

NTI Day 2, Math, Grade 7,

Adding and Subtracting Integers

Hints/Guide:

To add integers with the same sign (both positive or both negative), add their absolute values and use the same sign. To add integers of opposite signs, find the difference of their absolute values and then take the sign of the larger absolute value.

To subtract integers, add its additive inverse.

For example $6 - 11 = a$ becomes $6 + -11 = a$ and solves as $-5 = a$

Exercises: Solve the following problems: No Calculators!

1. $6 + (-7) =$

2. $(-4) + (-5) =$

3. $6 + (-9) =$

4. $(-6) - 7 =$

5. $6 - (-6) =$

6. $7 - (-9) =$

7. $5 + (-8) =$

8. $-15 + 8 =$

9. $14 + (-4) =$

10. $-9 - (-2) =$

11. $-7 - 6 =$

12. $-8 - (-19) =$

13. $29 - 16 + (-5) =$

14. $-15 + 8 - (-19) =$

15. $45 - (-13) + (-14) =$

16. $-15 - 6 - 9 =$

17. $-7 + (-6) - 7 =$

18. $29 - 56 - 78 =$

19. $17 + (-7) - (-5) =$

20. $45 - (-9) + 5 =$

DAY 20

Return to Art, P.E., Computer, or Practical Living Teacher

6. CURRICULUM DAY 2



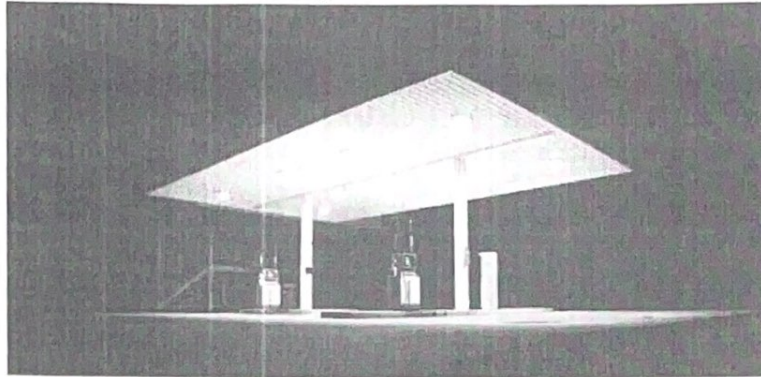
Create a journal for today, documenting the time you spend online. See the example below: Add up your total time. Were you surprised at how much time you spent online? Why or why not? ***NOTE: If you do not have internet, document your time using technology (tv, apps, CD players, etc.)

Min(s) **Activity** **(example below)**

10	Checking messages on FB	

Refueling [The Run Series, #2]

by ReadWorks



The swarm of crazed people was rushing toward them. Mac turned the keys in the truck's ignition. The engine sputtered but refused to turn on. "Try again," said Dennis. Mac turned the keys again. Again the engine coughed, and the emergency lights flickered before it cut out. Mac tried to stay calm, but he felt a wave of cold panic.

"Keep trying the engine," said Dennis. "I'll hop out and try to push the truck to start."

Dennis jumped out of the truck and ran to the back. He shoved the truck's bumper, pushing all of his weight against the vehicle. Inside the truck, Mac kept turning the key in the ignition. Dennis could hear the angry roar of the mob as they grew closer. Dennis gave one final push and felt the truck move. He scrambled into the truck's bed. "Go, go, go!" he screamed at Mac.

Mac turned the truck into a U-turn. The wheels screeched as the back of the truck swung around. In the truck's bed, Dennis directly faced the people running at them. He no longer needed binoculars to see their wild eyes. The crowd was only twenty feet away.

"Go!" Dennis screamed again, and Mac slammed on the gas. The truck sped forward, and Dennis clung to the sides of it to keep from falling off the back. He was drenched in sweat, and his hands were still shaking.

Mac and Dennis drove back the way they had come, away from the city and the hordes. Once they had driven far enough that they thought it was safe to stop, Mac pulled over to the side of the road. He paused the truck just long enough for Dennis to jump back into the passenger seat.

"Were those zombies?" asked Mac.

"I don't know," said Dennis. "Whatever they were, they didn't seem completely human. That must be what the plague does to people."

The young men talked over their next move as they drove. Big cities seemed dangerous, but the small towns were abandoned. Should they head back to the ranch? Go deeper into the wilderness? Or try to find other survivors who were also on the run? There was no easy answer. No matter what decision they

made, it would be risky.

"Let's stop at the next gas station and fill up some extra containers," said Mac. "We need to get more gas. I don't want to be low on fuel the next time we come across a group like that." Dennis stared out the window silently. He was hoping they would never come across a group like that again.

