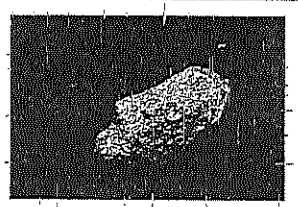
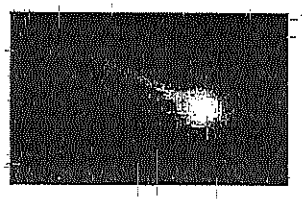
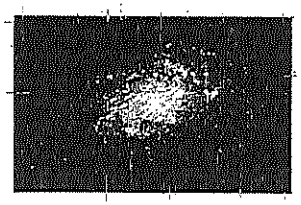
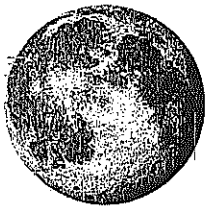
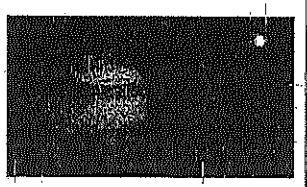
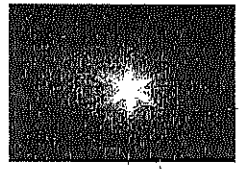
Asteroid	A solid space object made of rock or metal that is irregularly shaped.	
Comet	A space object made of ice and dust that has a tail when it gets close to the sun.	
Galaxy	Consists of gas, dust, and stars (and any objects orbiting the stars) - all held together by gravity.	
Moon	A round (spherical) space object that rotates on an axis and orbits (revolves) around a planet.	
Planet	A round (spherical) space object that rotates on an axis and revolves around a star.	

Inner Planet	The four planets closest to the Sun (Mercury, Venus, Earth, Mars). Characteristics: solid (made of rock and metal), thin to no atmosphere, small, closer to Sun, few to no moons, no rings, relatively hot, relatively short years	
Outer Planets	The four planets farthest from the Sun (Jupiter, Saturn, Uranus, Neptune). Characteristics: made of gas, thick gaseous atmosphere, large, farther from Sun, many moons, rings, relatively cold, relatively long years	
Solar System	A system of planets and other bodies that orbits a star.	
Star	A large object in space that is made of gas that produces its own light.	

Fish in a Tree Chapter 7-9 questions

1. What does Ally mean when she says, "if trying to read helped, I'd be a genius"?

2. Why does Ally look at going to the office with Mrs. Silver as a "get out of jail free card"?

3. What do you predict Mr. Daniels and Ally's relationship will be like?

4. What does Ally's coin really represent?

5. When thinking about what to bring to school that represents her, Ally considers a bad of nothing or a bag of dirt. *What does this tell us about how Ally is thinking about herself? *What would be in your bag? *What does it mean to you?

6. Ally likes math and art in school. *How are you and Ally alike? *How are you different from Ally? *What subjects do you like in school? *What subjects do you dislike? *Why?

Fish in a Tree Chapters 10-12 questions

1. Ally draws a "dark room" in her notebook so she cannot be seen. How do you think she feels on a daily basis, and what will she or someone else perhaps do to change that? Make a prediction.

2. Discuss with someone your thoughts on Albert? What type of person is he as compared to Ally? How are they the same or different?

3. How does Ally feel about going along with making fun of Albert? Have you ever felt this way?

4. Ally tells Mr. Daniels, "it would be easier to be invisible", What do you think she means by this? Have you ever felt invisible? Explain.

5. In the cafeteria Ally wishes she was more like Albert. In what ways does she want to be more like him?

6. How did Ally "make things right" with Albert? Have you ever had to do this with a friend or classmate? Explain.

Lesson 5-3 • Reinforce Understanding

Use Partial Products to Multiply Multi-Digit Factors

Name _____

Review

Decompose the factors by place value. Use this to help set up your partial products.

$17 \times 385 = (10 + 7) \times (300 + 80 + 5)$

$= 10 \times 300 + 10 \times 80 + 10 \times 5 + 7 \times 300 + 7 \times 80 + 7 \times 5$

$= 3{,}000 + 800 + 50 + 2{,}100 + 560 + 35$

$= 6{,}545$

Use partial products to fill in the blanks and solve these equations.

