearly as long as their bodies. That allows them to slurp up their food without chewing (*see What Makes Pangolins Unique*).

Pangolins are mostly *nocturnal*. During the day, they normally burrow underground or hide in tree branches. They come out at night to feed. That's why conservationists take rescued pangolins on evening walks. Their patrol lasts until the animals are full. That can be an all-night job. "Feeding walks last five to six hours," says Ray Jansen. He's a zoologist with the African Pangolin Working Group, which also rescues pangolins from illegal traffickers. "Rehabilitating pangolins is hard work."

And rescuers' work doesn't end when the animals return to the wild. Rescuers put a tracking device on each pangolin before it's released. That allows conservationists to check on the animals. Then they can help if needed. The shy, harmless creatures are easy pickings for poachers. That's because they don't fight back when threatened. Instead, they curl up in an armored ball. This *adaptation* protects pangolins from predators that want to eat them, like hyenas and lions. But it makes things easy for poachers. They just collect rolled-up pangolins and toss them into sacks.

Poaching is the greatest problem for pangolins. But human populations are growing, and habitat loss is also pushing the creatures out. Eight species of pangolins are found in parts of Africa and Asia. Today, all eight are disappearing fast (*see Where Pangolins Roam*).

In 2016, new rules made the pangolin trade illegal worldwide. But the animals are still traded though the black market. Large numbers are smuggled into countries such as China and Vietnam. It's against the law, but expensive restaurants in those countries still serve pangolin. The meat is seen as a luxury. Poachers can sell the animals' meat for up to $600 per kilogram.

BRENT STIRTON/REPORTAGE ARCHIVE/GETTY IMAGES

SAFE SPACE: A pangolin is kept safe and cared for on a secret farm in the African nation of Zimbabwe.

A kilogram of pangolin scales can be worth more than $3,000. The scales are still ground up to make folk medicines in some Asian countries. The scales are made of *keratin*. That's the same

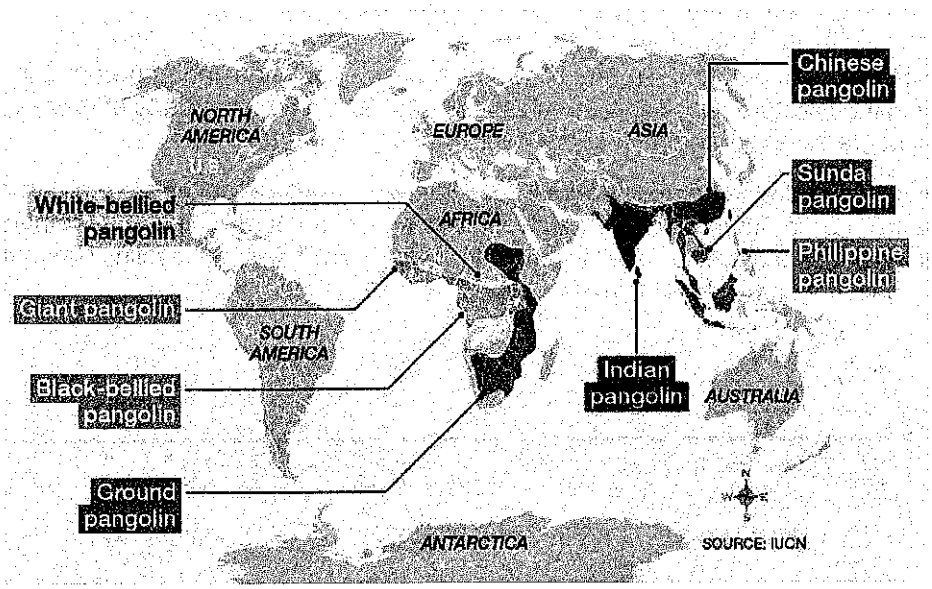
material in human hair and fingernails. It has no proven value as medicine. "If pangolins continue to be exploited at this rate, they will be extinct by 2040," says Jansen.

IN NEED OF HELP

Campaigns to help pangolins are under way. They inform people about pangolins' problems and help to reduce consumer demand. This brings attention to the animals, and it has encouraged governments to try harder to catch smugglers. "If pangolins are going to make it, it's critical that we raise awareness about why they are special," says the conservationist Nimmo.

WHERE PANGOLINS ROAM

Pangolins live in parts of Africa and Asia in habitats such as tropical forests, thick brush, and grasslands. All eight species are at risk of extinction.



JIM MCMAHON/MAPMAN ®

Conservation groups keep working to save the unique creatures. But not many pangolins are rescued from poachers. The rescued ones help researchers gain much-needed knowledge about these animals, so they can learn how to protect them better. That's why every rescued pangolin is important. "We have to treat every single one in our care as if it's the last," says Jansen.

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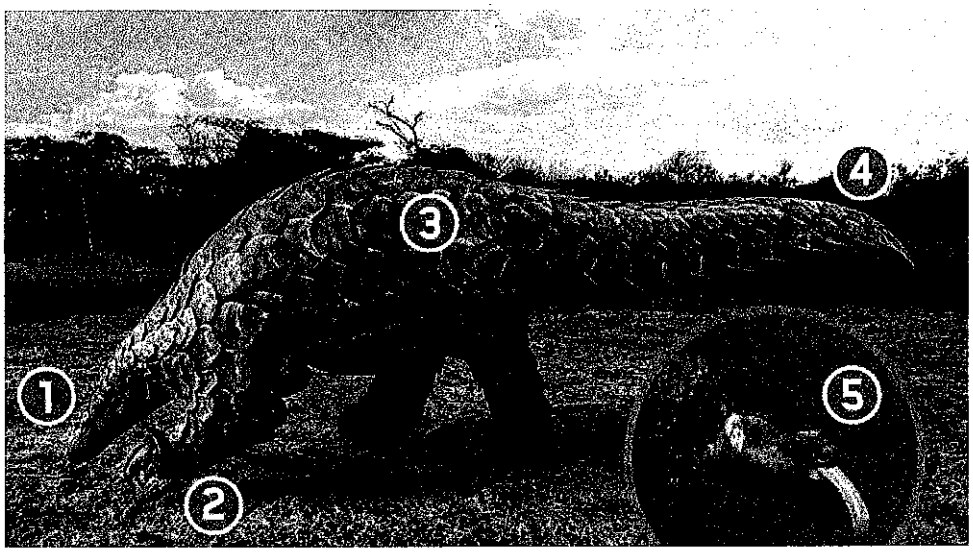

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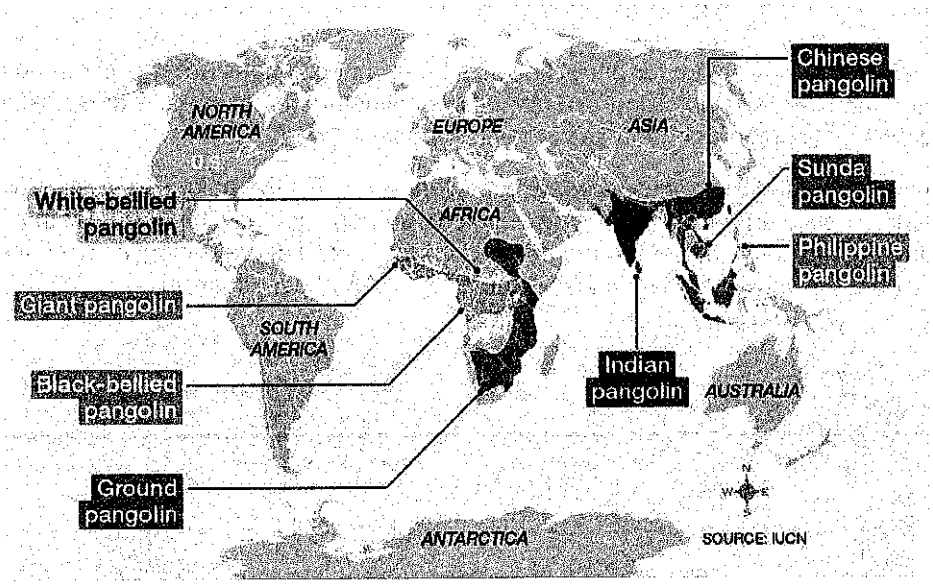

JIM MCMAHON/MAPMAN ®

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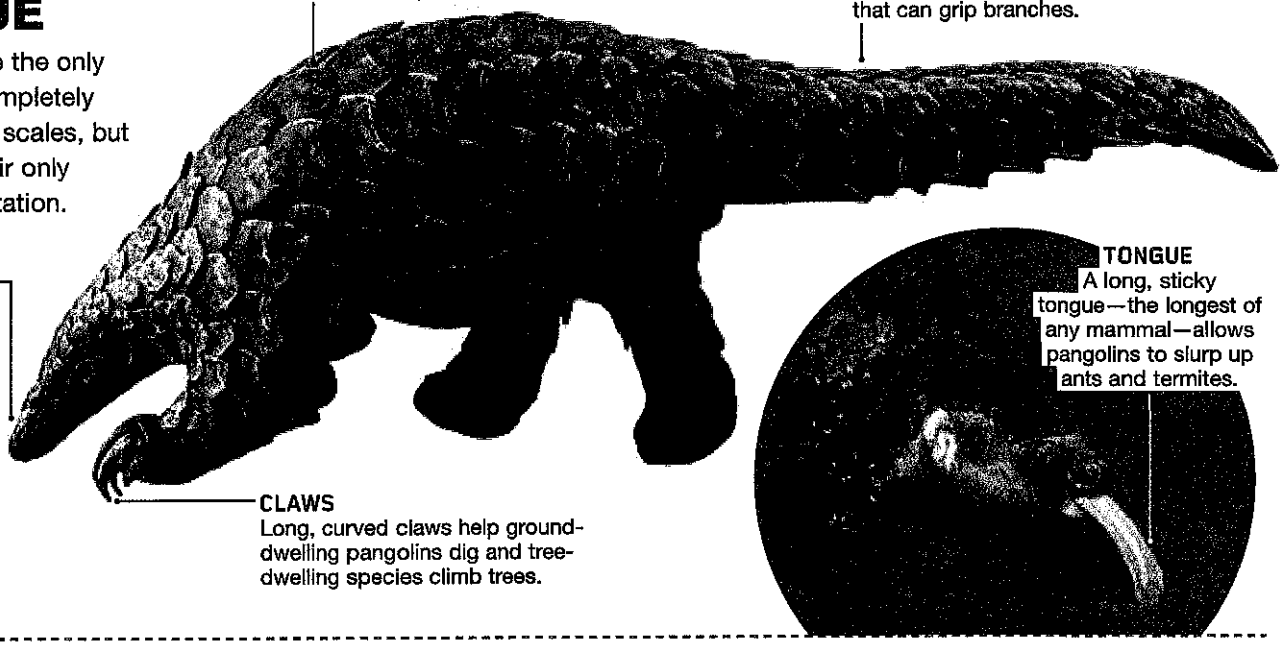
Name: Day 33 7th Science

UNUSUAL MAMMALS

In "Plight of the Pangolin" (p. 14), you learned that the high price for pangolins' scales is one reason the animals are under threat. The diagram below describes some of the other features of these unusual mammals. Use the diagram, along with the article, to answer the questions below.