They passed a gas station a few miles down the road. They approached the gas station slowly, checking for signs of life, but there were none. Dennis hopped out and opened the gas cap. The gas pump seemed to be working, so he filled up the truck's tank. Once the tank was full, Dennis began filling up extra containers and putting them in the truck's bed.

Mac decided that he would go inside the gas station to look for additional food and supplies. They still had some cornbread and apples from the ranch, but he didn't know when they would be able to stop again. Mac was beginning to realize that life as he knew it was over. They needed to be ready to survive.

"I'm going to head inside to find extra food," Mac said to Dennis. "Here are the keys to the truck. Be ready to get in and drive away quickly if we have to make a fast escape."

Dennis nodded and took the keys. "Be careful, Mac," he said. "Who knows what you'll find in there."

Mac opened the door to the gas station slowly. The inside was dark and silent. "Hello?" he called, "Anybody there?" Mac flipped a switch on the wall, and fluorescent lights flickered on. He looked around at the empty store. There were signs of a struggle. Bags of chips and candy were trampled on the floor. One of the glass refrigerator doors had been torn off its hinges. Mac stood, holding his breath, listening. All he heard was the hum of the refrigerators and the sound of Dennis filling up outside.

Mac grabbed a few plastic bags from the counter. He filled them with enough supplies for a few more weeks: trail mix, bottled water, medicine, granola bars, and jars of peanut butter. Mac wondered if he should pay for these things. He wasn't sure if the owner of the gas station was even alive, and Mac and Dennis might need the money later. Then, Mac remembered Ann Greerson's goodbye back at the ranch. She had told them to remember their manners. Mac didn't want to let her down. He reached into his wallet and found a twenty-dollar bill. He had just placed it on the counter, when he heard a sound behind him. Mac froze. He wasn't alone in the store.

Outside, Dennis had filled up six containers with gasoline. He climbed into the front seat and put the keys in the ignition. He turned on the radio, but all he could find was static. Dennis kept moving the dial and searching for a station. Suddenly, the static cleared, and he heard a voice.

"Is anyone out there?" the voice said. It was a girl's voice. "My name is Anna Johnson. This is my father's radio kit. He's gone now. The plague arrived in Sunnysdale one week ago." The girl's voice shook with sobs. "I just want to know if there's anyone else out there. Anyone who's still human." Dennis felt horrible for her. He and Mac had each other, but Anna was all alone. Dennis looked at the clock. It had been fifteen minutes. He felt uneasy; it shouldn't have taken Mac this long to grab a few supplies.

Suddenly, he heard his name. "Dennis! Dennis!" Mac was crying out for him from inside the store. Dennis jumped out of the truck and ran toward the entrance.

Ed. : *The tale continues in Part 3, "Searching for Survivors."*

Name: _____ Date: _____

1. Who is rushing toward Mac and Dennis at the beginning of the story?

- A. a swarm of crazed people
- B. a woman named Ann Greerson
- C. a girl named Anna Johnson
- D. the owner of a gas station

2. Where does the second half of this story take place?

- A. two miles outside a big city
- B. in and around a gas station
- C. at a ranch
- D. deep in the wilderness

3. Read these sentences from the text.

Were those zombies?' asked Mac.

'I don't know,' said Dennis. 'Whatever they were, they didn't seem completely human.'

What evidence from the story supports the idea that the people Mac and Dennis saw were not "completely human"?

- A. There were a lot of them.
- B. They were "only twenty feet away" from Mac and Dennis.
- C. They were "crazed" and had "wild eyes."
- D. They were running toward Mac and Dennis.

4. Read these sentences from the text.

The young men talked over their next move as they drove. Big cities seemed dangerous, but the small towns were abandoned. Should they head back to the ranch? Go deeper into the wilderness? Or try to find other survivors who were also on the run? There was no easy answer. No matter what decision they made, it would be risky.

Based on the information in the story, why might any decision the young men make be risky?

- A. They do not have much experience driving long distances at night.
- B. They do not know whether they can trust the girl who says her name is Anna Johnson.
- C. They have no map and do not know how to get back to the ranch.
- D. Wherever they go, there is a chance they will come across more "crazed people."

5. What is the main idea of this story?

- A. A girl named Anna Johnson uses her father's radio kit to ask whether anyone "who's still human" is out there.
- B. Two young men barely escape a crowd of people rushing toward them.
- C. Mac enters a gas station and fills plastic bags with trail mix, bottled water, medicine, granola bars, and jars of peanut butter.
- D. Two young men are trying to survive in a world where almost everyone seems to have gone crazy.

