MCMS
6th Grade
NTI Packet
Day 13

Day 13 6th Grade Math

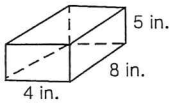
Name _____

Reteaching
18-3

Volume of Rectangular Prisms

Volume is the measure of space inside a solid figure. It is measured in cubic units. You can use a formula to find the volume of rectangular prisms: $V = B \times h$ where V stands for volume, B stands for the area of the base, and h stands for the height.

To find the volume of the rectangular prism at the right, first find the area of the base.



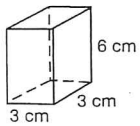
$B = \ell \times w$
$= 4 \times 8$
$= 32$ So the base is 32 sq in.

Then use the volume formula to find the volume.

$V = B \times h$
$= 32 \times 5$
$= 160$ So the volume is 160 sq in.

Find the volume of each rectangular prism. Don't forget to label the units.

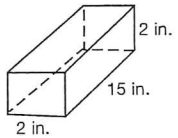
1.



Area of Base ($B = \ell \times w$): _____

Volume ($V = B \times h$): _____

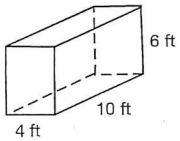
2.



Area of Base ($B = \ell \times w$): _____

Volume ($V = B \times h$): _____

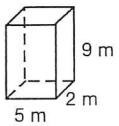
3.



Area of Base ($B = \ell \times w$): _____

Volume ($V = B \times h$): _____

4.



Area of Base ($B = \ell \times w$): _____

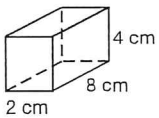
Volume ($V = B \times h$): _____

5. Find the volume of Rectangular Prism 1. How can you find the volume of Rectangular Prism 2 without using the volume formula?

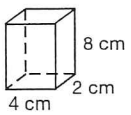
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Rectangular Prism 1



Rectangular Prism 2

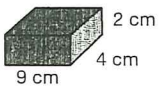
Name _____

Practice
18-3

Volume of Rectangular Prisms

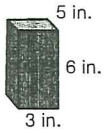
Find the volume of each rectangular prism.

1.



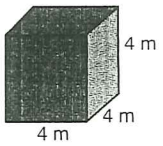
_____

2.



_____

3.



_____

Find the missing value for each rectangular prism.

4. Volume = 6 cu in.
Length = 3 in.
Width = 2 in.
Height = _____

5. Volume = 96 cu yd
Length = _____
Width = 6 yd
Height = 8 yd

6. Volume = 125 cu ft
Length = 5 ft
Width = _____
Height = 5 ft

7. Number Sense Suppose a box has a volume of 1 cu yd. What is its volume in cubic feet? _____

8. A rectangular prism has a base of 12 cm^2, a length of 3 cm, a width of 4 cm, and a height of 10 cm. Which is the volume of the prism?

A 36 cm^3

B 48 cm^3

C 120 cm^3

D 1,440 cm^3

9. Writing to Explain Find and compare the volumes of the two rectangular prisms below. How does doubling the measure of each dimension in a rectangular prism change the volume of the prism?

	Length	Width	Height	Volume
Rectangular Prism 1	5 ft	2 ft	10 ft	
Rectangular Prism 2	10 ft	4 ft	20 ft	

_____

_____

Basic Skills with Decimals

Name_____ Day ID:13

DO NOT USE A CALCULATOR

Date_____ Period____

Find each sum.

1) 488.5 + 229.6

A) 896.8 B) 238.4
C) 718.1 D) 616.6

2) 489.5 + 465.7

A) 989.9 B) 955.2
C) 818.1 D) 1316.4

3) 204.4 + 497.5

A) 936.3 B) 701.9
C) 642 D) 659.68

4) 158.3 + 246.7

A) 405 B) 815.8
C) 186.8 D) 269.1

Find each difference.