WHAT MAKES PANGOLINS UNIQUE

Pangolins are the only mammals completely covered with scales, but that's not their only special adaptation.



BRENT STIRTON/REPORTER/GETTY IMAGES (PANGOLIN); ROLAND SEITRE/NATUREPL.COM (INSET)

QUESTIONS

1. How are pangolins different from most mammals?

2. Describe two adaptations that help pangolins find and catch insect prey.

3. Some pangolins live in trees and some live on the ground. Choose a feature shown in the diagram. How does its function vary between the two types of pangolins?

4. In what type of habitat would you expect to find animals that have prehensile tails? Explain your thinking.

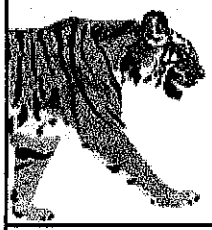
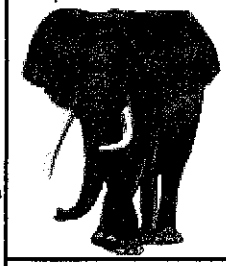
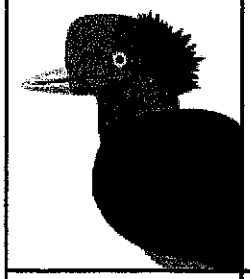
5. Explain how pangolins defend themselves when threatened. How does this put the animals at risk from poachers?

TAKE IT FURTHER: Platypuses are another unusual mammal. Research the different adaptations and body structures that platypuses have. Create a platypus diagram like the pangolin one above. Then research and describe threats to their survival.

Name: Day 34 7th Science

WILDLIFE CRIME

In "Plight of the Pangolin" (p. 14), you learned that pangolins are the most trafficked mammals in the world. Many animal populations around the world have declined dramatically because of the illegal wildlife trade. Study the table below to learn about some other animals that are highly threatened by poaching. Use information from the article to fill in the section on pangolins. Then answer the questions on the following page.

Animal	Why they are trafficked	Impacts and efforts to stop poaching
Tiger 	Many parts of a tiger's body—including its whiskers, brains, and bones—are used to make remedies believed to treat many ailments. However, scientists and doctors agree that consuming parts of a tiger provides no medical benefit. Tiger skins are sold as decorations.	It's believed 100,000 tigers once roamed Asia. Fewer than 4,000 tigers live in the wild today. Trade of tigers was banned in 1987, but between 2000 and 2018, products from nearly 2,500 tigers were seized. Officials are working to strengthen law enforcement and educate the public to reduce demand.
Elephant 	Elephant's ivory tusks are prized in China, where they are carved into ornaments and jewelry. Elephant meat is also traded, and the animals' skin is believed by some to help cure stomach ailments. However, scientists and doctors say consuming parts of an elephant offers no medical benefit.	An estimated 26 million elephants lived in Africa before the ivory trade began. Today, fewer than 1 million are left. A 1989 ban on the international trade of ivory helped populations start to recover, but poaching rates increased in the early 2000s. In 2017, China banned the sale of ivory. Since then, officials have observed a slight decline in the ivory trade.
Helmeted Hornbill 	These large birds from Southeast Asia are killed for their *casques* (helmet-like humps above their beaks). Made from solid keratin, casques are prized in China, where they are carved into ornaments. The material is softer than ivory, making it easier to carve designs in it.	Hornbill trading has been illegal since 1975. But poaching still occurs frequently in Indonesia and has caused a rapid decline in populations. The birds are now listed as *critically endangered*, or at an extremely high risk of becoming extinct. Nearly 3,000 casques were seized globally from 2000 to 2017. Officials are working to map trade routes so they can find traffickers.
Parrot 	Parrots are removed from the wild and smuggled in the pet trade, as they are prized for their sociability and intelligence. A rare parrot, such as a Lear's macaw, can sell for tens of thousands of dollars. They are also poached for their meat and feathers.	Nearly one-third of the 145 parrot species in the Americas are at risk of extinction. In the 2000s, a study showed that 30 percent of parrot nests had been poached in Latin America. Trees are usually cut down to get to the nests, and many of the chicks die before being sold as pets. International laws have decreased smuggling; parrots taken from Mexico to the U.S. have decreased from 150,000 a year (1980s) to fewer than 10,000 a year today.
Pangolin 		

SHUTTERSTOCK.COM

Name: _____

WILDLIFE CRIME

Use the table on the previous page to answer the questions below.

QUESTIONS

1. What factors do you think put certain animals at greater risk to be a target of the illegal wildlife trade?

2. Compare and contrast the threats to two animals in the table.

3. What do you think is the best solution to fight against the illegal wildlife trade? Cite evidence to explain your answer.

4. As an animal becomes rarer, the profit in capturing one for the illegal wildlife trade increases, which puts further pressure on that species's numbers. Which of the animals in the table do you think is most vulnerable to extinction? Why?

7th Grade NTI DAY #35

Contents:

- Language Arts
- Math
- Science
- Social Studies

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NTI Day 35

COMMONLIT

Name: _____ Class: _____

Ruthless

By William DeMille
1945

William DeMille (1878-1955) was an American writer, most well-known for screenwriting and film directing. In this short story, a man sets a deadly trap for a suspected thief.

[1] Outside, the woods lay basking[1] in clear October sunlight; trees a riot[2] of color, air full of Autumn's tang[3] and the sharp, exciting smell of moist, leaf-covered earth.

"pi'sn" by Kevin O'Mara is licensed under CC BY-NC-ND 2.0

Inside, a man smiled grimly as he turned from the bathroom cabinet, entered the expensively primitive[4] living room of his mountain camp, and crossed to a closet set in the pine wall. It was his special closet, with a spring lock and in it he kept guns, ammunition, fishing-rods, tackle[5] and liquor. Not even his wife was allowed to have a key, for Judson Webb loved his personal possessions and felt a sense of deep outrage if they were touched by any hand but his own. The closet door stood open; he had been packing his things away for the Winter, and in a few minutes would be driving back to civilization.

As he looked at the shelf on which the liquor stood his smile was not attractive. All the bottles were unopened except one quart[6] of Bourbon which was placed invitingly in front, a whiskey glass by its side. This bottle was less than half full. As he took it from the shelf his wife spoke from the adjoining bedroom:

"I'm all packed, Judson," she said. "Hasn't Alec come to turn the water off and get the keys?"

[5] Alec lived about a mile down the road and acted as a caretaker for the city folks when they were away.

"He's down at the lake taking the boats out of water. Said he'd be back in half an hour."

Marcia came into the room carrying her suitcase. But she paused in surprise as she saw the bottle in her husband's hand.

"Judson!" she exclaimed, "you're not taking a drink at ten o'clock in the morning?"

---

1. **Bask** ***(verb):*** to lie exposed to warmth and light, typically from the sun
2. an impressively large or varied display of something
3. a typical and strong taste, flavor, or smell
4. **Primitive** ***(adjective):*** having a quality or style that offers an extremely basic level of comfort
5. The equipment needed in order to fish.
6. a unit of liquid equal to a quarter of a gallon, roughly the equivalent of just a little less than one liter in the U.S.

"You wrong me, my dear," he chuckled, "I'm not taking anything out of this bottle: I am merely putting a little kick into it."

[10] His closed hand opened and he put upon the table two tiny white pellets[7] as he started to uncork[8] the whiskey. Her eyes narrowed as she watched him. She had learned to dread that tone of his voice; it was the tone he used when he was planning to "put something over" in a business deal.

"Whoever broke into my closet last Winter and stole my liquor will probably try it again once we are out of here," he went on, "only this time he'll wish he hadn't."

She caught her breath at the cruel vindictiveness[9] of his manner as one by one he dropped the tablets into the bottle and held it up to watch them dissolve.

"What are they?" she asked, "something to make him sick?"

"And how!" He seemed fascinated as he saw the genial[10] Bourbon change into a lethal dose: "At least no one has found an antidote:[11] once it's down it's curtains." He corked his bottled vengeance and set it back on the shelf alongside the little whiskey glass.

[15] "Everything nice and handy," he remarked approvingly. "Now, Mr. Thief, when you break in, drink hearty;[12] I won't begrudge[13] you this one."

The woman's face was pale. "Don't do it, Judson," she gasped. "It's horrible — it's murder."

"The law doesn't call it murder if I shoot a thief who is entering my house by force," he said harshly. "Also, the use of rat poison is quite legal. The only way any rat can get into this closet is to break in. What happens then is his affair, not mine."

"Don't do it, Judson," she begged. "The law doesn't punish burglary by death; so what right have you—"

"When it comes to protecting my property I make my own laws." His deep voice suggested a big dog growling at threatened loss of a bone.

[20] "But all they did was to steal a little liquor," she pleaded. "Probably some boys off on a lark.[14] They didn't do any real damage."

"That's not the point," he said. "If a man holds me up and robs me of five dollars it makes me just as sore as if he took a hundred. A thief's a thief."

She made one last effort. "We won't be here till next spring. I can't bear to think of that deathtrap[15] waiting there all the time. Suppose something happens to us — and no one knows — "

---

7. a small, rounded, compressed mass of a substance
8. to pull the cork out of a bottle or other container
9. **Vindictive** ***(adjective):*** having or showing a strong or unreasoning desire for revenge
10. **Genial** ***(adjective):*** friendly and cheerful
11. a medicine taken or give to counteract a particular poison
12. to drink cheerfully
13. **Begrudge** ***(verb):*** to give reluctantly or resentfully, or to envy the possession or enjoyment of
14. something mischievous done for fun

He chuckled once more at her words. "We'll take a chance on that," he said. "I've made my pile[16] by taking chances. If I should die, you can do as you please. The stuff will be yours."

It was useless to argue, she knew. He had always been ruthless in business and whenever anything crossed him. Things had to be done his way. She turned toward the outer door with a sigh of defeat. "I'll walk down the road and say good bye at the farmhouse," she said quietly. "You can pick me up there." She had made up her mind to tell Alec's wife. Someone had to know.

[25] "Okay, my dear," he smiled genially, "and don't worry about your poor, abused little burglar. No one is going to get hurt who hasn't got it coming to him."

As she went down the path he started to close the closet door; then paused as he remembered his hunting boots drying outside on the porch. They belonged in the closet, so leaving the door open he went to fetch them from the heavy, rustic[17] table on which they stood, along with his bag and top coat.

Alec was coming up from the lake and waved to him from a distance. A chipmunk, hearing Judson's heavy tread, abandoned the acorn he was about to add to his store within the cabin wall and disappeared, like an electric bulb burning out. Judson, reaching for his boots, stepped fairly upon the acorn, his foot slid from under him and his head struck the massive table as he fell.

Several minutes later he began to regain his senses. Alec's strong arm was supporting his as he lay on the porch and a kindly voice was saying: "'Twarn't[18] much of a fall, Mr. Webb. You aren't cut none; jest knocked out for a minute. Here, take this; it'll pull you together."

A small whiskey glass was pressed to his lips. Dazed and half-conscious, he drank.

15. a place, structure, vehicle or item that is potentially dangerous
16. a lot of money
17. having a simplistic and rough surface quality
18. it wasn't

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. PART A: Which statement expresses the main theme of the story?
   A. It's important to take the opinions of your loved ones into consideration.
   B. There will be consequences if you take justice into your own hands.
   C. No crime is bad enough to warrant another person's death.
   D. If you commit a crime, you will likely be punished in a similar fashion.

