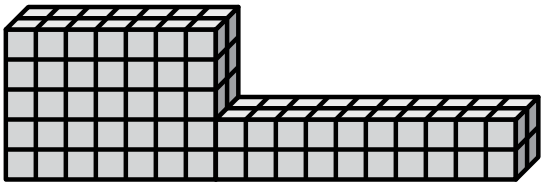
Find the total volume of each figure. Measurement is in cm (not to scale).

1)



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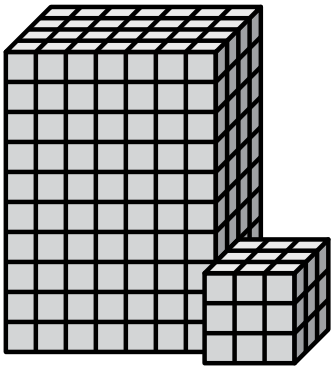

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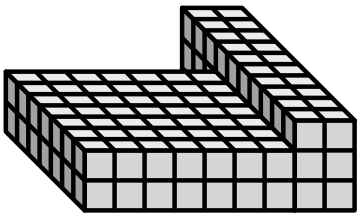

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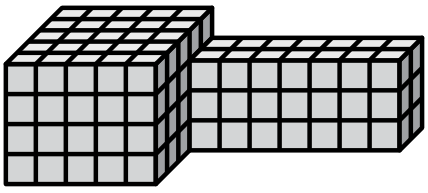


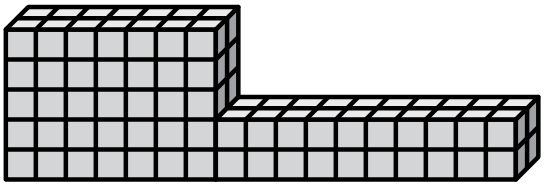
Answers

1. _____
2. _____
3. _____
4. _____
5. _____

1-5	80	60	40	20	0

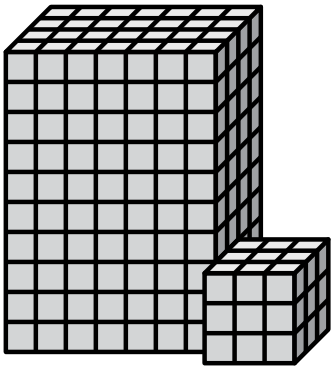
Find the total volume of each figure. Measurement is in cm (not to scale).

1)



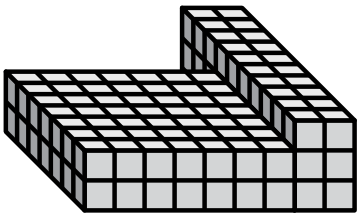
7×5×2 = 70
10×2×2 = 40

2)



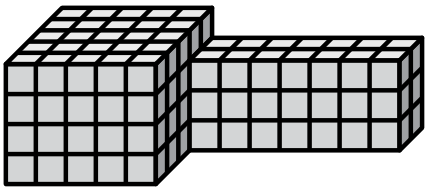
7×10×4 = 280
3×3×3 = 27

3)



2×3×10 = 60
7×2×7 = 98

4)



5×4×5 = 100
7×3×2 = 42

Answers

1. **110 cm^3**
2. **307 cm^3**
3. **158 cm^3**
4. **142 cm^3**
5. **90 cm^3**

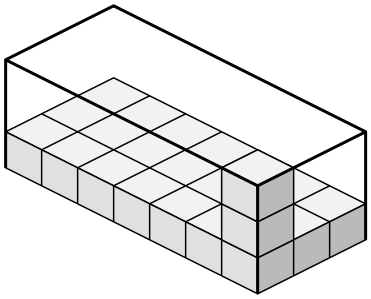
1-5	80	60	40	20	0

Identifying Volume of a Box

Name:

Determine the volume of each box. Each block is 1 cubic unit (u^3).