6. Read these sentences from the text.

The young men talked over their next move as they drove. Big cities seemed dangerous, but the small towns were abandoned. Should they head back to the ranch? Go deeper into the wilderness? Or try to find other survivors who were also on the run? There was no easy answer. No matter what decision they made, it would be risky.

Based on these sentences, what does the phrase "on the run" mean?

- A. trying to help people
- B. trying to win a race
- C. trying to hurry up
- D. trying to escape or hide

7. Read these sentences from the text.

Mac flipped a switch on the wall, and fluorescent lights flickered on. He looked around at the empty store. There were signs of a struggle. Bags of chips and candy were trampled on the floor.

How could the last two sentences here be rewritten to show the relationship between them?

- A. There were signs of a struggle. Meanwhile, bags of chips and candy were trampled on the floor.
- B. There were signs of a struggle. For example, bags of chips and candy were trampled on the floor.
- C. There were signs of a struggle. On the other hand, bags of chips and candy were trampled on the floor.
- D. There were signs of a struggle. Ultimately, bags of chips and candy were trampled on the floor.

8. Read these sentences from the text.

Mac didn't want to let her down. He reached into his wallet and found a twenty-dollar bill. He had just placed it on the counter when he heard a sound behind him. Mac froze. He wasn't alone in the store.

What evidence supports the statement that Mac "wasn't alone in the store"?

9. Why does Dennis jump out of the truck and run toward the gas station at the end of the story? Support your answer with evidence from the text.

10. Who or what might be inside the store with Mac? Support your answer with evidence from the text.

Name: _____

VOLCANIC IMPACT

In "Sleeping Giant" (p. 14), you read about a supervolcano beneath Yellowstone National Park. In the following passage, you'll learn more about how an eruption of this type of volcano could affect life on Earth. Read the passage, and then answer the questions that follow.

*Use article from Day 1 to answer Qs. *

LIFE DISRUPTED

The eruption of a supervolcano can spew more than 1,000 cubic kilometers (240 cubic miles) of ash and rock into the air. How could that affect life on Earth?

While a violent eruption could devastate life near the volcano, scientists believe that the biggest threat from a supereruption would be the ash ejected into the atmosphere. Studies suggest that a month-long eruption of the Yellowstone supervolcano could cause much of the middle of the U.S. to be covered in several inches of ash. This area is where many of the food crops in the U.S. are grown. Even a thin coating of ash can kill plants because they can't absorb the sunlight they need for *photosynthesis*—the process plants use

to make their own food. Airborne ash can also cause respiratory problems for humans and wildlife.

Ash high in the atmosphere reflects sunlight back to space. That could lead to a *volcanic winter*—cooler temperatures as a result of an eruption. The 1991 eruption of Mount Pinatubo in the Philippines caused global temperatures to cool by 0.4°C (0.7°F) for roughly two years. That eruption was far smaller than a supereruption. NASA scientists have used computer simulations to study the climate impact of a supereruption. According to the models, temperatures could cool by 8° to 17°C (14° to 31°F) for up to 10 years. The colder climate could kill many organisms that aren't able to quickly adapt.

QUESTIONS

1. According to the passage, what is the biggest threat from a supervolcano eruption? Use evidence from the passage to explain why.
2. Describe two potential negative effects for people in the U.S. if Yellowstone were to erupt.
3. What would you expect to happen to wild animal populations in the middle of the U.S. if a supereruption were to occur in Yellowstone? Explain your answer.
4. Scientists say that the effects a supereruption would have on the planet would depend on the time of year when the eruption occurred. Why do you think that may be?
5. In the article, Michael Poland of the Yellowstone Volcano Observatory states, "A supereruption would be devastating to the region, but we would survive." Use evidence from the passage and the article to explain his quote.

7 Science Day 2/2

Name: _____

HOW WILL IT ERUPT?

In "Sleeping Giant" (p. 14), you read that a supervolcano lies beneath Yellowstone National Park. Scientists study many factors to try to predict when and how a volcano will erupt. One important factor that helps determine the type of eruption that could occur is the chemical composition of a volcano's *magma*—or molten rock found underground. The table below shows the characteristics of three main types of magma. Use the data to complete the skills sheet.