5) 491.7 – 361.4

A) 130.3 B) 609.9
C) 28.5 D) 382.4

6) 315.2 – 15.43

A) 789.87 B) 75.82
C) 299.77 D) 798.77

7) 40.7 – 12.716

A) 304.584 B) 143.554
C) 300.084 D) 27.984

8) 433.1 – 141.08

A) 292.02 B) 393.02
C) 690.22 D) 107.12

Find each quotient.

9) 3.9 ÷ 1.95

A) 6.2 B) 2
C) 7.605 D) 0.8

10) 4.5 ÷ 4.5

A) 20.25 B) 9
C) 7.71 D) 1

11) 0.6 ÷ 3

A) 2 B) 0.2
C) 1.8 D) 2.5

12) 0.8 ÷ 0.5

A) 5.41 B) 1.6
C) 2.9 D) 0.4

Find each product.

13) 9.7 × 7.5

A) 72.75 B) 69.75
C) 75.85 D) 70.05

14) 4.5 × 4.4

A) 29 B) 8.9
C) 24.1 D) 19.8

15) 1.4 × 3.1

A) 4.34 B) 4.14
C) 2.24 D) 8.14

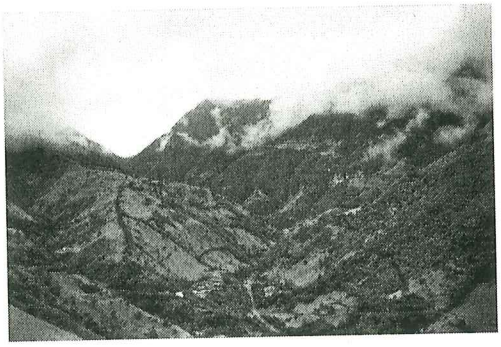
16) 2.9 × 4.6

A) 16.916 B) 13.34
C) 7.5 D) 3.64

Day 13 6th grade Science

Water from the Air: Cloud Forests

by Alden Wicker



Mindo Cloud Forest

In the Americas, Asia, and Africa, there's a special kind of forest. It's rare, beautiful, and incredibly important to the animals and plants living there, and the humans who live nearby.

It's called the cloud forest. Cloud forests, like the name implies, can be found in the clouds on the slopes of mountains. Because they are often shrouded in warm mist, cloud forests are very humid and wet places. But that's what makes these forests so valuable.

Like rainforests, cloud forests experience rainfall, but they also capture water straight from the air. Water condenses on the leaves of the plants (sort of like dew on the grass in the morning) and drips through the canopy to the floor. If you stand in a cloud forest, you'll hear the constant drip of water, even if it's not raining. The water captured is pure and unpolluted, and flows through the ground into streams and then rivers.

Some people call cloud forests "water towers," because they are so important for providing water to nearby villages and cities. In the capital of Honduras, Tegucigalpa, four out of 10 people get their water from La Tigre National Park. That's about 340,000 people drinking cloud forest water! And there are a lot of other big cities that get some of their water from cloud forests, like Quito, Ecuador; Mexico City, Mexico; and Dar es Salaam, Tanzania.

In Guatemala, most of the water comes from the Sierra de las Minas Biosphere Reserve. More than 60 permanent streams flow from the reserve downhill to settlements, villages, and cities. People drink the water, use it for cooking, and irrigate their farm fields with it. In Kenya, people rely on the water from cloud forests to provide electricity by harnessing the energy of rivers that flow from Mount Kenya.

But it's not just humans who rely on cloud forests. While they only make up 2.5 percent of the world's forests, they are home to a stunning array of animals and plants. There are more species of hummingbirds in cloud forests than anywhere else in the world. Colorful birds, lizards, moss, and ferns live here; plus plants that grow on trees, called bromeliads. There's even a bear called the spectacled bear, named for the markings on its face. It's the only bear that lives in South America, and there are only a few thousand remaining because of habitat destruction and hunting.

We don't even know all of the plants, animals, and insects that live in cloud forests, yet we keep discovering new ones. In the 1990s, scientists discovered two bird species that only live in cloud forests. One is the Jocotoco Antpitta, or *Grallaria ridgelyi*, which lives in Ecuador in a small patch of cloud forest. Another is the Scarlet-banded Barbet, or *Capito wallacei*, which was discovered in Peru living on just one mountain. Scientists also discovered a new type of cow and barking deer in the cloud forests of Laos and Vietnam.