1)



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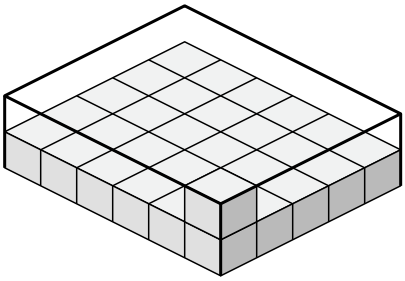
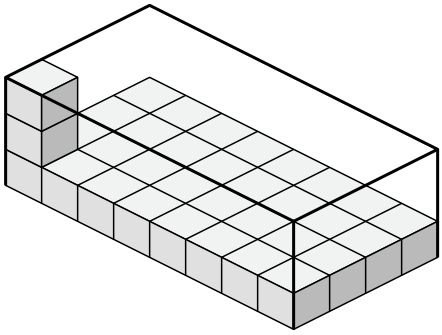
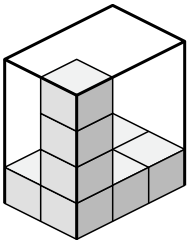


3)



4)



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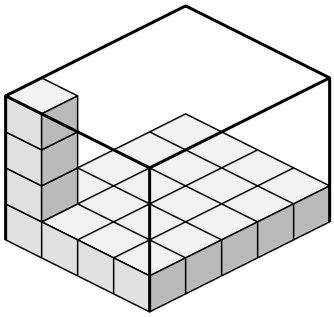

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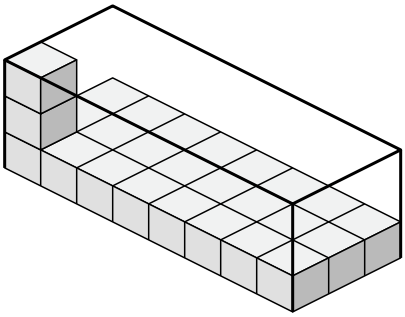

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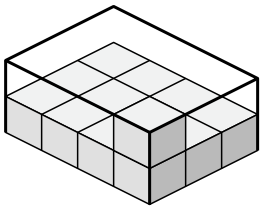

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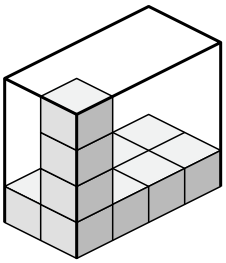


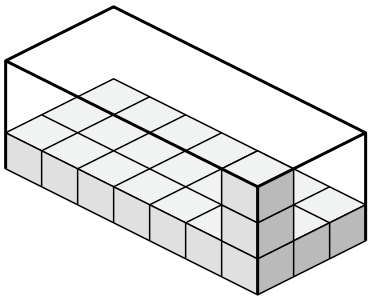
Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

1-8	88	75	63	50	38	25	13	0

Determine the volume of each box. Each block is 1 cubic unit (u^3).

1)



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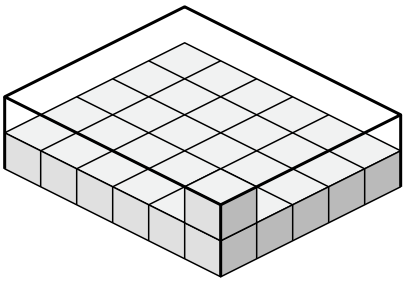

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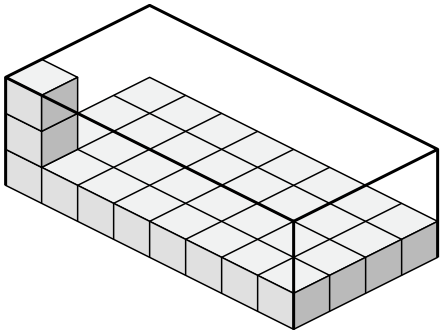

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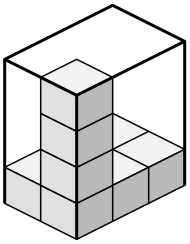

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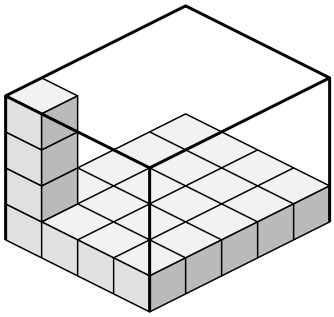