2. PART B: Which detail from the text best supports the answer to Part A?
   A. "for Judson Webb loved his personal possessions and felt a sense of deep outrage if they were touched by any hand but his own." (Paragraph 2)
   B. "'The law doesn't call it murder if I shoot a thief who is entering my house by force'" (Paragraph 17)
   C. "'We won't be here till next spring. I can't bear to think of that deathtrap waiting there all the time.'" (Paragraph 22)
   D. "'and don't worry about your poor, abused little burglar. No one is going to get hurt who hasn't got it coming to him.'" (Paragraph 25)

3. How does the conversation between Judson and his wife develop the plot of the passage?
   A. It prompts her to go warn Alec's wife about the poison, which means she is not there to warn Alec about the poisoned whisky when Judson falls.
   B. It causes her to tell Alec and his wife that her husband has poisoned the whiskey, encouraging Alec to retaliate against Judson.
   C. It causes Judson to be distracted by his wife's obvious distress and not pay attention when he falls or accepts the whiskey from Alec.
   D. It prompts Judson to consider throwing out the poisoned whiskey, which he is unable to do before falling and unknowingly drinking it.

4. How does the resolution contribute to the theme of the passage?
   A. It proves that it's dangerous to take justice into your own hands.
   B. It shows how paranoia can be deadly for some people.
   C. It emphasizes how dangerous it can be to keep secrets from others.
   D. It stresses the importance of always being aware of your surroundings.

5. How does the author's use of dialogue develop characterization and indirect characterization?

Discussion Questions

Directions: Brainstorm your answers to the following questions in the space provided. [redacted]

1. In the context of the text, do you think Judson was right to take justice into his own hands? Why or why not? Are there other ways in that Judson could've possibly held the thief accountable without harming anyone? Describe a time when you wanted to take justice into your own hands. What lessons did you learn from this experience?

2. In the story, Judson would have lived if he hadn't attempted to punish the thief. How fair is it that Judson died even though he didn't technically commit a crime, while whoever stole his whiskey gets to live with the crime? How is Judson's preoccupation with what he believes is "fair" his downfall? Describe a time when something unfair happened to you and you had to let it go. How did you learn from the experience?

3. In the story, Judson believes that death is an appropriate punishment for the thief because every crime is equal in his eyes. Do you think that the punishment should fit the crime? Why or why not? How do you think Judson should have punished the thief? Do you think punishments tend to fit the crime in our society? Cite evidence from this text, your own experience, and other literature, art or history in your answer.

7th Grade Math MT Day 35

Name _____ Date _____ Class _____

LESSON 9-2

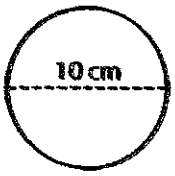
Area of Circles

Reteach

The area of a circle is found by using the formula $A = \pi r^2$. To find the area, first determine the radius. Square the radius and multiply the result by π. This gives you the exact area of the circle.

Example:

Find the area of the circle in terms of π.



The diameter is 10 cm. The radius is half the diameter, or 5 cm.
Area is always given in square units.

$5^2 = 25$

$A = 25\pi \text{ cm}^2$

Find the area of each circle in terms of π.

1. A vinyl album with a diameter of 16 inches.

_____

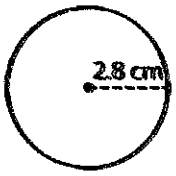
2. A compact disc with a diameter of 120 mm.

_____

Sometimes it is more useful to use an estimate of π to find your answer. Use 3.14 as an estimate for π.

Example:

Find the area of the circle. Use 3.14 for π and round your answer to the nearest tenth.



The radius is 2.8 cm.
Area is always given in square units.

$2.8^2 = 7.84$

$A = 7.84\pi \text{ cm}^2$

$A = 7.84 \times 3.14 \text{ cm}^2$

$A = 24.6176 \text{ cm}^2$

Rounded to the nearest tenth, the area is 24.6 cm^2.

Find the area of each circle. Use 3.14 for π and round your answer to the nearest tenth.

3. A pie with a radius of 4.25 inches.

_____

4. A horse ring with a radius of 10 yards.

_____

5. A round pond with a diameter of 24 m.

_____

6. A biscuit with a diameter of 9.2 cm.

_____

Name _____ Date _____ Class _____

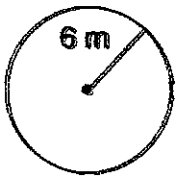
LESSON 9-2

Area of Circles

Practice and Problem Solving: A/B

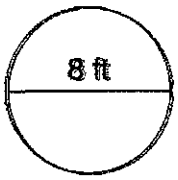
Find the area of each circle to the nearest tenth. Use 3.14 for π.

1.



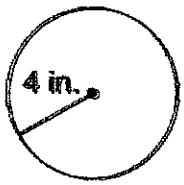
A 113 m^2 C 354.9 m^2
B 37.7 m^2 D 452.16 m^2

2.



A 201 ft^2 C 25.1 ft^2
B 50.2 ft^2 D 157.8 ft^2

3.



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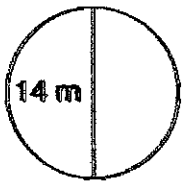
4.



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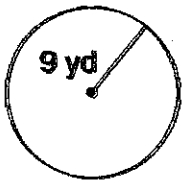
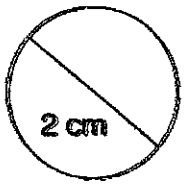
5.



_____

Find the area of each circle in terms of π.

6.



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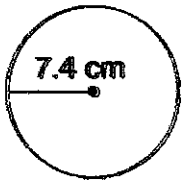
7.



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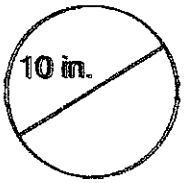
8.



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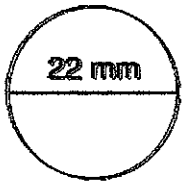
9.

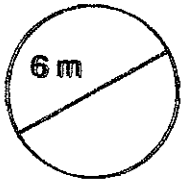


_____

10.

_____

11.



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Civil War Recruiting Poster (2)

This poster is provided courtesy of the Gilder Lehrman Institute of American H

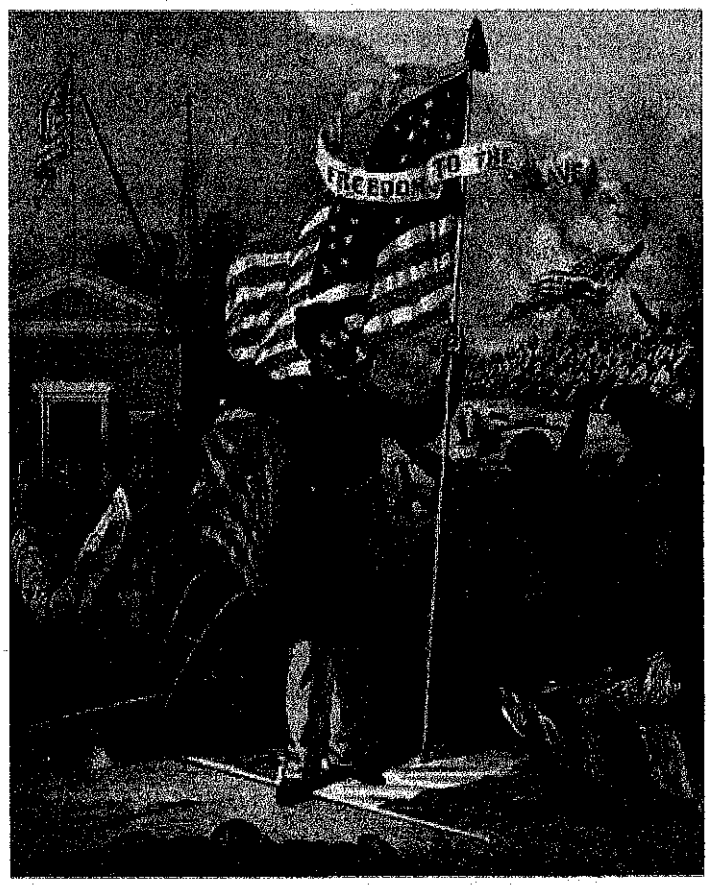
Social Studies 7th Grade

Day 35

A primary source by the Union Army

This recruiting poster of 1863 uses images of the past (deliverance from slavery) and the future (education and civil rights) to inspire African Americans to enlist and fight for the Union. By the end of the war, some 200,000 African Americans-like those seen going into battle at upper right-had served the Union forces.

CIVIL WAR RECRUITING POSTER, 1863



THE GILDER LEHRMAN
INSTITUTE of AMERICAN HISTORY
www.gilderlehrman.org

Name: _____ **Date:** _____

1. In the poster, what does the banner attached to the American flag read?

A. Deliverance from Slavery

B. Public School

C. Freedom to the Slave

D. Fight for the Union

2. What does the author describe in the text?

A. the story of the Civil War battle depicted in the poster

B. how the poster tried to inspire African Americans to enlist

C. the history of how African Americans were freed from slavery

D. the number of people who died fighting during the Civil War

3. The Union played a big part in freeing African Americans from slavery. What evidence in the poster supports this conclusion?

A. the American flag atop the public schoolhouse

B. the banner attached to the flag held by the Union soldier

C. the men going into battle in the upper right

D. the uniforms the Union soldiers are wearing

4. Based on the evidence in the text and poster, why might African Americans want to fight for the Union army?

A. to avoid fighting against them

B. to avoid going to school

C. to attain civil rights and education

D. to escape danger and death

5. What is the message of this poster?

A. African Americans should fight for the Union army because the Union supports their rights.

B. It is too late for African Americans to join the Union army.

C. The Civil War is destroying the country's public school system.

D. The Civil War will soon come to an end.

6. Read this sentence from the text:

"By the end of the war, some 200,000 African Americans ... had served the Union forces."

Why might the author have included this fact about 200,000 African Americans having served the Union forces?

A. to illustrate that the poster was not a useful recruiting tool

B. to demonstrate the impact this poster, and other posters like it, had on the war

C. to show how recruiting posters were used against the Union forces

D. to explain how the Union forces won the war

7. The poster uses images of the future to inspire African Americans to enlist in the Union army. _____, African Americans are shown entering a public schoolhouse.

A. However

B. On the contrary

C. Otherwise

D. For example

8. What kinds of images does the poster use to inspire African Americans to enlist?

_____

_____

_____

9. Identify an image in the poster that might be considered an image of the future.

_____

_____

_____

10. Why might this poster inspire African Americans to enlist in the Union army?

Support your answer with evidence from the text.

Killer Fungus

A deadly illness is threatening amphibians around the world. Now, scientists may have a cure.

MARCH 16, 2020 By Andrew Klein, Science World Magazine

In the late 1970s, scientists began finding horrible scenes around Queensland, Australia. Entire populations of frogs lay dead in the ponds and streams. The frogs were floating in the waterways or belly-up on shorelines. Their skin was ripped to pieces. Over the next decade, scientists realized that the same mystery was happening all around the world. In the late 1990s, they finally found the cause: the *chytrid fungus*. This microbe is carried by water. It infects the skin of frogs and other amphibians and usually kills them. For years, scientists searched for a way to stop the fungus from spreading.