As you can see, cloud forests are extremely special places. But they are also very fragile and face a wide array of threats. Local poor people clear the forest so that they can grow subsistence crops. They also hunt endangered and threatened animals for meat, and cut down trees to heat their homes and cook. Commercial farmers convert the land so that they can grow fruits, vegetables, and coffee beans. Cloud

forests are cleared and turned into pasture for cattle. Building roads and gem mines also severely damages the cloud forests.

Once cloud forests are cleared, the damage can be irreversible. The cloud cover, which is so essential to the growth of these forests, disperses. The soil degrades and erodes, washing down the mountain slopes. Many species vital to the ecosystem die off. What is left behind is a barren, dusty slope unsuitable for farming and unable to support animals, plants, or even people.

You can think of cloud forests sort of like little habitat islands, bounded by other types of forests and habitats on all sides. Many species are unable to leave one patch to travel to another. Once one patch is completely cleared, many species of plants and animals can go extinct, without ever being seen or studied by people like us. Some of the plant species lost could have been a new medicine or edible crop.

Scientists estimate that each year, 1.1 percent of the world's total cloud forest land is cleared for logging and timber falling. But even more worrying is the threat of climate change. Cloud forests form at very specific altitudes and rely on certain temperatures to thrive. If world temperatures rise, cloud forests would have to move up to a higher altitude where the temperatures are cooler in order to adjust. Some cloud forests are on mountain peaks with nowhere to climb and would die out. Climate change could also lessen cloud cover, which cloud forests rely on to grow. Because of this, the rate of loss could double.

As you can see, cloud forests are essential, providing water, food, and medicine to the people living in, around, and near them. So why would local people destroy them? To understand why, you have to put yourself in the shoes of a poor local farmer.

Imagine that you have no electricity or gas to heat your home or cook your meals. You do not have an oven or stove, so you get wood from the forest to build a fire. You also need food, and you cannot find a job that pays enough to buy any. There might not be a grocery store anywhere nearby, either. Therefore, you clear some forest next to your home so that you can plant fruits, vegetables, and grains. You also hunt local animals to eat. You would probably be excited to have a road built through the forest to your village, so you can easily go to a nearby city, or reach a hospital if you or someone in your family has an emergency.

If only a few people did these things, it might not be a problem. But the population is growing fast, and when thousands of people clear the forest and hunt animals, it becomes a crisis. Scientists fear we might lose cloud forests altogether, along with the water and other services they provide.

To combat the problem, some governments have designated certain stretches of cloud forest as protected, and it's illegal to clear or log them. This can help preserve cloud forests against mining companies and large commercial farmers. But it can be hard to enforce these rules against local populations. To work with local populations of people is more effective, providing them with other ways to get food and energy so that they can leave the cloud forests intact.

It is also effective to educate the local population on how cloud forests provide fresh water and what happens when they are cleared. For example, in the indigenous community of Loma Alta in Ecuador, once the people understood that the cloud forest is necessary to provide water for farms at lower altitudes, they worked together successfully to protect it.

Cloud forests are too valuable of a natural resource to lose. With laws to protect them, education, and economic support for local people, we might be able to save them-plus the animals and plants they support-before it's too late.

Name: _____ Date: _____

1. What are cloud forests?

A. forests that are made out of clouds and float through the earth's atmosphere

B. forests of oak and maple trees found in the northeastern United States

C. pine forests that live in cold climates without much animal life

D. humid forests that live among clouds on mountain slopes

2. What does this article try to persuade the reader of?

A. Governments should not interfere with businesses.

B. It is too late to save cloud forests.

C. Protecting cloud forests is important.

D. Commercial farming is more important than cloud forests.

3. The loss of cloud forests is harmful to the surrounding ecosystem.

What evidence from the passage supports this statement?

A. When cloud forests are cleared away, the soil degrades and erodes. What is left behind is a dusty slope that is unable to support animals, plants, and people.