1. $19 \times 92 = (10 + \_\_\_\_) \times (\_\_\_\_ + 2)$

$= 10 \times \_\_\_\_ + 10 \times 2 + 9 \times \_\_\_\_ + 9 \times \_\_\_\_$

$= \_\_\_\_ + 20 + \_\_\_\_ + 18$

$= \_\_\_\_$

2. $512 \times 21 = (500 + \_\_\_\_ + \_\_\_\_) \times (\_\_\_\_ + 1)$

$= 500 \times \_\_\_\_ + 500 \times 1 + 10 \times \_\_\_\_ + 10 \times \_\_\_\_ + 2 \times \_\_\_\_ + 2 \times \_\_\_\_$

$= 10{,}000 + \_\_\_\_ + \_\_\_\_ + 10 + 40 + \_\_\_\_$

$= \_\_\_\_$

Use partial products to solve these equations.

3. $72 \times 165 =$ _____

4. $37 \times 205 =$ _____

5. $275 \times 36 =$ _____

6. $812 \times 68 =$ _____

Lesson 5-3

Additional Practice

Name _____

Review

You can use partial products to find products of multi-digit factors.

Find 16 × 128. Decompose the factors by place value. Then use partial products.

$$\begin{array}{r} 128 \\ \times\ 16 \\ \hline 10 \times 100 = 1{,}000 \\ 10 \times 20 = 200 \\ 10 \times 8 = 80 \\ 6 \times 100 = 600 \\ 6 \times 20 = 120 \\ 6 \times 8 = +\ 48 \\ \hline 2{,}048 \end{array}$$

Add the partial products.

The product is 2,048.

Use partial products to multiply.

1. 37
× 56

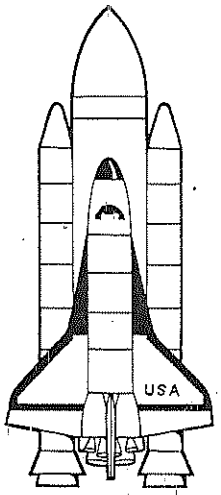
2. 416
× 38

History Standard: Understands the economic boom and social transformation of post-World War II United States

Benchmark: Understands the impact of postwar scientific research on contemporary society

Visiting the Moon

During his term in office, President Kennedy gave full funding to NASA, the space agency. He did this because he wanted to see Americans land on the moon. In July 1969 three men fulfilled Kennedy's dream during the Apollo 11 mission. Thousands of people had worked for years in order to send them to the moon. There had been 10 prior Apollo missions. One had failed, but the others were successful. Finally it was time to try a moon landing.



Their spacecraft took off from NASA in Houston, Texas. A Saturn 5 rocket carried the astronauts and their spacecraft into orbit. They blasted through space at speeds as fast as 25,000 miles per hour (40,234 kph). Even at that incredible speed, it took four days to reach the moon. The men had a special craft designed only for landing on the moon. This **lunar** module was called the *Eagle*.

After the *Eagle* landed, Neil Armstrong stepped out onto the moon. People all over the world watched on their television sets as he said, "That's one small step for man, one giant leap for mankind." Buzz Aldrin followed Armstrong onto the moon's surface, but Michael Collins stayed circling the moon in the main spacecraft. He had to make sure that nothing happened to the spacecraft that would take them home.

The astronauts moved around on the moon, gathering rocks and taking photographs. They did many experiments on the moon. Before they left, they planted an American flag in the ground in the place where they landed. Next to it they put a plaque that read, "We came in peace for all mankind." The flag and the plaque are still there.

Some people think that moon travel may become common. They want to build hotels on the moon and have people go on lunar vacations! If that happens, people will visit the site of the first moon landing. They will stand where Neil Armstrong made history.

Visiting the Moon

Comprehension Questions

1. **Where did the astronauts put a U.S. flag?**
   - (a) on the lunar buggy
   - (b) on the moon
   - (c) on the Saturn 5 rocket
   - (d) on their spacecraft

2. **On a historical time line, what happened first?**
   - (a) Astronauts went in the space shuttle.
   - (b) Neil Armstrong walked on the moon.
   - (c) The Apollo 13 had an emergency.
   - (d) President Kennedy gave full funding to NASA.