Then, in 2001, Reid Harris had an idea. He's a biologist at James Madison University in Virginia. As he watched, a female four-toed salamander wiggled through her jelly-like eggs. He and other scientists knew why she did this. She was passing on helpful *probiotic* bacteria from her skin to her babies. The tiny microbes protect the developing salamanders from infections. Harris wondered if similar bacteria could protect adult amphibians from chytrid. If so, it could end the infection killing amphibians worldwide.

People often call the spread of chytrid fungus "the amphibian apocalypse." And they have good reason. Chytrid has caused the decline of more than 500 species of frogs and salamanders. And it has led to the extinction of at least 90. What if the fungus continues to spread? Scientists think that more than 4,000 species could disappear. That's half of all amphibian species.

The loss of so many amphibians could have a big effect around the planet, says Harris. "Amphibians are a critical part of many ecosystems and food webs," he says. "They prey on insects, controlling their populations, and they provide food for other animals, like snakes and mammals."

COURTESY OF BRANDON LABUMBARD

BENEFICIAL BACTERIA: Some eastern red-spotted newts take a probiotic bath. Scientists hope the bacteria will protect certain amphibian species from deadly fungi.

Two types of chytrid fungi are known. They're called *Batrachochytrium dendrobatidis* (Bd) and *Batrachochytrium salamandrivorans* (Bsal). Bd mostly infects frogs, and Bsal usually infects salamanders. Scientists believe that both types started on the Korean Peninsula. The amphibians that live there developed with the fungi. So their disease-fighting immune systems can fight off chytrid.

Soldiers returned home from the Korean War in the 1950s. They may have brought home amphibian pets that carried the fungi. Chytrid may have first spread to other lands in that way. Then amphibians got exposed to the fungi for the first time, and they had no defenses against them.

Chytrid multiplies through spores (*see Fungus Life Cycle*). These spores can swim in fresh water from one amphibian to another. Then they hang onto a frog or a salamander. The fungus grows and spreads across the animal's body. "It burrows all over the skin until it can't function," says Molly Bletz, a biologist at the University of Massachusetts, Boston. "It's so damaging because amphibians breathe through their skin." The infection is usually a death sentence. It kills the animal in as little as two weeks.

FUNGUS LIFE CYCLE

The chytrid fungus latches onto *keratin* in frogs' skin. This protein is also found in mammals' hair and nails. Keratin is only in the mouth parts of tadpoles, but when they *metamorphose*, changing into adult frogs, all of their skin contains keratin.

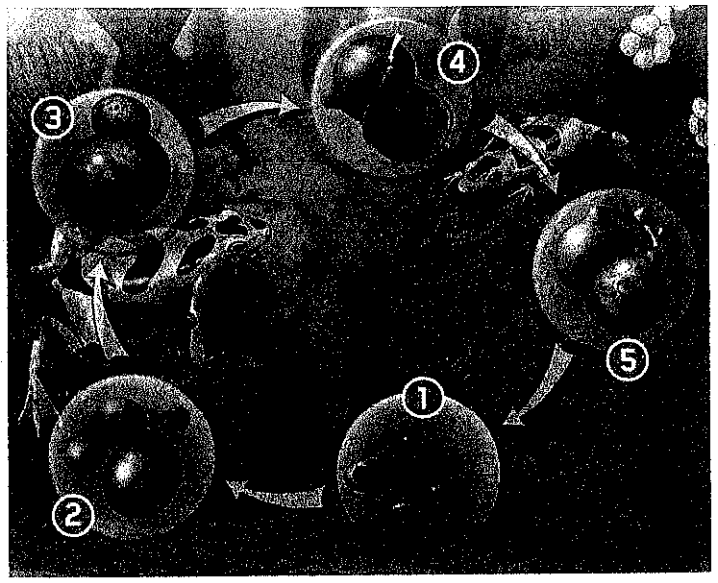


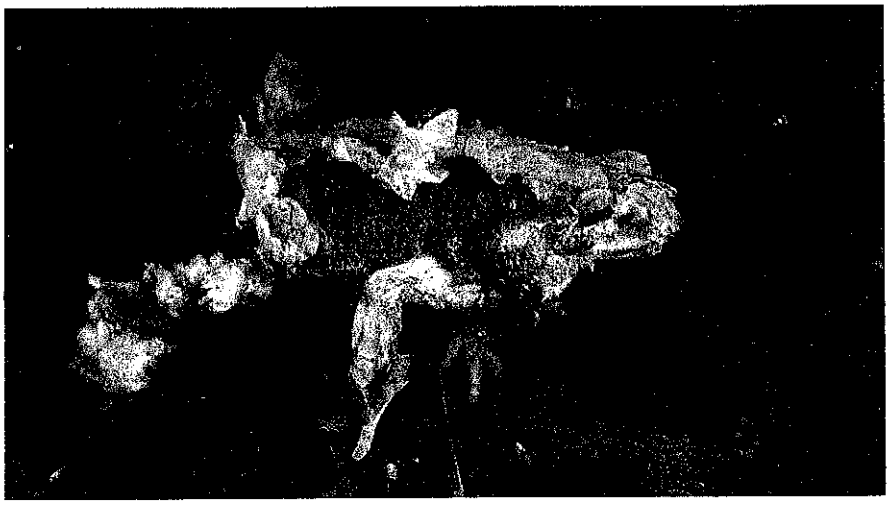
ILLUSTRATION BY ALISON E. BURKE

1. **ZOOSPORES:** Chytrid spores with wiggling *flagella* (tails), swim through the water and burrow into an amphibian's skin.
2. **ZOOSPORANGIA:** The zoospores lose their flagella and are now called zoosporangia. These structures are like containers that hold zoospores.
3. **FUNGAL GROWTH:** The zoosporangia grow larger on the frog's skin.
4. **PAPILLA:** Small holes form on the zoosporangia. At first, these openings are plugged.
5. **DEATH AND DISPERSAL:** The frog usually dies after two weeks because of severe damage caused by the fungus to its skin. Zoosporangia plugs dissolve, allowing zoospores to escape into the water, starting the cycle over again.

SEARCH FOR A CURE

Today, the chytrid fungus has been found on every continent except Antarctica (*see Chytrid Worldwide*). Scientists have been looking for medicines to fight its spread. For example, researchers washed infected frogs in different *antifungal* solutions. They worked to clear the frogs' skin of fungus. But the effect didn't last long. The antifungal solution washed off. Then the amphibians were reinfected in the wild.

That's why Harris was looking for another idea. He saw the salamander mother pass along probiotic bacteria to her eggs. And he thought helpful microbes might provide a better solution. Good bacteria could become part of amphibians' natural *microbiome*. That's the group of microorganisms living in and on an organism's body. This would provide lasting protection against chytrid. So Harris and his team began looking for bacteria. It had to have antifungal properties and occur naturally on amphibians' skin.



EMANUELE BIGGI/NATUREPL.COM

CHYTRID CASUALTY: This Andean frog was found dead from the infectious fungus in the Cuzco region of Peru.

Harris wiped the skin of frogs. He moved any bacteria to petri dishes that held nutrient-rich agar jelly. Then he *cultured*, or grew, the different microbes. To test their antifungal properties, he exposed the dishes to *Bd*. "Some bacteria did nothing, and some even helped the fungus thrive," says Harris. But one bacterium killed the fungus. It's called *Janthinobacterium lividum*, or *J. liv*. It produces a purple chemical called violacein. This substance was already known to have antifungal properties.

Harris tried it on mountain yellow-legged frogs infected with chytrid. In his lab, he gave them a bath containing *J. liv*. The results were better than he could have imagined. All of the frogs survived, but those not treated died. Then he repeated the experiment in the wild. After a year, 39 percent of the frogs treated with *J. liv* were still alive. Those not treated were never found. Harris thought he'd found a way to fight the infection. But he did more testing. He found that the *J. liv* treatment didn't work for all frog species. Harris thinks he knows why. Certain species' microbiomes might stop *J. liv* from surviving on their skin.

Researchers like Harris and Bletz are collecting more samples from the skin of frogs and salamanders. They're finding other probiotic bacteria that can fight chytrid. "We have a culture database of more than 7,000 bacteria," Bletz says. "About 1,000 show strong antifungal properties."

How will they get these treatments into the wild? The next step is to figure that out. They can't wash every amphibian around the world in a probiotic bath. "One thing we're exploring is *environmental augmentation*," Bletz says. It's the idea of humans adding bacteria to improve an environment. For example, scientists could add a probiotic to a pond. Then it would spread to the local amphibians to help reduce chytrid infections.

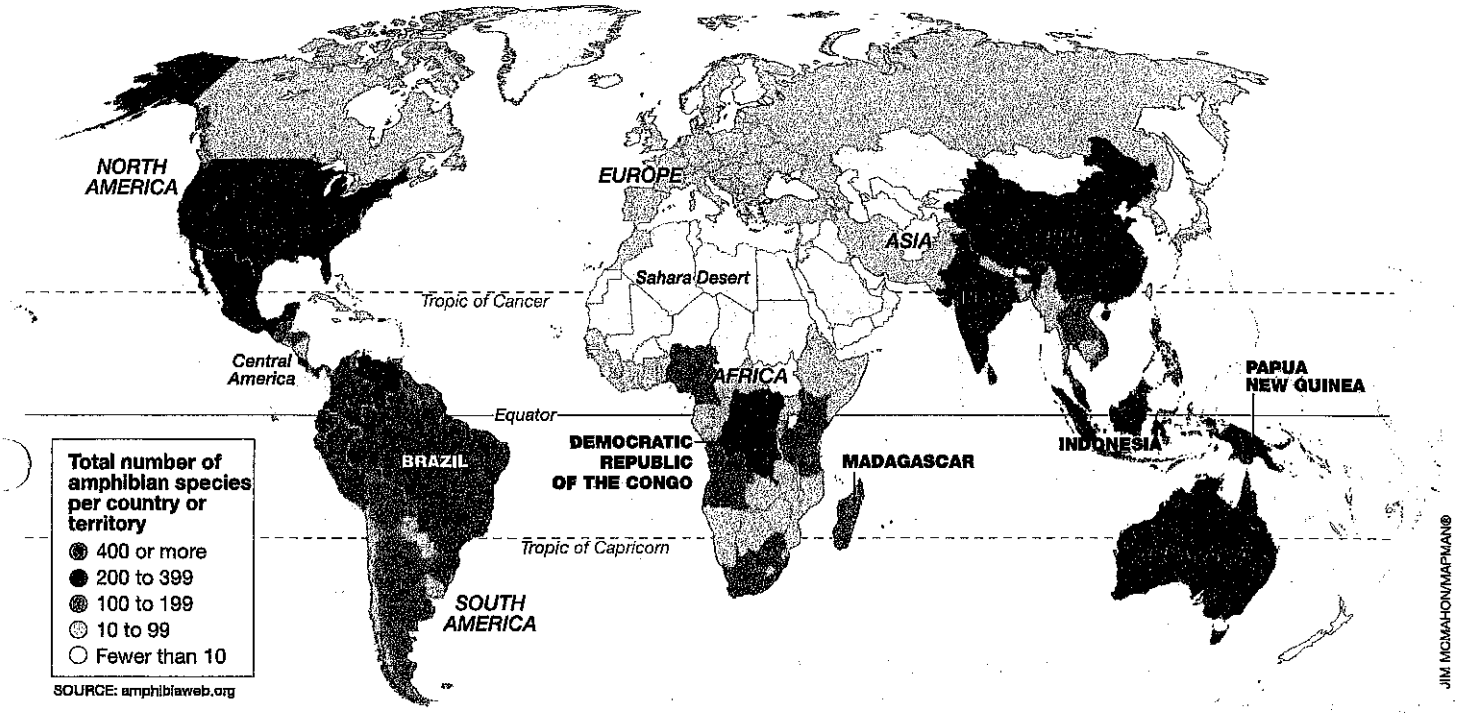
But before they do this, scientists must answer a question. How would the added probiotic bacteria affect an ecosystem? "We would only increase bacteria that are naturally part of the environment," explains Harris. "That would optimize the probiotics in the pond without impacting any other species." It could take years to solve this difficult puzzle completely. But hope for amphibians may be on the way.■

Name: Day 35 7th Science

ANIMALS AT RISK

In "Killer Fungus" (p. 16), you learned about the devastating chytrid fungus, which is endangering frogs and salamanders around the world. However, there are many other threats to amphibians, and nearly one-third are at risk of extinction. Study the map and table below. Then use the data to answer the questions on the second page.