B. Cloud forests live among the clouds on the slopes of mountains. They are often surrounded by warm mist, which makes them very humid and wet places.

C. The Jocotoco Antpitta, or*Grallaria ridgelyi*, lives in Ecuador. The Scarlet-banded Barbet, or *Capito wallacei*, lives in Peru. Barking deer live in Laos and Vietnam.

D. Commercial farmers sometimes clear cloud forests so that the land can be used as pasture for cattle. Other times, cloud forests are cleared to build roads.

4. Why might providing economic support to people living near cloud forests help save the forests?

A. People living near cloud forests would be less likely to care about protecting animals like the Jocotoco Antpitta and the Scarlet-banded Barbet.

B. People living near cloud forests would be less likely to clear away parts of the forest to try to support themselves.

C. People living near cloud forests would be more likely to buy cars and build roads through the forest to drive on.

D. People living near cloud forests would be more likely to buy gems dug from the ground by mining companies.

5. What is this passage mainly about?

A. how people in Tegucigalpa, Quito, Mexico City, and Dar es Salaam get their water

B. the history of the Sierra de las Minas Biosphere Reserve in Guatemala

C. the mining companies and commercial farms that threaten cloud forests around the world

D. cloud forests, the threats they face, and what can be done to save them

6. Read the following sentences: "It is also effective to educate the **local** population on how cloud forests provide fresh water and what happens when they are cleared. For example, in the indigenous community of Loma Alta in Ecuador, once the people understood that the cloud forest is necessary to provide water for farms at lower altitudes, they worked together successfully to protect it."

What does the word "**local**" mean?

A. shrinking slowly over a long period of time

B. turning out differently from what was expected

C. having to do with a particular place or area

D. causing people to feel extremely happy

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

Cloud forests are home to unusual animals, _____ spectacled bears and barking deer.

A. previously

B. such as

C. as a result

D. third

8. Name an animal that is found only in cloud forests.

9. How are cloud forests valuable to human beings? Support your answer with evidence from the passage.

10. Are cloud forests too valuable of a natural resource to lose, as the author claims? Explain why or why not, using evidence from the passage.

6th English
NTI Day 13

Directions
Read this story. Then answer questions 36 through 38.

In this Japanese fairy tale, Urashima Taro, a young fisherman, has saved the life of a tortoise. The tortoise then offers to take him to the underwater Rin Gin, the Palace of the Dragon King of the Sea. Urashima is willing to go, but tells the tortoise that he cannot swim to the bottom of the sea.

Excerpt from *The Story of Urashima Taro, The Fisher Lad*

by Yei Theodora Ozaki

1 "What? You need not swim yourself. If you will ride on my back I will take you without any trouble on your part."

2 "But," said Urashima, "how is it possible for me to ride on your small back?"

3 "It may seem absurd to you, but I assure you that you can do so. Try at once! Just come and get on my back, and see if it is as impossible as you think!"

4 As the tortoise finished speaking, Urashima looked at its shell, and strange to say he saw that the creature had suddenly grown so big that a man could easily sit on its back.

5 The tortoise, with an unmoved face, as if this strange proceeding were quite an ordinary event, said:

6 "Now we will set out at our leisure," and with these words he leapt into the sea with Urashima on his back. Down through the water the tortoise dived. For a long time these two strange companions rode through the sea. Urashima never grew tired, nor his clothes moist with the water. At last, far away in the distance a magnificent gate appeared, and behind the gate, the long, sloping roofs of a palace on the horizon.

7 "Ya," exclaimed Urashima. "That looks like the gate of some large palace just appearing! Mr. Tortoise, can you tell what that place is we can now see?"

8 "That is the great gate of the Rin Gin Palace, the large roof that you see behind the gate is the Sea King's Palace itself."

9 "Then we have at last come to the realm of the Sea King and to his Palace," said Urashima.

10 "Yes, indeed," answered the tortoise, "and don't you think we have come very quickly?" And while he was speaking the tortoise reached the side of the gate. "And here we are, and you must please walk from here."