3. **Neil Armstrong stepping onto the moon is most like**
   - (a) Isaac Newton naming the laws of motion.
   - (b) Christopher Columbus discovering North America.
   - (c) Roald Amundsen reaching the South Pole before anyone else.
   - (d) Gutenberg inventing the printing press.

4. **The word *lunar* means**
   - (a) "of the moon."
   - (b) "of the sun."
   - (c) "of an astronaut."
   - (d) "of an eagle."

5. **What did Armstrong mean by, "...one giant leap for mankind"?**
   - (a) that it was a really big step down from the spacecraft
   - (b) that it was a moment of major progress for a human to step onto the moon
   - (c) that only men should go to the moon
   - (d) that he could do big leaps on the moon because of its low gravity

6. **Picture standing on the surface of the moon. The most colorful thing you see is**
   - (a) the rocks.
   - (b) the plants.
   - (c) the sunset.
   - (d) the American flag.

7. **Would you like to vacation on the moon? Explain.**

_____

_____

_____

Fish in a Tree Ch. 13-16 questions

1. Why might Shay be trying to bring Albert down? *What type of person is Keisha in interjecting? *Who should we aspire to be like? *What would you call the moment when Ally tries to give Keisha her flowers?

2. Why did Mr. Daniels do the "guess what's in the box" activity with the class? What kind of skills does it promote?

3. What makes Oliver unique? What positive qualities can you attribute to him? What do you think Mr. Daniels supposes about Ally and her trouble with reading and writing?

4. Is what Ally did with her arm wrong or justifiable (understandable)?

5. Why were Ally and Keisha the only two girls in the holiday concert that did not have flowers?

6. What did Keisha give to Ally and why?

Fish in a Tree Chapters 16-18 questions

1. How does Ally, Keisha and Albert respond differently to being bullied? How do or would you respond?

2. What would be the pros and cons of retreating to a planet without any other forms of life?

3. Albert says, "Something is not a misfit simply because it has a different name". Ally thinks that "people act like the words 'slow reader' tell them everything that's inside". Do you agree that there is more to someone or something than its label?

4. Why does Albert wear the Flint shirt every day?

5. Ally shares a story about Shat holding a grudge. Do you do this or are you able to forgive and forget?

Name _____ Date _____

3-digit multiplication : Box Method

Work out the answers to these multiplication questions using the box method.

218 x 44 = 9592

	200	10	8
40	8000	400	320
4	800	40	32

8000
400
320
800
40
+ 32
9592

121 x 88 = _____

_____

175 x 46 = _____

_____

260 x 78 = _____

_____

218 x 34 = _____

_____

197 x 53 = _____

_____

Name: _____

Partial Products

1. 32
x 19
= 9 x 2
= 9 x 30
= 10 x 2
+ _____ = 10 x 30

2. 97
x 51
= 1 x 7
= 1 x 90
= 50 x 7
+ _____ = 50 x 90

3. 27
x 31
= ___ x ___
= ___ x ___
= ___ x ___
+ _____ = ___ x ___

4. 13
x 25
= ___ x ___
= ___ x ___
= ___ x ___
+ _____ = ___ x ___

5. 82
x 45
= ___ x ___
= ___ x ___
= ___ x ___
+ _____ = ___ x ___

6. 23
x 44
= ___ x ___
= ___ x ___
= ___ x ___
+ _____ = ___ x ___

7. 53
x 26
= ___ x ___
= ___ x ___
= ___ x ___
+ _____ = ___ x ___

8. 12
x 34
= ___ x ___
= ___ x ___
= ___ x ___
+ _____ = ___ x ___

Mysterious Sunspots

In 1610, a man named Galileo invented the telescope so he could see the stars. But one day he looked through his telescope at the sun and saw something that surprised him. The sun was not a smooth yellow ball. Instead, Galileo saw large black spots on the sun. He never could explain what they were; although he watched them often. And sunspots are almost as much a mystery now as in Galileo's time.

Astronomers, people who study stars and planets, think that sunspots are huge storms on the sun. But the storms are not made up of clouds and rain. They are whirlwinds of hot gases and electrical particles. They shoot up from the sun for thousands of miles, then sink back again. As the gases shoot out from the sun, they cool off and do not glow, so they look black against the bright sun.