Amphibians Around the World



FACTORS CAUSING AMPHIBIAN DECLINE

Human Impact	How It Affects Amphibians
Habitat destruction and fragmentation	Human development usually causes loss of space for amphibians. Roads and other structures can create barriers between amphibian populations, which affects their ability to mate and find food.
Invasive species (including diseases)	Non-native species introduced to the area can outcompete amphibians for resources or prey upon amphibians, driving their numbers down. Diseases, such as infection by the introduced chytrid fungus, can cause widespread death.
Hunting and poaching	In some areas, amphibians are collected from the wild and sold for food, as pets, or for medicinal uses.
Climate change	Amphibians are extremely sensitive to even small changes in temperature and moisture levels.
Pollution	Pesticides and other chemical pollution can kill amphibians and affect their ability to reproduce. Toxic chemicals can also cause abnormalities like malformed legs.

Name: _____

ANIMALS AT RISK

Use the map and table on the previous page to answer the questions below.

QUESTIONS

1. Which regions have the greatest diversity of amphibian species? Why do you think those areas have so many different amphibian species?

2. Which regions have low amphibian diversity? Why do you think those areas have so few species of amphibians?

3. Which of the threats in the table on the previous page do you think conservation efforts should focus on? Why?

4. In Canada, the United States, and Mexico, more than 40 amphibian species are critically endangered or extinct. In Central America, more than 200 amphibian species are critically endangered or extinct. What do you think might cause these differences?

5. In the article, you learned about a possible solution that could reduce the impact of the chytrid fungus on amphibians. What is another action that could help protec amphibians? What region should that action focus on? Support your answer using evidence from the map, table, and article.

7th Grade NTI DAY #36

Contents:

- **Language Arts**
- **Math**
- **Science**
- **Social Studies**

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NTI Days 36 - 37:

COMMONLIT

Name: Submit on Day 37

Adolf Hitler

By Jessica McBirney
2017

Adolf Hitler (1889-1945) was a German politician who was a leader of the Nazi Party and later became a dictator in Germany. Hitler's leadership in Germany resulted in World War II and the deaths of countless soldiers and citizens, especially Jews, whom Hitler attempted to exterminate during the war. In this informational text, Jessica McBirney discusses Hitler's rise to power and what he represents today. As you read, take notes on how Hitler rose to power and why he is one of the most infamous dictators in history.

[1] Adolf Hitler is maybe the most infamous[1] person in history. As the leader of Germany before and during World War II, he promoted racist ideas and ordered the murder of millions of ethnic[2] minorities, especially Jews. He rose to power during a time of crisis in Germany, and his cruel, violent legacy is often seen as a warning to the rest of the world of what can happen when someone is too obsessed with national pride and racial superiority.[3]

"hitler" by Charles LeBlanc is licensed under CC BY-SA 2.0.

Hitler was born on April 20, 1889, in Austria-Hungary and moved to Germany when he was three. He had a very tense relationship with his father because they were both stubborn and strong-willed.

After high school, Hitler moved to Vienna, where he worked odd jobs and lived in homeless shelters. He applied to art school for painting twice but was rejected both times; however, he was able to sell watercolor paintings of famous Vienna sights. At the time, Vienna was full of religious prejudice[4] and racism, which Hitler came to agree with.

World War I

Hitler moved to Munich, Germany, and enlisted in the German army when World War I started in 1914. He worked mainly in administrative roles, but he did get wounded in 1917 and was awarded for his bravery.

1. **Infamous** *(adjective):* popularly known for having done horrible things
2. **Ethnic** *(adjective):* relating to a group of people with common national or cultural traditions
3. **Superiority** *(noun):* the belief that you are better than other people
4. **Prejudice** *(noun):* an unfair feeling of dislike for a person or group

[5] He remembered the war as "the greatest of all experiences" and it strengthened his German patriotism.[5] After the war, the leaders from many countries came together in France, to see how they could prevent future wars from happening. The treaty that they finally came up with blamed Germany for almost everything that happened and placed it under heavy economic burdens as punishment; Hitler thought all of this was completely unfair.

Political Popularity

Hitler remained in the army, where he was assigned to monitor the activities of a new political party, the National Socialist German Workers' Party (NSDAP). However, he was intrigued by the party's nationalist[6] and anti-Semitic[7] views. He became a member of the NSDAP after only a few months and started working for the party full time in 1920.

His political speeches in beer halls around Munich were powerful and stirring for his large audiences. He captured the crowds' spirit, blaming minority groups for economic troubles and the loss of the war. He used mob psychology[8] to whip the audience into a frenzy of patriotism.

In 1923, Hitler was arrested for attempting a political coup[9] with the NSDAP. While he was in jail for a year, he wrote his famous book *Mein Kampf* ("My Struggle"), which outlined his radical political beliefs and his hopes for Germany's future as a unified, single-race nation.

After he was released from jail he worked to restore the NSDAP as a strong political party. The NSDAP, or Nazi party, enjoyed a broad base of support for its message. Hitler narrowly lost a run for German president in 1932, but the loss worked in his favor. It meant he was available when he was appointed Chancellor[10] in 1933.

[10] As Chancellor, Hitler used unethical and sometimes violent tactics to gain support within the government and increase his own power. For example, he made a decree that gave himself the power to make any law without the consent of the German congress. Other political parties quickly fell apart. He was now, by default, a dictator.

World War II

Hitler admired powerful, nationalistic governments like Japan and Italy, and he made military alliances with both countries in the late 1930s. His vision was to restore Germany to greater economic and military power, to make Germany the most powerful nation in the world. He thought white, blond Germans ("Aryans") were genetically superior to anyone else, and so the best way for Aryans to gain their rightful power was to kill anyone who looked different or who thought differently. He especially hated Jews.

---

5. **Patriotism** ***(noun):*** devoted love, support, and defense of one's country
6. **Nationalist** ***(noun):*** a person with a strong sense of loyalty or devotion to their country, especially one who believes in the superiority of their country over others
7. **Anti-semitic** ***(adjective):*** having hostility to or prejudice against Jews
8. theories that explain the ways in which people act and think differently in a crowd than when they are alone
9. A coup takes place when there is a sudden and often violent take-over of government power.
10. A Chancellor is a powerful government position designed to be relatively independent from the political parties.

Once he had rebuilt Germany's army, Hitler decided it was time to take back the land and power that had been "stolen" from Germany after World War I. His invasion of several former German territories led to the start of World War II. European countries such as England, France, and the Soviet Union did not want such a cruel dictator gaining so much power, so they fought back against Hitler and his allies, Italy and Japan. At first Hitler was an extremely successful military leader. Germany's territory expanded quickly.

However, Hitler is even more infamous for what he did on the "home front" during the war. Since he hated minorities, especially Jews, and saw them as the enemy to Germany's expansion, he sent troops out all over the territory to kidnap Jews, Slavs,[11] and other "undesirable" people. They were brought to "concentration camps," [12] where it was easy for the German army to kill hundreds at a time. Hitler's treatment of his own citizen prisoners included some of the most horrible human rights violations in history. During the Holocaust, as it came to be known, Hitler ordered the death of 6 million Jews; it was one of the deadliest genocides[13] in history.

In 1942, the German army started to experience defeat. The United States brought immense power against Germany when it entered the war in 1941. Hitler also made several important tactical[14] mistakes. Soon his army was spread too thin and running out of supplies. By 1945, the German capital Berlin was surrounded by enemy troops, and total defeat was certain. Hitler died in an underground bunker in Berlin on April 30, 1945. Reports suggest he took his own life. Two days later Germany surrendered, losing the war.

Legacy

[15] Adolf Hitler was one of the worst dictators in history. His unstoppable hunger for personal and national power led to the destruction of huge parts of Europe during World War II. More civilians[15] were killed in World War II than in any other war. His intense racism and ability to win the love of large crowds led to the horrific deaths of millions of Jews and ethnic minorities.

Today we can see the evil deeds Hitler committed as warnings for our own beliefs and political leaders — Hitler has shown what can happen when we obsess about our own power and blame others for the problems we face.

11. Slavs are groups of people in central and eastern Europe who speak Slavic languages, such as Russian and Polish.
12. A concentration camp is a place where large numbers of prisoners are imprisoned to provide forced labor or to await mass execution.
13. Genocide is the deliberate killing of a large group of people, especially those from a particular background or race.
14. relating to actions carefully planned to achieve a specific military end
15. **Civilian** ***(noun):*** a person not involved in the military or police force

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. PART A: Which of the following identifies the central idea regarding Hitler in the text?
   A. Hitler gained a strong following during his dictatorship in Germany, despite the cruelty he showed minority groups and his followers.
   B. Hitler's obsession with power and racial cleansing has made him one of history's most feared and remembered leaders.
   C. Hitler's premature death has prevented people from completely understanding the motivations behind his violent actions.
   D. Hitler's difficult childhood is believed to have contributed to his violent behavior and racist beliefs.

2. PART B: Which detail from the text best supports the answer to Part A?
   A. "After high school, Hitler moved to Vienna, where he worked odd jobs and lived in homeless shelters. He applied to art school for painting twice but was rejected both times" (Paragraph 3)
   B. "He captured the crowds' spirit, blaming minority groups for economic troubles and the loss of the war." (Paragraph 7)
   C. "During the Holocaust, as it came to be known, Hitler ordered the death of 6 million Jews; it was one of the deadliest genocides in history." (Paragraph 13)
   D. "By 1945, the German capital Berlin was surrounded by enemy troops, and total defeat was certain. Hitler died in an underground bunker in Berlin on April 30, 1945." (Paragraph 14)

3. Why did Hitler kill citizens of his own nation during WWII?
   A. He wanted to prove how powerful he was.
   B. He wanted to scare other nations, so they wouldn't interfere.
   C. He wanted to eliminate people he found unworthy to live in Germany.
   D. He wanted to prevent citizens from revealing his plans to other nations.

