

MCMS
7th Grade
NTI Packet
Day 17

MCMS

7th Grade Math

NTI Day #17

Name _____ Date _____ Class _____

LESSON 6-2

Reteach

Fractions, Decimals, and Percents

To change a decimal to a percent:
- move the decimal point two places to the right; $0.07 = .07. = 7\%$
- write the % symbol after the number.

Write each decimal as a percent.

1. 0.34 _____ **2.** 0.06 _____ **3.** 0.93 _____ **4.** 0.57 _____

5. 0.8 _____ **6.** 0.734 _____ **7.** 0.082 _____ **8.** 0.225 _____

9. 0.604 _____ **10.** 0.09 _____ **11.** 0.518 _____ **12.** 0.039 _____

To change a fraction to a percent:
- Find an equivalent fraction with a denominator of 100.
- Use the numerator of the equivalent fraction as the percent.

$$\frac{8}{25} = \frac{x}{100}$$
$$\frac{8 \cdot 4}{25 \cdot 4} = \frac{32}{100}$$
$$\frac{8}{25} = \frac{32}{100} = 32\%$$

Think: $100 \div 25 = 4$. So, multiply the numerator and denominator by 4.

Write each fraction as a percent.

13. $\frac{3}{10}$ _____ **14.** $\frac{2}{50}$ _____ **15.** $\frac{7}{20}$ _____ **16.** $\frac{1}{5}$ _____

15. $\frac{1}{8}$ _____ **16.** $\frac{3}{25}$ _____ **17.** $\frac{3}{4}$ _____ **18.** $\frac{23}{40}$ _____

19. $\frac{11}{20}$ _____ **20.** $\frac{43}{50}$ _____ **21.** $\frac{24}{25}$ _____ **22.** $\frac{7}{8}$ _____

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Name: _____ Date: _____

7th Science NTI 17 (2 pages)

■ Earth's Revolution and the Seasons Reading Passage

EARTH'S REVOLUTION & THE SEASONS

The position of Earth changes as it revolves around the sun, causing the change of the seasons. The Earth does not revolve around the sun with its axis straight up and down. Instead, the Earth rotates with its axis on a tilt. Its axis always tilts in the same direction. For half of Earth's revolution around the sun, the Northern hemisphere is tilted towards the sun. During the other half, the Northern hemisphere is tilted away from the sun. Although we say the Earth's tilt changes as the planet moves around the Sun, really, it's Earth's position that changes. This affects how directly the sun's rays shine on Earth, the altitude of the sun in the sky and the length of day and night

The spring equinox marks the beginning of spring. At spring equinox, neither hemisphere is tilted towards the sun. Every location on Earth experiences 12 hours of day and 12 hours of night. After spring equinox, the Northern hemisphere progressively tilts towards the sun. The days become longer and the altitude of the sun increases.

Summer solstice marks the beginning of summer. At summer solstice, the Northern hemisphere is at its maximum tilt towards the sun. This is the longest day of the year in the Northern hemisphere. In fact, latitudes north of 66°N experience 24 hours of sunlight. After summer solstice, the Northern hemisphere starts to tilt away from the sun. The days become shorter, but are still longer than the nights, and the altitude of the sun decreases.

The fall equinox marks the beginning of fall. At the fall equinox, neither hemisphere is tilted towards the sun. Every location on Earth experiences 12 hours of day and 12 hours of night. After fall equinox, the Northern hemisphere progressively tilts away from the sun. The days become shorter and the altitude of the sun decreases.

The winter solstice marks the beginning of winter. At winter solstice, the Northern hemisphere is at its maximum tilt away from the sun. This is the shortest day of the year in the Northern hemisphere. In fact, latitudes north of 66°N experience 24 hours without sunlight. After winter solstice, the Northern hemisphere progressively tilts towards the sun. The days become longer, but are still shorter than the nights, and the altitude of the sun increases.

The Southern hemisphere experiences the opposite of the Northern hemisphere. When the Northern hemisphere is tilted towards the sun, the Southern hemisphere is tilted away. When the Northern hemisphere is tilted away from the sun, the Southern hemisphere is tilted towards it. When there are 24 hours of daylight north of the Arctic Circle, there are 24 hours of darkness south of the Antarctic Circle. When there are 24 hours of darkness north of the Arctic Circle, there are 24 hours of daylight south of the Antarctic Circle.

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Name: _____ Date: _____

Earth's Revolution and the Seasons Answer Sheet

Questions

1. How does Earth revolves around the sun?

2. What three things are affected by Earth's tilt?

3. Describe how length of day and night change for locations in the Northern hemisphere as the Earth cycles through the seasons.