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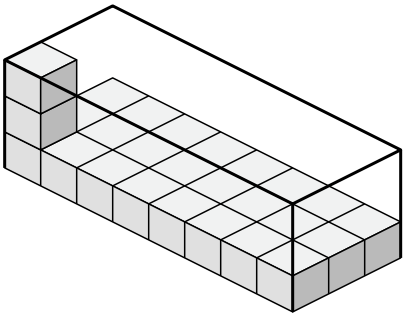

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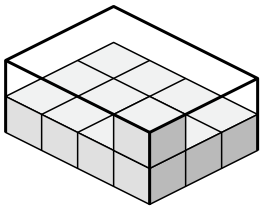

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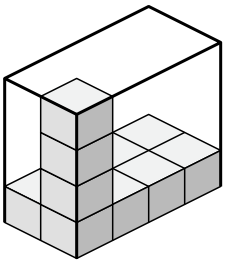


Answers

1. **63 u^3**
2. **60 u^3**
3. **96 u^3**
4. **24 u^3**
5. **80 u^3**
6. **72 u^3**
7. **24 u^3**
8. **32 u^3**

1-8	88	75	63	50	38	25	13	0

WEALTH AND WORRIES:

A PLAY BASED ON A CHINESE FOLKTALE

Cast of Characters

MR. CHEN, a rich **merchant**

MRS. CHEN, his wife

MR. LI, a poor **laborer**

Scene 1

[*Late in the evening in the courtyard of the Chen family's house. MR. CHEN is sitting at a table while MRS. CHEN stands nearby.*]

MR. CHEN. [*Counting a large pile of gold coins*] Forty-one, forty-two, forty-three, forty-four, forty-five...

MRS. CHEN. My dear husband, you're working much too hard. I am worried about your **well-being**.

MR. CHEN. [*Looking up*] Yes, my hours are long, but I must work hard if we are to remain rich. [*Melody of flute is heard.*]

MRS. CHEN. [*Listening*] That's a lovely tune. Neighbor Li must be playing his flute. He knows how to have fun after a day's work.

MR. CHEN. Li works all day digging ditches and chopping wood. He earns pennies. What a terrible way to live!

MRS. CHEN. But isn't that music sweet? Li and his family seem happy, even though they are not rich. We have piles of gold, but are we happy?

MR. CHEN. I'd be happier if I could count these coins in peace without that music distracting me. I have an idea: I'll give Li enough money to make him a rich man. He'll soon be too busy to bother with that flute. First thing tomorrow, I'll have a servant bring Li to me. [***Curtain***]

Scene 2

[*Early morning in MR. CHEN's courtyard. MR. LI stands respectfully before MR. CHEN, who is seated at a table that holds a small sack.*]

MR. CHEN. Neighbor Li, you work so hard yet have no fortune to show for it. I've been thinking of your future. I am giving you the gold pieces in this sack. There is no need to repay me, but you must use it wisely. [*Hands the sack of coins to MR. LI, who looks startled*]

MR. LI. My family and I have never had such riches. I am grateful. [*Bows and leaves the courtyard. Curtain.*]

Scene 3

[*The same courtyard, three days later*]

MR. CHEN. [*Speaking to his wife*] Well, three days have passed since I gave Neighbor Li a sack of gold. My plan worked. He has finally stopped playing that silly flute. Now I can count my gold in peace.

[*MR. LI enters holding the sack of gold. He looks exhausted. He bows to MR. CHEN and MRS. CHEN and places the sack of gold on the table.*]

MR. LI. I must return this gold. I have spent every hour worrying about what to do with such a fortune. I worried about spending it. I worried about making more of it. I worried about someone stealing it. Thank you for the gift, but I must return it. [*MR. LI places a new flute next to the sack of gold.*]

MR. CHEN. [*Looking surprised*] What is this?

MR. LI. This flute is my gift to you. Please accept it. When you gave me the gold, I felt the heavy **burden** that you must bear every day. I am most happy when I am making music with my family. I hope that you, too, may find such peace and joy.