4. How does the section "World War I" contribute to the main idea of the text (Paragraphs 4-5)?
   A. It shows how Germany's struggle after WWI contributed to people's willingness to follow Hitler and seek revenge on other countries.
   B. It emphasizes how Hitler was once a brave soldier before he became a cruel dictator.
   C. It shows how Germany was pushed to engage in WWII to win back the respect of other nations.
   D. It stresses how Hitler's brave participation in WWI is responsible for the large following he gained.

5. How does the author support her claim that Hitler's legacy was "violent" (Paragraph 1)? Cite evidence from the text in your answer.

Discussion Questions

Directions: Brainstorm your answers to the following questions in the space provided. ~~Be prepared to share your original ideas in a class discussion.~~

1. In the context of the text, why do people do bad things? Why do you think citizens accepted and supported Hitler's racist beliefs and treatment of others? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.

2. In the context of the text, how does power corrupt? How did Hitler abuse his power as a leader of Germany? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.

3. In the context of the text, how do people become leaders? How was Hitler able to gain the support of so many people? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.

7th Grade Math M7 Day 36

Name _____ Date _____ Class _____

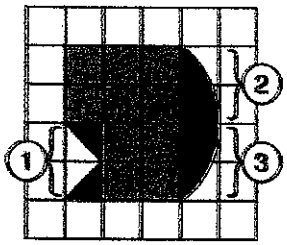
LESSON 9-3

Area of Composite Figures

Reteach

When an irregular figure is on graph paper, you can estimate its area by counting whole squares and parts of squares. Follow these steps.

- Count the number of whole squares. There are 10 whole squares.
- Combine parts of squares to make whole squares or half-squares.



Section 1 = 1 square

Section 2 $\approx 1\frac{1}{2}$ squares

Section 3 $\approx 1\frac{1}{2}$ squares

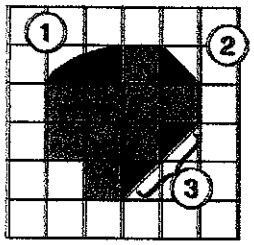
- Add the whole and partial squares

$10 + 1 + 1\frac{1}{2} + 1\frac{1}{2} = 14$

The area is about 14 square units.

Estimate the area of the figure.

1. There are _____ whole squares in the figure.



Section 1 ≈ _____ square(s)

Section 2 = _____ square(s)

Section 3 = _____ square(s)

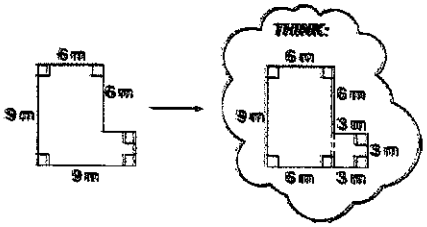
A = _____ + _____ + _____ + _____ = _____ square units

You can break a composite figure into shapes that you know. Then use those shapes to find the area.

A (rectangle) $= 9 \times 6 = 54$ m^2

A (square) $= 3 \bullet 3 = 9$ m^2

A (composite figure) $= 54 + 9 = 63$ m^2

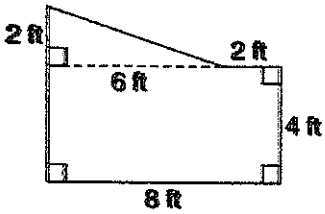


Find the area of the figure.

2. A (rectangle) = _____ ft^2

A (triangle) = _____ ft^2

A (composite figure) = _____ + _____ = _____ ft^2



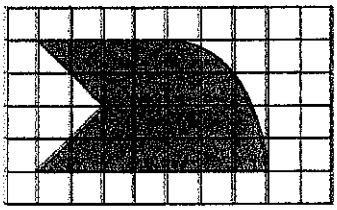
Name _____ Date _____ Class _____

LESSON 9-3

Area of Composite Figures

Practice and Problem Solving: A/B

Estimate the area of each figure. Each square represents 1 square foot.

1. 

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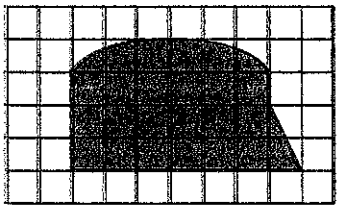
2. 

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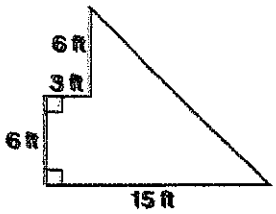
Find the area of each figure. Use 3.14 for π.

3. 

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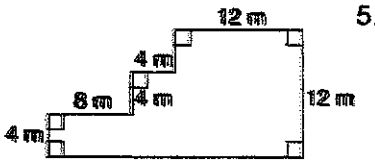
4. 

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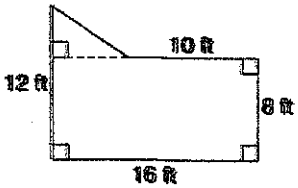
5. 

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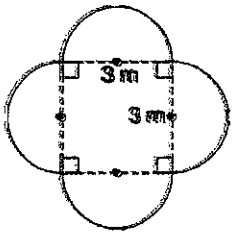
6. 

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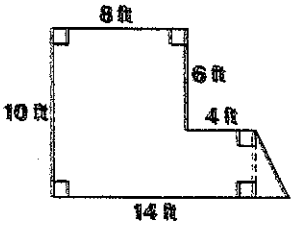
7. 

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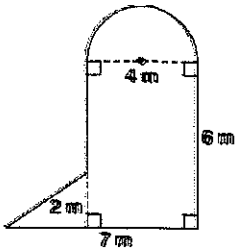
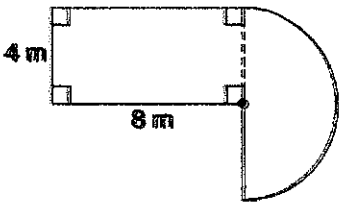
8. 

_____

9. Marci is going to use tile to cover her terrace. How much tile does she need?

_____



Saicho, Kukai, the Matrix, and the Diamond

by Josh Adler

Social Studies 7th Grade

Day 36

Japan, 804 A.D.: No Internet. No phones. No electricity. No running water. The sun comes up and sets every day, though. The seasons change. There is an empire ruled by an Emperor Kammu. His subjects live by the teachings of Buddha, a great teacher who lived in India almost 1,000 years before Kammu, whose ideas were spread to China and eventually Japan.

In Kammu's court there is a great deal of disagreement over how best to follow the Buddha's teachings. Part of the problem is that the court has very few texts with which to study the Buddha's lessons. The Emperor decides that he might be able to settle his people's difference of opinions by sending a group of his brightest monks to China to study with the Buddhist masters and bring new texts back to Japan.

Of the four ships the Emperor sent to China, only two succeeded in making the trip. Of the many monks who tried to study Buddhism in China, only two came back to Japan with new teachings that helped the empire better understand the Buddha's lessons.

The first monk to return was Saich, who had already been running a school in Japan before he left. He spent almost a year studying from a master of the Matrix teachings. The Matrix teachings focus on learning from what's around you. In the Matrix teachings, students can also learn from texts without needing the guidance of a master teacher.

Before he left China, Saich was initiated as a master teacher of the Matrix approach, which meant he could initiate his own students in Japan into the tradition as well. He also copied many important texts from his Chinese teachers and brought them back to Japan for others to study.

The Emperor was delighted with Saich's successful mission. He made Saich the head master of a new school that would be devoted to teaching the Matrix approach to Buddhism, and allowed Saich

to give the initiation ceremony to many of the empire's leading citizens.

The second monk to return from China was Kkai. Before leaving on his mission to China, Kkai was not very well known in China. However, Kkai spent over two years studying with Buddhist masters in Japan. There he was initiated into the Diamond tradition as well as the Matrix tradition. He also brought back twice as many sacred texts as Saich.

The difference between the Diamond and Matrix teachings is that the Diamond teachings can only be passed on within the physical presence of a master teacher. That means a student cannot become a master, initiate other students, or read the Diamond tradition's most secret texts through his own study.

Almost as soon as Kkai returned to Japan, Saich wanted to study his wealth of texts. Saich asked Kkai to borrow many of the texts in order to make copies and share them with his school. Kkai agreed.

Meanwhile the old emperor had died, and one of his sons had taken the throne of Japan. Saich, who was now considered one of the great teachers in the court, helped Kkai win approval from the new emperor to open a school of his own.

After several years of studying Kkai's texts, Saich began trying to teach his students both the Matrix teachings and the Diamond teachings. From his understanding, the two traditions were different ways of teaching the same thing.

Soon, though, some of Saich's students began to disagree with their master. They began to feel that perhaps Saich didn't have enough information about the Diamond teachings to be mixing them with the Matrix teachings. They became so unsure of his approach they decided to leave Saich's school and instead joined Kkai's.

Soon Kkai's school was thriving, while Saich's was in a crisis.

Saich decided the best way to save his school was to study with Kkai in person. Kkai eagerly granted him permission. They made plans for Saich and the remainder of his students to receive the Diamond initiation ceremonies he had never been able to receive while in China.

After months of planning, Saich arrived at Kkai's school prepared with all his students. Saich believed that the Diamond initiation could be done in three days, but Kkai revealed that learning the Diamond teachings would take close to two years. There had been a major miscommunication in their correspondence!

As desperately as he wanted to finish his training in the Diamond tradition, Saich knew he couldn't stay away from his school for so long. So he instructed his best students to stay for the complete training, and went home.

Though the miscommunication over the length of study strained the relationship between Saich and Kkai, the visit was not a total failure. Saich had received some direct training in the Diamond tradition from Kkai over the three days, and was also able to go back to his own school with more of the sacred texts he had yet to study. As he read the new texts, Saich became even more convinced that the Matrix and Diamond teachings could be learned together.

However, when he asked Kkai to borrow another round of texts, this time Kkai refused.

Kkai believed the texts Saich was asking for this time were secret, except for masters who had been fully initiated into the Diamond teachings. He feared that if these texts were read by the uninitiated or without the guidance of a master, they could easily be misinterpreted.

Instead of sending the texts, Kkai invited Saich to return and finish his official initiation into the Diamond teachings. Saich knew that if he went back it would mean his entire school would be considered a failure.

After Saich refused to return to Kkai's school, the two powerful teachers never spoke again.

Both Saich and Kkai's schools used their masters' experiences from China to revolutionize Japan's understanding of Buddhism. Though they were never able to bridge their own philosophical disagreements, they each founded unique traditions in Japanese Buddhism that still have millions of followers today.

In many ways the differences in their views are what have helped their schools remain successful over the centuries.

Name: _____ **Date:** _____

1. Emperor Kammu's subjects lived by the teachings of a great teacher who lived in India almost 1,000 years before Kammu. Who was this great teacher?

A. Ghandi

B. Confucius

C. Buddha

D. Dgen

2. The passage compares the Matrix teachings of Buddhism with the Diamond teachings of Buddhism. What is the main difference between these two teachings of Buddhism?

A. Saich founded the Matrix teachings whereas Kkai founded the Diamond teachings.

B. Matrix teachings originate from the teachings of the Buddha but Diamond teachings do not.

C. Matrix teachings can only be passed on within the physical presence of a master teacher. However, students of the Diamond teachings can learn from texts without the guidance of a master teacher.

D. Diamond teachings can only be passed on within the physical presence of a master teacher. However, students of the Matrix teachings can learn from texts without the guidance of a master teacher.