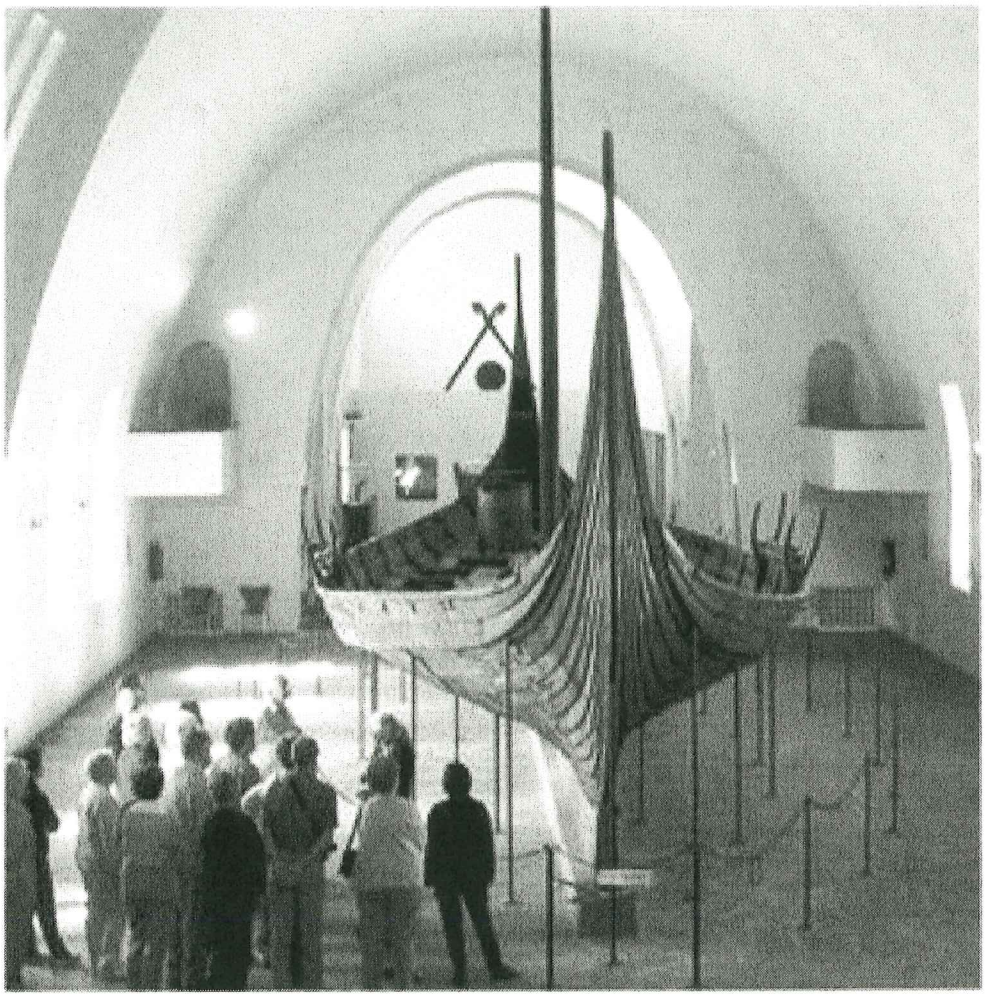
4. How does Earth's tilt affect locations in the Southern hemisphere differently?

5. What locations experience the greatest fluctuation in day and night? Justify your answer.

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The Secrets of Viking Ships

by ReadWorks



Today, the Vikings are mostly known as violent pirates and raiders. And it is true that Vikings did raid and destroy many towns and villages along coastlines, all the way from what is now northern Russia to Morocco. But the Vikings were also traders and merchants and didn't simply destroy things. They also built towns and markets of their own, including Hedeby, which in the 10th century had a population of 1,500, making it the largest trading town in northern Europe. At their height, the Vikings attacked, settled or traded on four continents. They were active all the way from Canada (they became the first Europeans to travel to the Americas) to present day Istanbul.

All of their travel, trade and warfare were made possible by Viking ships, which were far more advanced than anything else sailing around Europe at the time. The most famous, and most feared, was the *drekar*, or longship. At sea, these ships could move quickly thanks to their large sails. The hulls of the ships were shallow and fat, which made them ride high in the water. This meant they could be driven right onto beaches, where the soldiers would jump over the side to attack and plunder villages and cities. The ships were also light enough that they could be carried from one body of water to another over short sections of land called portages. This greatly extended their range.

rved.