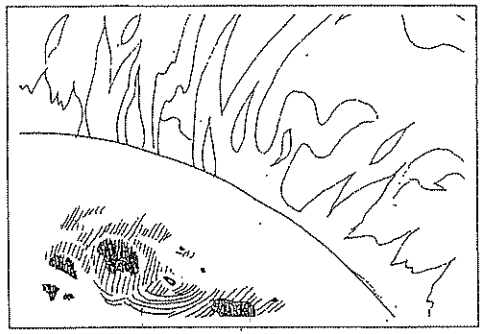
Even though they are millions of miles away, sunspots affect the earth. The Aurora Borealis, or Northern Lights, which are waves of light that flicker across the night sky, are brighter when there are many sunspots. The Aurora can always be seen around the North Pole, but during sunspot activity, even people in the United States can see the Aurora. Sunspots can change the weather, too, by increasing the amount of ozone in the air. The thicker ozone blanket keeps out the sunlight, so the weather becomes cooler. Finally, because sunspots are electrical, they can interfere with radio signals, causing static and crackling that makes a radio hard to hear.

Astronomers are very curious about sunspots. And maybe one day they will solve the mystery of why sunspots happen.

Think About It
Would you like to study the stars and planets? Why or why not?

ame _____

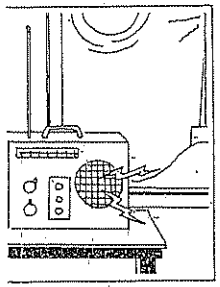
lysterious Sunspots



ain Idea
This story tells about
_____ the Aurora Borealis.
_____ ozones.
_____ sunspots.

quencing
Number the events below in the order that they happened.
_____ Galileo invented the telescope.
_____ Astronomers studied the sunspots.
_____ They decided that sunspots were huge storms on the sun.
_____ Galileo saw large black spots on the sun.

ading for Details
Use the clues to answer these questions.
What are sunspots? (paragraph 2) _____
_____
Where are sunspots located? (paragraph 2) _____
_____
Why do sunspots look black to us? (paragraph 2) _____
_____
What changes are caused by sunspots? (paragraph 3) _____
_____
Who studies sunspots? (paragraph 2) _____



Reading for Understanding
4. Circle Yes or No.

Sunspots affect the earth.	Yes	No
The Aurora Borealis is dreary when there are many sunspots.	Yes	No
The ozone layer becomes thinner when there are many sunspots.	Yes	No
Sunspots interfere with radio signals and make it hard to hear.	Yes	No

Lesson 5-4

Additional Practice

Name _____

Review

You can use a standard algorithm to multiply 3-digit and 4-digit factors by a 2-digit factor.

Find 2,186 × 42 using a standard algorithm for multiplication.

2, 1 8 6	
× 4 2	
4, 3 7 2	Multiply 2,186 by 2.
+ 87, 4 4 0	Multiply 2,186 by 40.
91, 8 1 2	Add the partial products.

The product is 91,812.

Find the product using a standard algorithm.

1. 251
× 27

2. 974
× 34

3. 4,109
× 19

4. 865
× 24

5. 376
× 83

6. 3,489
× 51

Lesson 5-4 • Reinforce Understanding

Multiply Multi-Digit Factors Fluently

Name _____

Review

Below is a way to multiply using partial products.

	983	
×	37	
	6,881	Multiply 983 × 7.
+	29,490	Multiply 983 × 30.
	36,371	Add the partial products.

Find the product of each equation using partial products.

1.
$$\begin{array}{r} 562 \\ \times \quad 14 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 173 \\ \times \quad 26 \\ \hline \end{array}$$

Find the product of each equation using an algorithm.

5.
$$\begin{array}{r} 210 \\ \times \quad 34 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 467 \\ \times \quad 55 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 632 \\ \times \quad 18 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 1{,}786 \\ \times \quad 62 \\ \hline \end{array}$$

Fish in a Tree Chap. 19-21 questions

1. What do you think is the best route for Alert to take with his bullying problem?
2. When someone is trying to "get a rise out of you" like Shay does with Ally, how do you respond? Is ignoring someone like At's mom advises or walking away like Mr. Daniels suggests easy or difficult?
3. What do you believe was Ally's wish? What wish would you make with the butterfly?