11 The tortoise now went in front, and speaking to the gatekeeper, said:

12 "This is Urashima Taro, from the country of Japan. I have had the honor of bringing him as a visitor to this kingdom. Please show him the way."

13 Then the gatekeeper, who was a fish, at once led the way through the gate before them. The red bream, the flounder, the sole, the cuttlefish, and all the chief vassals of the Dragon King of the Sea now came out with courtly bows to welcome the stranger.

14 "Urashima Sama, Urashima Sama! Welcome to the Sea Palace, the home of the Dragon King of the Sea. Thrice welcome are you, having come from such a distant country. And you, Mr. Tortoise, we are greatly indebted to you for all your trouble in bringing Urashima here." Then, turning again to Urashima, they said, "Please follow us this way," and from here the whole band of fishes became his guides.

15 Urashima, being only a poor fisher lad, did not know how to behave in a palace; but, strange though it was all to him, he did not feel ashamed or embarrassed, but followed his kind guides quite calmly where they led to the inner palace. When he reached the portals a beautiful Princess with her attendant maidens came out to welcome him. She was more beautiful than any human being, and was robed in flowing garments of red and soft green like the under side of a wave, and golden threads glimmered through the folds of her gown. Her lovely black hair streamed over her shoulders in the fashion of a king's daughter many hundreds of years ago, and when she spoke her voice sounded like music over the water. Urashima was lost in wonder while he looked upon her, and he could not speak. Then he remembered that he ought to bow, but before he could make a low obeisance the Princess took him by the hand and led him to a beautiful hall, and to the seat of honor at the upper end, and bade him be seated.

16 "Urashima Taro, it gives me the highest pleasure to welcome you to my father's kingdom," said the Princess. "Yesterday you set free a tortoise, and I have sent for you to thank you for saving my life, for I was that tortoise. Now if you like you shall live here forever in the land of eternal youth, where summer never dies and where sorrow never comes, and I will be your bride if you will, and we will live together happily forever afterwards!"

36 Read this sentence from paragraph 6.

Urashima never grew tired, nor his clothes moist with the water.

What effect does the sentence have on the tone of the story? Use **two** details from the story to support your response.

37 How does paragraph 15 help develop Urashima's point of view? Use **two** details from the story to support your response.

38 Read this sentence from paragraph 16.

> **"Yesterday you set free a tortoise, and I have sent for you to thank you for saving my life, for I was that tortoise."**

How does this sentence contribute to the structure of the story? Use **two** details from the story to support your response.

Arachne the Weaver

by ReadWorks



illustration of Arachne

It may seem difficult to take Greek myths seriously. After all, they tell of angry gods, dueling goddesses, snake-haired women, and beasts consisting of both animal and human parts. But mythology was a significant influencing factor in the day-to-day lives of the people of ancient Greece. They didn't have televisions or the Internet. There was no Google then, no encyclopedias, and no way to look some piece of information up quickly and learn it. Instead, the ancient Greeks turned to stories and legends to understand how the world around them operated. They used myths to explain the things they didn't understand, like thunder and earthquakes. And they used myths to make scary things seem less frightening. Over time, myths changed, and their events and details varied from one telling to the next, but their narrative outcomes remained largely the same.

Mythology, in the time of ancient Greece, was used not only to explain various phenomena that we now understand via scientific truths, but to account for the origins of humankind. It answered questions like, "What happens after death?" and, "Why does humanity exist at all?" Myths were also often entertaining, and sometimes humorous and intriguing; remember that there weren't TV episodes or movies in ancient Greece, so people had to entertain themselves in other ways. But more than that, myths told people how to live, and how to tell right from wrong. These stories included morals intended to teach valuable life lessons and instill ethics in their readers.

Take, for instance, the story of Arachne. Arachne was a young girl famed in her region for her spinning and weaving. Her cloth was said to be the softest and fairest of any in the land-so fine that

some believed it to be spun from gold. Because of her skills, Arachne was prideful. She thought herself the best spinner and weaver in the world, and she was certain that no one could match her talents and gifts.

One day, an old woman walked past Arachne weaving on her loom and asked her, "Who taught you to weave so well?"