Several such *drekar* ships were found off the coast of Roskilde, formerly the capital of Denmark, between 1957 and 1962. The longest *drekar* measured 119 feet long with a crew of 100 men and space for 72 oars. With its gigantic sail, shallow hull and so many oarsmen, the ship must have been incredibly fast and highly maneuverable.

But Viking ships weren't just built for warfare. Another type, called the *knarr* or ocean-going ship, had cargo holds built into the bow and stern. One such cargo ship discovered near Roskilde was capable of carrying 24 tons, or 48,000 pounds. The *knarrs* would have looked similar to the *drekars* except they were longer, fatter and taller, and the space dedicated to cargo left less room for oarsmen. These were the backbones of the Viking empire, which they used to carry everything from gold coins to timber, spices and fine fabrics.

Both the *drekar* and the *knarr* were built using the same method called the clinker method. Traditionally, oceangoing ships have used a keel, shaped like the fin of a fish. The keel sinks into the water below the hull. It helps the ship maintain a straight line through the water and counters the force of the wind against the sail, which otherwise might blow the ship over. Traditional ships are also built with ribs which function just like the ribs on a human being, starting at the spine and growing out in a curve to protect the space inside.

Using the clinker system, Viking ships had no deep keel. Instead they were built fat enough to carry lots of soldiers or pieces of cargo whose weight helped keep the ship planted in the water. The construction process started with a heavy piece of wood at the bottom. From there, oak tree trunks were split into long, thin planks. Two planks were fastened to the bottom piece, and then each plank was fastened to the one before it like overlapping shingles on the roof of a house. A massive beam was laid across the bottom to strengthen it and also to support the mast. Finally, crossbeams were laid inside to create a deck and benches for oarsmen to sit. The result was sturdy, fast and light.

Viking ships were so advanced for their time they often were the biggest, tallest and most striking ships many people had ever seen. The Vikings made them even more intimidating using bright colors and intricate designs. A monk at the St. Omer Monastery, in France, wrote this description of a royal Viking ship in 1013:

"On one side lions molded in gold were to be seen on the ships, on the other birds on the tops of the masts indicated by their movements the winds as they blew, or dragons of various kinds poured fire from their nostrils...."

The description makes clear that Vikings were not simple marauders. They built a wealthy empire through trade as well as plunder and used their wealth to continuously improve their ships.

Name: _____ **Date:** _____

1. What is a *drekar*?

A. a Viking town

B. a merchant ship

C. a longship

D. an ocean-going ship

2. The author tries to persuade the reader of what?

A. Vikings were only violent pirates and raiders.

B. There was no connection between the Vikings' success and their ships.

C. Viking ships were more advanced than ships today.

D. Vikings were not simply pirates and raiders.

3. The Vikings considered speed an important quality in a ship. What evidence from the passage supports this conclusion?

A. The hulls of the *drekar* were shallow and fat so the ships rode high in the water

B. The *drekar* had very large sails and space for many oarsmen.

C. The *drekar* were light enough to be carried from one body of water to another.

D. The *drekar* could be driven right onto beaches to allow soldiers to jump over the side.

4. Read the following description of the *knarr*: "The *knarrs* would have looked similar to the *drekars* except they were longer, fatter and taller, and the space dedicated to cargo left less room for oarsmen. These were the backbones of the Viking empire, which they used to carry everything from gold coins to timber, spices and fine fabrics."

What can you infer about the *knarrs*?

A. They were not designed for warfare.

B. They were faster than the *drekars*.

C. They were designed to carry soldiers.

D. They were used for the same purpose as *drekars*.

5. What is this passage mostly about?

A. why Vikings are known as violent pirates

B. the different kinds of Viking ships

C. how Vikings decorated their ships

D. the two methods used to build Viking ships

6. Read the following sentences: "Viking ships were so advanced for their time they often were the biggest, tallest and most **striking** ships many people had ever seen. The Vikings made them even more intimidating using bright colors and intricate designs."

What does "**striking**" mean in this sentence?

A. violent

B. dangerous

C. impressive

D. delightful

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

Vikings designed and used their ships for multiple purposes, _____ warfare, trade, and travel.

A. finally

B. although

C. ultimately

D. including

8. Describe the *knarr*.

9. Describe the differences between Viking ships and other ships at the time.

10. Explain whether Vikings should be known mostly as pirates and raiders. Support your argument using details from the passage.

End of the Road [The Run Series, #7]

by Lynne Stahl



Everything went black. When Dennis's eyes reopened, Mac was gripping the wheel and yelling his name. Like a grotesque puppetmaster, Anna's leg wriggled into the cab, pulling the rest of her along with it.