3. It is possible for people to practice the religion of Buddhism in different ways. What information from the text support this conclusion?

A. Emperor Kammu sent a group of his brightest monks to China to study with the Buddhist masters.

B. Kkai's school was thriving while Saich's was in a crisis when many of Saich's students decided to join Kkai's school.

C. Saich and Kkai founded unique traditions in Japanese Buddhism that still have millions of followers today.

D. Saich never became a Diamond master.

4. Why were the schools of Saich and Kkai important?

A. They allowed Saich and Kkai to become masters of both the Matrix and Diamond teachings.

B. They allowed Saich and Kkai to pass on the teachings of Buddhism in their own traditions.

C. They allowed Saich and Kkai to compete with the other schools of Buddhism in China.

D. They made the religion of Buddhism spread to both China and in Japan.

5. What is the main idea of this passage?

A. It is impossible for different interpretations of the same religion to coexist.

B. Buddhism originated in India and spread to China and Japan.

C. Saich and Kkai were bitter rivals who prevented Buddhism from spreading throughout Japan.

D. The Matrix and Diamond schools of Buddhism differ in how they teach Buddhism.

6. Review this following passage from the essay: "However, Kkai spent over two years studying with Buddhist masters in China. There he was **initiated** into the Diamond tradition as well as the Matrix tradition. He also brought back twice as many sacred texts as Saich."

What does the word "**initiated**" most nearly mean?

A. was celebrated by the Japanese Buddhists when he returned home

B. was officially accepted as a master

C. was chosen as the most knowledgeable Buddhist master in Japan

D. was considered a better master than Saich

7. Choose the word that best completes the thought below.

Saich could not leave his school to study for two years at Kkai's school. _____, Saich could not become initiated as a master of the Diamond school of Buddhism.

A. On the contrary

B. Consequently

C. Above all

D. However

8. After Saich returned from China, the Emperor made Saich the head master of a new school. Describe this school.

9. Why did some of Saich's students leave his school to study with Kkai?

10. The passage states that from Saich's understanding, the traditions of the Matrix and the Diamond were different ways of teaching the same thing. Using information from the text, explain how the two traditions were different ways of teaching the same thing.

Day 36 NTI
7th Grade Science

Instructions:

1. *Read and annotate/make notes about the article below.*
2. *Complete the follow-up tasks.*

How Whales Became the Biggest Animals on the Planet

By Nicholas St. Fleur May 24, 2017

Whales are big. Really big. Enormously big. Tremendously big.

Fin whales can be 140,000 pounds. Bowhead whales tip the scales at 200,000 pounds. And the big mama of them all, the blue whale, can reach a whopping 380,000 pounds — making it the largest animal to have ever lived.

But for as long as whales have awed us with their great size, people have wondered how they became so colossal.

In a study published Tuesday in the journal Proceedings of the Royal Society B, a team of researchers investigated gigantism in baleen whales, the filter-feeding leviathans that include blue whales, bowhead whales and fin whales. The marine mammals became jumbo-size relatively recently, they found, only within the past 4.5 million years. The cause? A climatic change that allowed the behemoths to binge-eat.

Whales have an interesting history. They began as land-dwelling, hoofed mammals some 50 million years ago. Over several millions of years they developed fins and became marine creatures. Between about 20 million and 30 million years ago, some of these ancient whales developed the ability to filter-feed, which meant they could swallow swarms of tiny prey in a single gargantuan gulp. But even with this feeding ability, whales remained only moderately large for millions of years.

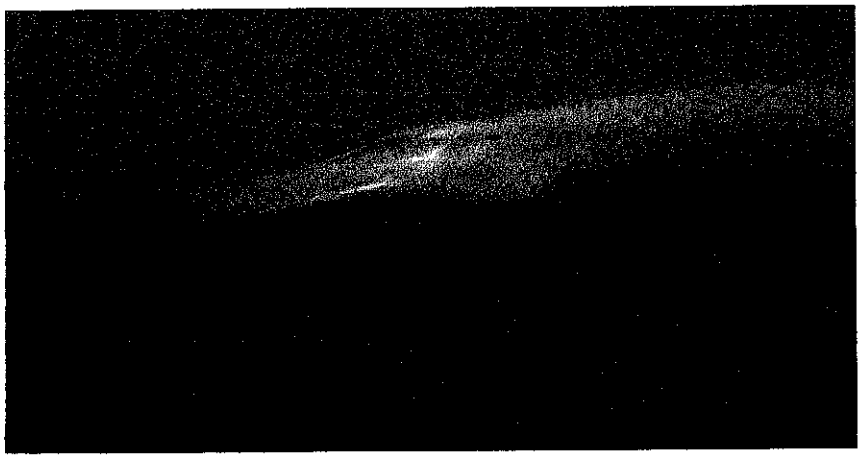
But then all of a sudden — 'boom' — we see them get very big, like blue whales," said Nick Pyenson, the curator of fossil marine mammals at the Smithsonian Institution's National Museum of Natural History and an author of the paper. "It's like going from whales the size of minivans to longer than two school buses."

Dr. Pyenson and his colleagues measured more than 140 museum specimens of fossilized whales, and then plugged that data into a statistical model. It showed that several distinct lineages of baleen whales became giants around the same time, independently of one another.

Starting around 4.5 million years ago, giant blue whales were popping up in oceans across the world alongside giant bowhead whales and giant fin whales.

The researchers suspected that an environmental change happened during that time that essentially caused the baleen whales to bulk up. After some investigation, they found that this time period coincided with the early beginnings of when ice sheets increasingly covered the Northern Hemisphere.

Runoff from the glaciers would have washed nutrients like iron into coastal waters and intense seasonal upwelling cycles would have caused cold water from deep below to rise, bringing organic material toward the surface. Together these ecological effects brought large amounts of nutrients into the water at specific times and places, which had a cascading effect on the ocean's food web.



Throngs of zooplankton and krill would gather to feast on the nutrients. They would form dense patches that could stretch many miles long and wide and be more than 65 feet thick. The oceans became the whales' giant all-you-can-eat buffets.

"Even though they had the anatomical machinery to filter-feed for a long, long time," said Jeremy Goldbogen, a comparative physiologist from Stanford University and author of the paper, "it wasn't until the ocean provided these patchy resources that it made bulk filter-feeding so efficient."

The baleen whales could now gulp down much larger amounts of prey, which allowed them to get bigger. But that was only part of the equation.

"Plentiful food everywhere isn't going to get you giant whales," said Graham Slater, an evolutionary biologist at the University of Chicago and the study's lead author. "They have to be separated by big distances."

Because the ecological cycles that fuel the explosions of krill and zooplankton occur seasonally, Dr. Slater said the whales must migrate thousands of miles from food patch to food patch. Bigger whale ancestors that had bigger fuel tanks had a better chance of surviving the long seasonal migrations to feed, while smaller baleen whales became extinct.

If the food patches were not far apart, Dr. Slater said, the whales would have grown to a certain body size that was comfortable for that environment, but they would not be the giants we see today.

"A blue whale is able to move so much further using so much less energy than a small-bodied whale," Dr. Slater said. "It became really advantageous if you're going to move long distances if you're big."

Ari S. Friedlaender, a behavioral ecologist at Oregon State University who was not involved in the study, said the research improved our understanding of how baleen whales became giants.

"What this does is it allows us to be able to say that there are crucial processes in the ocean that allowed these animals to get this big," he said.

Richard Norris, a paleobiologist at the Scripps Institution of Oceanography, called the study a "nice piece of work," and said that it confirmed scientists' current understanding of changes to the oceans over time.

"When we think about what the planet has been like in its long history, a whale of 10 million years ago was a very different type of critter than we have now," Dr. Norris said. "So in a sense we live in a special time where we get to enjoy the majesty of really big animals out there in the ocean."

Follow-up

Use the evidence from the article and the chart below and respond to the following task (a).

Evidence 1	Ice sheets covered the Northern Hemisphere and melted carrying iron and other nutrients into the water during this time period.
Evidence 2	An abundance of zooplankton and krill appeared during this time period.
Evidence 3	Some whale ancestors had bigger stomachs.

a. Does the evidence from the article support or refute(means goes against) the idea that changes in the growth of organisms occur as a result of both environmental and genetic factors? Explain.

b. Use the article to fill in the missing information for "Cause and Effect" in the chart below.

Cause	Effect
Ice sheets melted and nutrients went into the water	
Upwelling caused organic matter to be carried up closer to the surface	Zooplankton and krill feasted on this organic matter
	Zooplankton and krill populations increased
Zooplankton and krill populations increased	

7th Grade NTI DAY #37

Contents:

- **Language Arts**
- **Math**
- **Science**
- **Social Studies**

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7th Grade Math NT1 Day 37

Name _____ Date _____ Class _____

LESSON 9-1

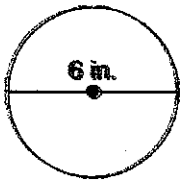
Circumference

Reteach

The distance around a circle is called the **circumference.** To find the circumference of a circle, you need to know the diameter or the radius of the circle.

The ratio of the circumference of any circle to its diameter $\left(\frac{C}{d}\right)$ is always the same. This ratio is known as π (pi) and has a value of approximately 3.14.

To find the circumference C of a circle if you know the diameter d, multiply π times the diameter. $C = \pi \bullet d$, or $C \approx 3.14 \bullet d$.



$C = \pi \bullet d$
$C \approx 3.14 \bullet d$
$C \approx 3.14 \bullet 6$
$C \approx 18.84$
The circumference is about 18.8 in. to the nearest tenth.

The diameter of a circle is twice as long as the radius r, or $d = 2r$. To find the circumference if you know the radius, replace d with $2r$ in the formula. $C = \pi \bullet d = \pi \bullet 2r$

Find the circumference given the diameter.

1. $d = 9$ cm
   $C = \pi \bullet d$
   $C \approx 3.14 \bullet$ _____

   $C \approx$ _____
   The circumference is _____ cm to the nearest tenth of a centimeter.

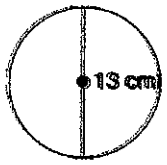
Find the circumference given the radius.

2. $r = 13$ in.
   $C = \pi \bullet 2r$
   $C \approx 3.14 \bullet (2 \bullet$ _____$)$

   $C \approx 3.14 \bullet$ _____

   $C \approx$ _____
   The circumference is _____ in. to the nearest tenth of an inch.

Find the circumference of each circle to the nearest tenth. Use 3.14 for π.

3. 

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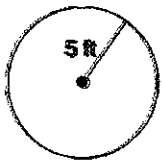
4. 

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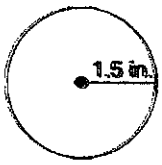
5. 

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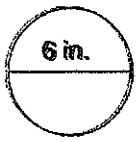
Name _____ Date _____ Class _____

LESSON 9-1

Circumference

Practice and Problem Solving: A/B

Find the circumference of each circle. Use 3.14 or $\frac{22}{7}$ for π. Round to the nearest hundredth, if necessary.

1. 

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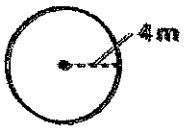
2. 

_____

3. 

_____

4. 

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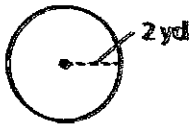
5. 

_____

6. 

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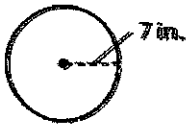
7. 