[*MR. LI bows and exits. MR. CHEN and MRS. CHEN look confused. Then, MR. CHEN picks up the new flute and begins to play. MRS. CHEN smiles. Curtain.*]

Wealth and Worries

LEXILE® MEASURE NA

KEY VOCABULARY

- **merchant** (noun) A *merchant* is a person who sells things.
- **laborer** (noun) A *laborer* is a person who is paid to do hard physical work.
- **well-being** (noun) *Well-being* is the state of being happy and healthy.
- **curtain** (noun) In plays, *curtain* means the end of a scene.
- **burden** (noun) A *burden* is something that is difficult or worrisome.

- Describe Mr. Chen's plan to make his neighbor stop playing the flute.
- Explain why it is important that Scene 1 takes place "late in the evening."
- Choose one scene to illustrate and describe. Include details about what the characters are doing and how they are feeling.
- Mr. Chen and Mr. Li value different ways of life, but how are the two men similar?
- Which do you think is more valuable: money or happiness? Explain your thinking.
- Write or discuss the might happen next if the drama continues.

READ the information in the box below.

Technology is a set of tools invented to make life easier. Telephones, cars, and even refrigerators are all examples of technologies that changed the world.

THINK about the technology that makes your life easier. What one type of technology would be most difficult to live without?

WRITE about one type of technology that would be difficult to live without and explain why it is important.

Be sure to –

- ❑ **organize your ideas before you start writing**
- ❑ **clearly state your central idea**
- ❑ **use details to support your central idea**
- ❑ **choose your words carefully**
- ❑ **write in complete sentences**
- ❑ **use correct spelling, capitalization, punctuation, and grammar**

READ the statement in the box below.

> Technology has changed the way people read books. Years ago, students read books printed on paper. Today, many students read digital books on a computer, phone, or tablet.

THINK about reading a book that is printed on paper and reading a digital book on a computer, phone, or tablet. Which way to read a book do you think is better?

WRITE about the way you prefer to read a book—on paper or on a screen—and support your opinion with reasons and evidence.

Be sure to –

- ❑ **organize your ideas before you start writing**
- ❑ **clearly state your position**
- ❑ **use reasons and evidence to support your position**
- ❑ **choose your words carefully**
- ❑ **write in complete sentences**
- ❑ **use correct spelling, capitalization, punctuation, and grammar**

Experiment: Make moon cycles with an orange

By Scientific American/Science Buddies on 03.28.20
Word Count **595**
Level **MAX**

Learn about why the shape of the moon changes during its cycle by doing this short activity. Newsela staff

Why does the moon seem to change shape each night? The moon itself, of course, isn't changing. But because it is moving around Earth as we move around the sun, the amount of light that we see reflecting off the surface of the moon varies from day to day. About every two weeks, the moon goes from being nearly invisible — what is called a new moon — to being bright and round in the night sky. This is called a full moon.

An easy way to understand these changes is by using a lamp and an orange. You can use these to create a rough model of the moon's orbit around Earth.

Materials

Lamp without a lampshade (use a bulb no brighter than 40 watts)

Dark room

Orange

Sharpened pencil

Preparation

1. Place the lamp (without its lampshade) on a table or other surface. A good height is just above head level of the person doing the activity.
2. Carefully push the sharp end of the pencil through the center of the orange. You want to push it deep enough so that it is stable if you hold the pencil.
3. Turn on the lamp and darken the room. Get ready to observe your orange moon! (Be careful not to touch the lit bulb, which is very hot.)