With a final heave, Anna landed squarely on the seat next to Dennis, her eyes again glowing red. Head throbbing, he braced for a blow, but none came. "Anna, it's okay," said Jeremiah, his voice shaking. "We're your friends. We want to help." She didn't respond but didn't lash out, either. They sat in tense stillness while the bluegrass played insistently on, a reminder of the radio station they were headed to and the station DJ they hoped was somehow still alive and safe.

Then Anna's right arm swung forward, whacking the radio console. She struck it again, but her clumsy movements only nudged the volume louder. "I guess zombies don't like bluegrass?" Mac joked weakly.

Anna's left arm shot out and grabbed the right. She wrenched it away from the radio and clutched it to her chest, shaking. Jeremiah peeked out from behind his hands. "Anna, can you hear us? Are you a zombie?" he asked tentatively. Miraculously, she seemed to be regaining control.

"I . . . don't know." Her voice was low and raspy, as though unused for days. Mac reached to turn off the radio so they could hear her better, but she protested, "Leave it, please. Somehow the music helps."

"You're still Anna," said Jeremiah decisively. "I can tell. Keep the music on. She likes it," he told Mac firmly. Mac wasn't sure, but he thought the red in her eyes was clearing.

Before they could ask any questions, Dennis yelped, "We're here!" Giddy with relief, he swung the truck into the station's large parking lot. It was strewn with debris, and he had to park at the very entrance.

The only other recognizable object around was an old truck even more beat up than theirs. Dennis hoped desperately that it was Petey's.

"What if it's a trap?" whispered Dennis.

"I'm not sure we have any alternatives," Mac replied, eyeing Anna warily, "but let's stay quiet."

Dennis pulled the keys from the ignition, and the group clambered out. Mac saw Anna's right limbs twitching. They moved as quickly and quietly as they could, peering nervously at the dark woods surrounding the lot. Suddenly, Anna's rogue leg kicked out and sent an empty can clattering across the concrete, deafening in the silence. They froze. For a moment, nothing seemed to happen.

Then Mac noticed the debris around them stirring, as if blown by distant wind. "What the-" he started, but Dennis pointed wordlessly. Mac gasped. From every direction, figures were emerging from the woods. A sea of zombies was closing in, slowly but steadily. They had nowhere to run.

Mac picked up a long slat of wood, and Dennis grabbed a dented garbage can lid. Neither had much faith in their makeshift weapons.

Suddenly, Anna's right arm again reached for Mac's throat. Dennis dropped the lid and struggled to pull her arm away, desperate to save Mac. "Careful!" squeaked Jeremiah. "Don't hurt her!"

"I'm trying," Dennis protested, "but she's gonna kill Mac!"

They remained at an impasse, Anna gripping Mac's neck and Dennis pulling at Anna's arm while Jeremiah stared into her crimson eyes. "Come back, Anna," he implored. "I know you're in there!" She held his gaze but didn't ease her grasp.

Just then, from the door of the radio station burst out a heavyset, wild-looking man lugging an enormous speaker. The speaker blared riproaring bluegrass, so loud that Dennis could feel his teeth vibrating. Jeremiah kept his focus, though, still speaking to Anna. The crowd of zombies had come to a standstill, almost as though they were observing the standoff. Anna's arm didn't budge.

Mac's eyes bulged, and his wood slat clattered to the ground. Twangy guitar and thumping drums rang out. Dennis's head spun with panic. "Anna, come back!" cried Jeremiah. Despite the music, the air felt frozen. "Come back to us!" He threw his arms around her waist-half restraint and half embrace.

Finally, just as Mac's knees started to give out, an especially loud twang rang from the speaker. Anna dropped her arm with a loud gasp. Mac stumbled backward. As quickly as it had gathered, the zombie horde began to disperse, loping back into the woods. Two zombies lingered, looking confused.

"I guess they really *don't* like bluegrass," Mac commented weakly, rubbing his neck.

"Depends which 'they' you mean," the man chuckled, lowering the volume slightly. "The zombies hate it. But the people inside love it. You okay?"

Mac nodded, and the man continued. "Yup, they're still human at the core. Looks like your friend there might be somewhere in between right now." Jeremiah put a protective hand on Anna's back. "Petey Coltrain, by the way," the man said.

The group made its introductions and watched in amazement as Petey clapped a hand on the shoulders of the two lingering zombies, spoke briefly, and ushered them into the station.

"How are you still alive?" blurted Mac. "I mean, with all these zombies around?"