_____

8. 

_____

9. 

_____

Solve.

10. A circular swimming pool is 21 feet in diameter. What is the circumference of the swimming pool? Use $\frac{22}{7}$ for π.

_____

11. A jar lid has a diameter of 42 millimeters. What is the circumference of the lid? Use $\frac{22}{7}$ for π.

_____

12. A frying pan has a radius of 14 centimeters. What is the circumference of the frying pan? Use $\frac{22}{7}$ for π.

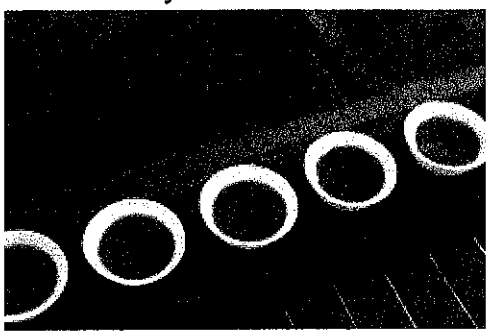
_____

The Tea Ceremony

Social Studies 7th Grade

Day 37

by ReadWorks



Most of Julie's friends' parents drank coffee. Some of them liked tea, too; but not like her parents did. Jill's family, Billy's family, and Tanya's family each had just two or three boxes of tea on a shelf, but Julie's had a whole cabinet dedicated to tea. No bags in boxes either; her parents drank loose-leaf tea only. "The real stuff," her dad called it.

Packed tightly in rich red and gold tins, the Tang's collection included fragrant jasmine green tea; Longjing tea, a pan-fried green tea Julie preferred to call by its nickname, Dragon Well tea; roasted, curly-leaved oolong tea; lightly sweet white tea; and more.

Every New Year-the Chinese New Year that is-her parents would have a traditional tea ceremony. That's the time when she would roll her eyes and slink out of the room. Her mom said it was an important cultural tradition, but Julie just thought it was B-O-R-I-N-G. (Or at least she assumed it would be if she ever stuck around for it.)

However, now that she was 13 (an official teenager at last!), Julie felt different, more mature, and she was beginning to really enjoy history, thanks to her great social studies teacher. Julie decided it was time this New Year to take an interest in her own family and cultural history once she realized she actually knew very little. (She had only been to China once when she visited her grandparents as a five-year-old and her classes devoted equal time to studies of *all* the cultures of the world, not just that of the Chinese.)

"Why do we have to do this tea ceremony every year?" Julie asked her mother, who was taking the clay teapots out of the cabinet reserved for special teapots and fancy dishes.

"I'm not in the mood for complaints," her mother warned.

"No, but I really want to know! What is the tea ceremony really all about, and why do you always say that drinking tea is part of your DNA?"

Julie's mother gave her a sideways glance, her mouth turning from a suspicious smirk into a gleeful smile as she realized Julie genuinely wanted to learn about China's tea-steeped history.

"Well, the DNA thing is a figure of speech."

"I know that, Mom," Julie sighed. "How old do you think I am? Ten?"

"Okay then. Legend has it that Shennong, a Chinese emperor and herbalist-someone who grows and sells herbs and uses them to treat illness-discovered tea way back in 2737 B.C. He liked his water boiled so it would be germ-free when he drank it. One day, as a servant prepared the emperor's water, a dead leaf dropped into the water. The emperor drank it and actually found it to be quite tasty.

"Another story says that Shennong, whose name translates to 'Divine Farmer' and is known by many as the father of agriculture and herbal medicine, would test out many different herbs each day. Whenever he came across a poisonous one, he would use tea as an antidote.

"Chinese people continued to drink tea and use it as medicine throughout history, and by the early Middle Ages, drinking tea was common practice in China. It was considered one of the seven necessities to begin the day alongside firewood, rice, oil, salt, sauce, and vinegar."

Julie's mother walked across the room to the bookshelf, and pulled out a yellow and red book titled *The Classic of Tea: Origins & Rituals*, written by Lu Yu. "This book, which was written around 760 A.D. during the Tang Dynasty, is all about how tea is grown, how the leaves are processed, and things like that. I advise you read this instead of wasting your time with all that TV."

"I watch nothing but Tea TV," Julie joked.

"Right. Well, in case they didn't cover this on Tea TV, in the book, Yu describes the tea trees that grew in South China. Back in those days, they would compress tea leaves into little cakes-not like a birthday cake, just a little brick of leaves-which they would grind in a stone mortar. They'd add hot water to this tea powder to make the beverage we know as tea, and the Chinese call..."

"*Cha*," Julie responded to her mother's lifted eyebrows. *Cha* was one of a few Chinese words Julie had memorized.

"As tea became popular, so did tea shops. They continued to prosper during the Song Dynasty, and China's tea culture started to spread a little bit to other lands as monks and Zen masters brought tea seeds, drink ware, and knowledge to Japan.

"However, Chinese rulers imposed a strict ban on tea exports during the Song, Yuan, and Ming Dynasties. The ban made it difficult for tea to grow popular around the world. Then, soon after the Qing Dynasty was established in the 17th century, the ban was officially lifted and merchants travelled, first by land, to export tea. Many went as far as Russia, almost 4,000 miles, by horse, oxen, mules, and yaks. Just imagine!"

"Whoa," Julie thought about how hard it had been for her to run a mile today in gym class. Mule or no mule, 4,000 miles by anything but plane was impossible for her to imagine.

"Anyway, enough about trade for now. Back in the Song Dynasty, the Chinese would take that ground tea powder and whip it so it was frothy, almost like the top of a milkshake. They had special tea bowls to accommodate the whipping, many of which were black or blue, and looked beautiful against the light-green tea.

"During the Ming Dynasty, people started to transform green tea into black tea by heating the leaves. They realized they could preserve the leaves for a longer time by doing so. That's when oolong came into the picture. They also began steeping whole tea leaves instead of powder, which is the loose-leaf style you're used to."

"And what about the ceremonies?" Julie was interested, but knew that if she didn't wrap things up soon, her mom would talk straight 'til morning.

"Well, a Chinese tea ceremony is a way for families to connect, which is why it's a wedding tradition. It's also about cultivating peace, quiet, enjoyment, and strength. When you're performing a ceremony, there are six things to keep in mind: attitude, tea selection, water selection, tea ware selection, ambiance, and technique. Let's start with attitude."

Julie smiled.

"Perfect. Now let me show you the rest..."

Name: _____ **Date:** _____

1. How are Julie's parents different from her friends' parents?

A. Julie's parents celebrate Halloween, and her friends' parents do not.

B. Julie's parents like tea much more than her friends' parents do.

C. Julie's parents have different jobs than her friends' parents do.

D. Julie's parents prefer books, while her friends' parents prefer TV.

2. What does Julie's mom teach Julie about throughout the story?

A. Julie's mom teaches her about how tea is used in different cultures around the world.

B. Julie's mom teaches her how trade has changed in China.

C. Julie's mom teaches her about the history of tea and tea ceremonies.

D. Julie's mom teaches her about the different dynasties in Chinese history.

3. Tea is very significant to Chinese culture. What evidence from the text supports this conclusion?

A. "'Back in the Song Dynasty, the Chinese would take that ground tea powder and whip it so it was frothy, almost like the top of a milkshake.'"

B. "'However, Chinese rulers imposed a strict ban on tea exports during the Song, Yuan, and Ming Dynasties.'"

C. "'[Shennong] liked his water boiled so it would be germ-free when he drank it. One day, as a servant prepared the emperor's water, a dead leaf dropped into the water. The emperor drank it and actually found it to be quite tasty.'"

D. "'Well, a Chinese tea ceremony is a way for families to connect, which is why it's a wedding tradition. It's also about cultivating peace, quiet, enjoyment, and strength.'"

4. How does Julie's mother feel about Julie's sudden interest in tea ceremonies?

A. She is indifferent.

B. She is happy.

C. She is frusrated.

D. She is concerned.

5. What is the main idea of this passage?

A. Julie's parents are not like her friends' parents.

B. Julie learns about the history tea and Chinese tea ceremonies from her mother.

C. Julie's mother explains how the Ming Dynasty created oolong tea.

D. Julie has found tea ceremonies to be very boring until now.

6. Read these sentences from the text.

"Every New Year her parents would have a traditional tea ceremony. That's the time when she would roll her eyes and slink out of the room. Her mom said it was an important cultural tradition, but Julie just thought it was B-O-R-I-N-G."

Why did the author write the word boring as "B-O-R-I-N-G"?

A. to emphasize how tired Julie gets during tea ceremonies

B. to emphasize how much Julie disliked the idea of a tea ceremony

C. to show how quiet Julie had to be while slinking out of the room

D. to help readers understand how to spell boring

7. Choose the answer that best completes the sentence.

Julie's mother told her a lot about the history of tea, _____ how different kinds of tea were created.

A. consequently

B. otherwise

C. instead

D. including

8. What does Julie's mother give her to help Julie learn more about tea?

9. Julie's mother explains that tea ceremonies help families connect. What else are they for?

10. Explain why Julie probably appreciates tea and tea ceremonies more after her conversation with her mother.

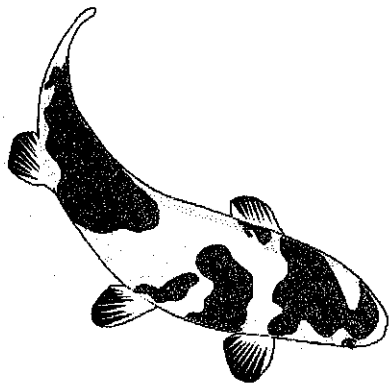
Support your answer with evidence from the text.

Day 37 NTI
7th Grade Science

Instructions:

1. *Use the information you learned from the article in Day 36 and the information and data below to respond to the tasks that follow.*

1. Koi are a type of fish similar to goldfish that can grow larger in size depending on their habitat, or availability of space to live. An experiment was done in which small Kois were placed in tanks of various sizes to determine if this was true. Look at the data chart from the experiment and then answer the questions.



Size of Space (liters)	Average Fish Size (cm)
38	30
75	38
114	47
151	48
189	50

a. Do you notice a pattern? What does the evidence in the data chart suggest? Explain using the terms "cause" and "effect".

_____
_____
_____
_____
_____
_____
_____

b. What do you notice about the average size of the fish when the space increased significantly from 114 liters to 189? How can you explain this?

_____
_____
_____
_____
_____
_____
_____

2. Scientists were trying to understand the connection between changes in levels of carbon dioxide and the production of seeds of certain plants. Over the course of fifteen years, they gathered data on the average temperature of a specific location in Northern Texas, the amount of carbon dioxide in the air, and the average number of seeds produced from a wheat plant. The data can be observed in the chart below.

Year	Average Temperature (Celsius)	Carbon Dioxide Concentration (parts per million)	Number of Wheat Plant Seeds (per kilogram)
2005	27.7	395	6223
2010	27.8	400	6350
2015	28.0	411	6803

a. Do you notice a pattern? What does the evidence in the data chart suggest? Explain using the terms "cause" and "effect".

_____
_____
_____
_____
_____
_____
_____

b. What do you notice about how the "Number of Wheat Seeds Per Kilogram changes from 2005-2015? How can you explain this?

_____
_____
_____
_____
_____
_____
_____