Fish in a Tree Chap. 22-24 questions

1. How has friendship between Ally and Albert grown up to this point?
2. What does Ally mean when she says "If I were a coin, I'd be a wooden nickel?"
3. How has Ally been lucky all along but didn't see it?

Fish in a Tree Chap. 25-30 questions

1. What do you think about the reasoning behind the poetry award? Was it worth it?
2. Think about what Keisha says: "I'm only different to people who see with the wrong eyes."
3. What is Ally's overall attitude regarding herself and self-worth throughout the book? Look at the last line in most of the chapters for clues.
4. Why do you think Ally gets headaches while reading and the words on the page seem to move? Why does Mr. Daniels ask her to join his chess club?
5. Look up the word dyslexia and tell someone at home the definition in your own words. What is the importance of the analogy of a fish climbing a tree?
6. Why do you think Ally is good at chess?

Fluency and Skills Practice

Multiplying with the Standard Algorithm

Name: _____

The answers are mixed up at the bottom of the page. Cross out the answers as you complete the problems.

1 580 × 30	2 3,104 × 18	3 1,482 × 38
4 1,085 × 17	5 1,236 × 55	6 1,625 × 18
7 2,105 × 13	8 1,788 × 15	9 2,500 × 19
10 648 × 32	11 2,409 × 23	12 306 × 62
13 2,417 × 24	14 650 × 35	15 962 × 44

Answers

20,736	17,400	27,365	47,500	55,872
18,972	18,445	26,820	67,980	56,316
22,750	29,250	55,407	42,328	58,008

Fluency and Skills Practice

Multiplying Multi-Digit Whole Numbers

Name: _____

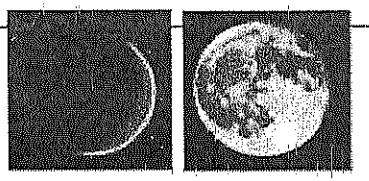
Estimate. Circle all the problems with products between 3,000 and 9,000. Then find the exact products of only the problems you circled.

1 132 × 34	2 247 × 15	3 145 × 23
4 308 × 12	5 158 × 41	6 364 × 32
7 400 × 29	8 254 × 17	9 187 × 42
10 216 × 12	11 323 × 18	12 194 × 26
13 317 × 14	14 385 × 31	15 285 × 27

16 What strategies did you use to solve the problems? Explain.

Phases of the Moon

Cross-Curricular Focus: Earth Science



Name: _____

Have you noticed that sometimes the moon looks like a tiny sliver of light in the night sky? Other times it is a big, brilliant circle. The moon has many different looks during the month. Each look is called a **lunar** phase. Lunar means "of the moon." The moon has phases because it orbits Earth. The Earth revolves around the sun. The moon revolves separately around Earth. The moon itself does not actually change size. It appears to change size because different parts of it are in the shadow.

In the new moon phase, none of the part of the moon that is facing Earth is lit by the sun. It appears as only a dark outline. During the waxing crescent phase, the moon looks small. Only a tiny sliver of the moon's side that is facing Earth is lit by the sun. The next phase is the first quarter phase. In it, half of the moon's nearest side is lit by the sun. We see it as about one-fourth of a full moon. During the waxing gibbous phase, more of the moon is lit. Even so, it is not quite a full moon yet. In the full moon phase, all of the side of the moon that is facing Earth is lit by the sun. It appears as a large, bright circle. During the waning gibbous phase, some of the part that was lit as a full moon begins to fall into the shadows. In the last quarter phase, a different side of the moon is lit. Again, the moon appears as one-fourth full. During the waning crescent phase, the moon slips further into shadows. It is a thin crescent shape once more. After this phase, the entire lunar **cycle** begins again with a new moon.

Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.

1) What is meant by a "phase" of the moon?

_____

_____

2) Why does the moon appear to be different sizes?

_____

3) What are the two phases during which the moon appears almost full, but not quite?

_____

_____

4) What are the two phases during which the moon appears as only a tiny sliver?

_____

_____

5) What is your favorite phase of the moon? Why?

_____

_____