"Pure dumb luck and stubbornness," Petey said proudly. "At first I tried to stay quiet and hide like everyone else - but that didn't work for most folks," he grimaced. "Decided if I was gonna go, it'd be playing bluegrass. Turns out, that's the secret weapon."

"Bluegrass?" Dennis was incredulous.

"Well, music. I've tried classical, country, rap - it all worked, but I'm partial to bluegrass. It confuses them and eventually breaks through the infection. But it's not enough just to blare music at 'em. You need to engage, talk to them. The more you can make them realize you're a person, the better they'll remember that they are, too."

"That's exactly what you did, Jeremiah!" Dennis again felt a flash of pride at the boy's brave compassion.

"That's right. Well done, fella," Petey gave Jeremiah a firm handshake. "Your help will be most welcome if you're willing to stay and give it."

"I am!" Jeremiah glowed. Then his face fell. "So . . . things will never be like they were before?" he asked sadly.

"Afraid not," replied Petey. "But hopefully we'll all understand the world and one another a little better from now on. The zombies are here, and we can't change that. And there's no going back to how life was before the plague hit. But it's literally going to be the *end* of the world if we don't work through it now."

Anna was looking abashed. "Can you ever forgive me?" she asked Mac, unable to meet his eyes.

"There's no shame," Petey declared, and Mac nodded vigorously. "You fought it, and you're still here. Now that a few zombies have recovered, they're helping me reach others. You can help, too." Turning to the others, he said, "You're all welcome to stay and join the effort. Not that you've got a ton of options."

They laughed wryly, remembering the horde outside. "We'd love to," said Dennis as the others added their agreement. He put his arms around Mac's and Jeremiah's shoulders, and both extended theirs around Anna's. Slowly, her arms - left and right - lifted to join the embrace.

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The End.

Name: _____ **Date:** _____

1. Where are Dennis, Mac, Jeremiah, and Anna heading to at the beginning of the text?

A. Petey Coltrain's radio station

B. Jeremiah's family's house

C. the nearest big city

D. a different part of the woods

2. When is the climax of this story?

A. when Anna wriggles her way into the front seat of the car, next to Dennis

B. when Petey's speaker gives out a loud twang and the zombies begin to disperse

C. when Anna is gripping Mac's neck, and they are surrounded by a horde of zombies

D. when Mac, Dennis, Jeremiah, and Anna finally embrace, after Anna has become human again

3. Please read these sentences from the text:

"Anna's right arm swung forward, whacking the radio console. She struck it again, but her clumsy movements only nudged the volume louder. [...]

Anna's left arm shot out and grabbed the right. She wrenched it away from the radio and clutched it to her chest, shaking. Jeremiah peeked out from behind his hands. 'Anna, can you hear us? Are you a zombie?' he asked tentatively. Miraculously, she seemed to be regaining control."

What conclusion can be drawn from these sentences?

A. Anna cannot stand the sound of bluegrass music.

B. Anna has almost completely become a zombie, and there's little her friends can do to save her.

C. Jeremiah thinks he and the others should leave Anna behind if she's becoming a zombie.

D. Anna is partly a zombie, but part of her is still human and is fighting for control.

4. How can Jeremiah best be described throughout this text?

A. compassionate and determined

B. immature and frightened

C. daring and reckless

D. confused and upset

5. What is the main idea of this text?

A. A group of friends try to find help as their friend turns into a zombie, only to learn that almost no other humans are left in the country.

B. A group of friends try to find help as their friend turns into a zombie, and learn that music and human engagement could be the solution they need.

C. A group of friends try to find help as their friend turns into a zombie, but manage to find the solution they need on their own.

D. A group of friends try to find help as their friend turns into a zombie and almost don't make it to Petey Coltrain's radio station in time to help her.

6. Please read these sentences from the text:

"Mac's eyes bulged, and his wood slat clattered to the ground. Twangy guitar and thumping drums rang out. Dennis's head spun with panic. 'Anna, come back!' cried Jeremiah. Despite the music, the air felt frozen. 'Come back to us!'"

Why might the author have used so many short sentences in a row in this part of the story?

A. to heighten the tension and excitement of the story

B. to make sure the events of the story were especially clear

C. to give the reader a sense of calm and peace

D. to give the reader a sense of confusion and anger

7. Please choose the answer that best completes the sentence below.

Anna regained control of herself ___ the music on the speaker gave a loud twang.

A. when

B. before

C. although

D. so

8. What does Petey say is the key to breaking through the infection helping the zombies become human again, aside from music?

9. Explain Jeremiah's special importance to the story's resolution. Support your explanation with details and evidence from the text.

10. What is a major theme or message this story conveys? Support your answer with evidence from the text.