Procedure

1. Stand at least arm's length from the lamp light source, and face it directly. The lamp is your sun, and your head represents Earth. Hold up the pencil-topped orange moon out with a straight arm in front of you.
2. Hold the orange slightly above or below the bulb, and don't look directly at the lamp. What does the surface of the orange moon that you can see look like? Is it relatively dark?
3. Now, with your arm still outstretched, start rotating your body slowly to the left. Can you see a crescent of light begin to creep onto the surface of your orange moon?
4. Once you have turned about 90 degrees from the lamp, your moon should be at the first quarter phase. Which side of the moon is the light falling on (the left or the right)? Does the moon look like a "D" or a mirror image of a "D"?
5. Keep slowly rotating in place with your arm out straight. When you arrive with your back to the lamp, what phase is the orange moon in? (Tip: If your head or body is blocking the lamp, try squatting down until the moon gets full light in this position. You should be looking at a completely illuminated full moon. When your head or body blocks the light so that the moon appears dark, you've created an eclipse. Is it a lunar or a solar eclipse?)
6. Continue turning slowly counterclockwise. Which direction is the light moving on the surface of your moon?
7. Once you are about 90 degrees from completing the full turn, you have reached the third quarter phase. How does this phase look different from the first quarter phase?
8. Finish rotating until you are back to the starting point: a new moon. That is when you (and people on Earth) only see the side of the moon the sun isn't hitting — the unlit nighttime side of the moon.

Extra: Try to create a lunar eclipse. These lunar eclipses happen when Earth blocks the sun's light from hitting the moon by lining up right between the two. If your head is Earth, can you create a lunar eclipse with your orange moon?

The phases of the moon

By NASA.gov, adapted by Newsela staff on 03.23.17
Word Count **625**
Level **800L**

TOP: The phases of the moon are shown in the night sky. The phases change over the course of the lunar month. Photo from: Spirit-Fire/Flickr. BELOW: Phases of the moon, as seen from the solar system and from Earth. Images by: Newsela Staff.

Question: What are the phases of the moon?

Answer: The lunar month is the 29.53 days it takes to go from one new moon to the next. During the lunar month, the moon goes through all its phases. The phases are illustrated in the picture below.

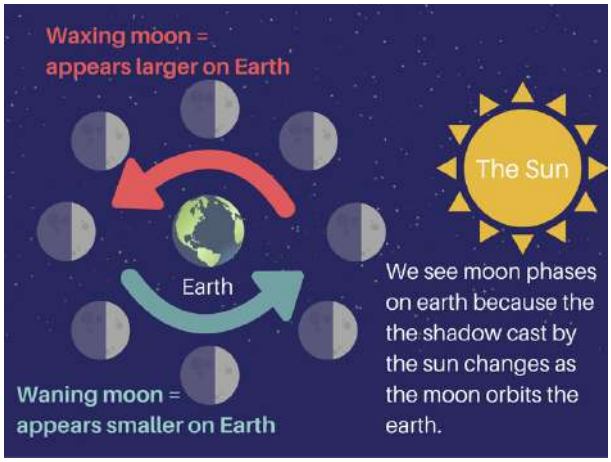
Time For A Change

We can see the moon from Earth because sunlight reflects back to us from its surface. Like Earth, half of the moon is lit by the sun while the other half is in darkness. The half of the moon facing the sun is always lit. However, the lit side does not always face the Earth.

As the moon circles the Earth, the amount of the lit side we see changes. These changes are known as the phases of the moon. They repeat in a cycle every month.

Moments In The Sun

At new moon, the moon is lined up between the Earth and the sun. We see the side of the moon that is not being lit by the sun. In other words, we see no moon at all. When the moon is exactly lined up with the sun (as viewed from Earth), it is called an eclipse.



As the moon moves away from the sun in the sky, we see a bit more of the sunlit side of the moon each night. A few days after new moon, we see a thin sliver of moon in the sky. This curved sliver is called a crescent. With each passing night, the crescent moon waxes, or appears to grow.

When half of the moon is illuminated, we call it the first quarter moon. This name comes from the fact that the moon is now one-quarter of the way through the lunar month.

The moon continues to wax. Once more than half of it is illuminated, the moon has a shape we call gibbous. The gibbous moon appears to grow fatter each night. Eventually, we see the full sunlit face of the moon. This is also called the full moon. The moon has now completed one-half of the lunar month.

During the second half of the lunar month, the moon grows thinner each night. We call this waning. Its shape is still gibbous at this point, but it grows a little thinner each night. As it reaches the three-quarter point in the month, the moon once again appears half illuminated and half dark. However, the side that we saw dark at the first quarter phase is now the lit side. As it completes its journey, the moon becomes a waning crescent.