Arachne replied that she had taught herself, and that she was the best spinner and weaver in the world.

"But perhaps Athena, the goddess of craft and weaving, taught you to spin and weave without your knowing it?"

Arachne, in her vanity, replied, "No, not even Athena is as good as I am."

The old woman then tore away her disguise and revealed herself as Athena. She was enraged that a mortal could be boastful and would dare to compare herself to a goddess. And so, Athena challenged Arachne to a spinning and weaving contest. The rules of the contest were simple: each woman would weave a tapestry, and Zeus, king of the gods, would act as the judge. If Arachne won, Athena would never weave again. And if Athena won, Arachne would never spin or touch a loom for the rest of her life.

Hundreds gathered to watch the two women weave. Arachne wove a cloth from the finest silk. It was said that the cloth was so fine it could barely be felt, but that it had the strength to hold a hundred men. On the cloth, Arachne depicted the failings of the gods, portraits of the gods acting immorally and foolishly.

Athena, on the other hand, is said to have spun with sunbeams, the sky, the fields, and the clouds. She wove a tapestry that showed the gods in all their strength and glory, praising them for their splendor.

It was obvious that Athena's cloth was more spectacular than Arachne's. Even Arachne, upon seeing Athena's tapestry, hid her face in her hands in shame.

In one version of the myth, Athena shredded Arachne's cloth into pieces when she saw how the girl had insulted the gods. But both women knew who the victor was, and Arachne realized that she would never be able to touch a loom again.

Ashamed and devastated at her loss, Arachne attempted to kill herself. Athena, taking pity on Arachne, stopped her. Athena insisted that Arachne remain true to her word and never again spin or touch a loom. Athena then transformed her into a spider so that she could continue to spin and weave beautiful tapestries. All spiders, in Greek mythology, are said to be the children of Arachne.

This particular Greek myth served to warn against the dangers of pride and vanity, as well as caution those seeking to compete against or humiliate the gods.

Name: _____ Date: _____

1. What did the ancient Greeks turn to in order to understand how the world operated?

A. books and encyclopedias

B. gods and goddesses

C. stories and legends

D. rulers and laws

2. What does the author describe in the article?

A. the role of mythology in ancient Greece

B. the importance of theater in ancient Greece

C. the origins of humankind according to Greek mythology

D. how ancient Greek myths changed over time

3. "[M]ythology was a significant influencing factor in the day-to-day lives of the people of ancient Greece."

What evidence from the text supports this statement?

A. "Myths were [...] sometimes humorous and intriguing[.]"

B. "[M]yths told people how to live, and how to tell right from wrong."

C. "[The ancient Greeks] didn't have televisions or the Internet."

D. "Over time, myths changed, and their events and details varied[...]"

4. Based on the story, how can Arachne be described?

A. Humble and kind

B. Clever and generous

C. Talented and insecure

D. Vain and disrespectful

5. What is a main message of the story of Arachne?

A. The gods are immoral and foolish.

B. People should keep their talents secret.

C. People should not be vain or prideful.

D. Gods and humans are equally talented.

6. Read these sentences from the text.

"On the cloth, Arachne **depicted** the failings of the gods, portraits of the gods acting immorally and foolishly.

"Athena, on the other hand, is said to have spun with sunbeams, the sky, the fields, and the clouds. She wove a tapestry that showed the gods in all their strength and glory, praising them for their splendor."

As used in this sentence, what does "**depicted**" mean?

A. praised
B. showed
C. prayed to
D. warned about

7. Choose the answer that best completes the sentence.

Athena challenged Arachne to a spinning and weaving contest _____ she was enraged that Arachne dared to compare herself to a goddess.

A. however
B. although
C. because
D. therefore

8. What did Athena do to Arachne at the end of the story?

9. The text says that the myth of Arachne "served to warn against the dangers of pride and vanity[.]" How does the story of Arachne demonstrate the dangers of pride and vanity? Use details from the story to support your answer.

10. Based on the myth of Arachne, how were the ancient Greeks supposed to live their lives? Use evidence from the text to support your answer.