MAIN TYPES OF MAGMA					
MAGMA TYPE	SILICA (SiO ₂) CONTENT	CHEMICAL COMPOSITION	VISCOSITY (resistance to flow) A material with a high viscosity doesn't flow easily.	VOLATILE GAS CONTENT (amount of dissolved gases such as carbon dioxide in the magma)	APPROXIMATE MAGMA TEMPERATURE
Rhyolitic	65-75%	High in sodium (Na) and potassium (K). Low in iron (Fe), magnesium (Mg), and calcium (Ca).	high	high	650-800°C (1,202-1,472°F)
Andesitic	55-65%	Intermediate amounts of sodium, potassium, calcium, iron, and magnesium.	medium	medium	800-1,000°C (1,472-1,832°F)
Basaltic	45-55%	High in calcium, magnesium, and iron. Low in potassium and sodium.	low	low	1,000-1,200°C (1,832-2,192°F)

ANALYZE IT

- Describe two differences in the chemical composition of rhyolitic and basaltic magmas.
- Violent volcanic eruptions are more likely to occur when magma does not easily flow. What type of magma would you expect to cause the most explosive eruption? Cite evidence from the table to support your answer.
- Based on the table, how might the temperature of magma relate to its viscosity? How does this compare with your own observations of temperature and viscosity? Explain. (Hint: Think about what happens when you heat or cool certain foods.)
- Scientists often measure the concentration of gases to monitor volcanoes. Near a volcano with which type of magma would you expect to find lower concentrations of gases?
- Some past eruptions of the Yellowstone supervolcano have been rhyolitic in composition and others have been basaltic. How might the composition of the magma impact how humans are affected by a future supereruption? Use evidence from the table and the article to support your answer.

NTI Day 2

Lycurgus and Sparta

Social Studies

Lycurgus Establishes Spartan Institutions

According to the Spartans, about 700 B.C. a semi-legendary figure named **Lycurgus** established a number of social and political institutions that made Sparta a great power of Greece.

He started an educational system that produced men of military strength and loyal soldiers. It all began at birth. If a newly born baby was weak or sickly, it was abandoned and left to die on a mountain slope. At the age of seven, a boy came under the control of the city and remained so until his death. He was to live together with the other boys in a camp, and the training process started. The boys learned to read and write and were taught music and poetry. Most importantly, however, they were taught discipline, courage, and virtue. Each boy exercised a lot and competed in violent games and fights. They were forced to steal, but if caught, the boys were punished for being careless and unskillful. Their training continued into manhood. The girls were also brought up in a strict manner. They had to exercise their bodies to make them grow strong in order to be able to deal easily with childbirth.



Heavily armed hoplites became the backbone of Greek armies.

The Spartan Economy

Sparta did not adopt a **coinage** system like other Greek cities because wealth was not desirable and was regarded without envy and prestige. Trade was forbidden both within and outside the city. Every citizen had an equal share of land to live on. They were also forbidden to travel, except on army expeditions during times of war, in order that they might not be exposed to foreign behaviors and ideas. The Spartans were very patriotic Greeks and fought for their state until their death. They had adopted a system of living where there was little individual freedom and where order and discipline ruled.

Government in Sparta

Lycurgus also set up a type of government at Sparta that was a form of oligarchy. A few wealthy aristocrats held the power, but the city's constitution retained its kings of the previous age. No individual was able to become too powerful. The government consisted of two **kings** who were the generals of the army. The executive power lay in the hands of five **magistrates**, called **ephors**. The ephors were the judges of the city and dealt with internal and foreign affairs. They obtained advice from the **council of elders**, which consisted of 28 ex-magistrates. A second council of the Spartan people (**Spartiates**), called the **assembly**, also existed. This council had the right to reject or approve any proposals put before them.

Social Groups in Sparta

Sparta controlled about two-fifths of the Peloponnese. During the eighth century B.C., Sparta conquered Laconia and Messenia and their inhabitants. (See map on page 18.) In the Spartan social structure, these inhabitants were divided into two groups: the **helots**, who were slaves who worked the land to supply food for the Spartiates, and the **perioiki**, who were freedmen but were socially inferior. Both groups would also have to join the Spartan army in times of war.

Knowledge Check



Matching

- | | |
|----------------------|--|
| _____ 1. coinage | a. freedmen who were socially inferior |
| _____ 2. Spartiates | b. a council of Spartan people who could reject or approve proposals put before them |
| _____ 3. helots | c. judges |
| _____ 4. perioiki | d. the Spartan people |
| _____ 5. magistrates | e. slaves who worked the land to supply food for the Spartiates |
| _____ 6. ephors | f. a system of money |
| _____ 7. assembly | g. judges of the city who dealt with internal and foreign affairs |

Multiple Choice

8. Which of the following was NOT something Spartan boys learned?
- | | |
|------------------------|-------------|
| a. reading and writing | b. stealing |
| c. music and poetry | d. banking |

9. Which group of people would have to join the Spartan army in times of war?
- | | |
|------------------|-----------|
| a. ephors | b. helots |
| c. Spartan women | d. elders |

Constructed Response

10. Why were the Spartans not allowed to trade or travel? How do you think this may have affected Sparta culturally and economically? Use details from the reading selection to support your answer.