Go Into Orbit

You can demonstrate the phases of the moon by using a lamp and a baseball. Place the lamp with its shade removed in one end of a dark room. Sit at the other end of the room and hold the baseball up in front of you between your face and the lamp. Now slowly move the ball around your head at arm's length. As the baseball orbits your head, you will see it go through the same phases as the moon.

"Lunaticks"

Many people watch the phases of the moon for their own interests and hobbies. These moon watchers include artists, scientists and many others.

In the 1700s, a small group of people in England started a club called the Lunar Society. The "lunaticks" held their meetings on evenings of the full moon. They did this for practical reasons, not because of any superstition. In the days before electricity, it was easier to see one's way home after dark by the light of a full moon. Today, electricity has ended the need for such careful scheduling. But the light of the full moon still makes a difference.

Quiz

1 As the moon circles Earth, the amount the moon that is lit and faces Earth changes. What is this called?

(A) an eclipse

(B) the phases of the moon

(C) day and night

(D) seasons

2 Read the sentence below from the section "Moments In The Sun."

As it reaches the three-quarter point in the month, the moon once again appears half illuminated and half dark.

What does the word "illuminated"' mean in the sentence?

(A) lit up

(B) hidden

(C) changed

(D) lined up

3 During what phase is the whole sunlit portion of the moon reflected back toward the sun?

(A) Half moon

(B) Crescent moon

(C) Full moon

(D) New moon

4 Read the sentence from the section "Moments In The Sun."

With each passing night, the crescent moon waxes, or appears to grow.

Which answer choice could replace “waxes” WITHOUT changing the meaning of the sentence?

(A) looks larger

(B) moves faster

(C) stops moving

(D) looks thinner

5 Why does a waxing moon appear to be larger in size than a crescent moon?

(A) More of the moon's sunlit surface can be seen from Earth during a waxing moon.

(B) The moon moves closer to Earth as the moon goes through the lunar cycle.

(C) The moon reflects less of its light onto Earth during waxing moon.

(D) The sun does not block as much light from the moon during a waxing moon.

6 Complete the sentence below.

Overall, the article is organized around _____.

(A) an explanation of how long each phase of the moon lasts during the lunar month

(B) a comparison of the phases of the moon today with the phases of the moon many years ago

(C) a description of some ways to study the different phases of the moon

(D) an explanation of what causes the phases of the moon and what the different phases are

7 About how many days does it take for a new moon to become a full moon?

(A) 7 days

(B) 15 days

(C) 21 days

(D) 30 days

8 How is the structure of the section "Time For A Change" different from the section "Moments In The Sun"?

(A) The structure of the "Time For A Change" section is problem and solution; the structure of the "Moments In The Sun" section is chronology.

(B) The structure of the "Time For A Change" section is chronology; the structure of the "Moments In The Sun" section is comparison.

(C) The structure of the "Time For A Change" section is cause and effect; the structure of the "Moments In The Sun" section is chronology.

(D) The structure of the "Time For A Change" section is comparison; the structure of the "Moments In The Sun" section is problem and solution.

Answer Key

1 As the moon circles Earth, the amount the moon that is lit and faces Earth changes. What is this called?

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(B) the phases of the moon

(C) day and night

(D) seasons

2 Read the sentence below from the section "Moments In The Sun."

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What does the word "illuminated"' mean in the sentence?

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(B) hidden

(C) changed

(D) lined up

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(A) Half moon

(B) Crescent moon

(C) Full moon

(D) New moon

4 Read the sentence from the section "Moments In The Sun."

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(C) 21 days

(D) 30 days

8 How is the structure of the section "Time For A Change" different from the section "Moments In The Sun"?

(A) The structure of the "Time For A Change" section is problem and solution; the structure of the "Moments In The Sun" section is chronology.

(B) The structure of the "Time For A Change" section is chronology; the structure of the "Moments In The Sun" section is comparison.

(C) The structure of the "Time For A Change" section is cause and effect; the structure of the "Moments In The Sun" section is chronology.

(D) The structure of the "Time For A Change" section is comparison; the structure of the "Moments In The Sun" section is problem and solution.

Venn Diagram

A _____ B _____