

SUSTAIN

What is It?

Why is It Important?

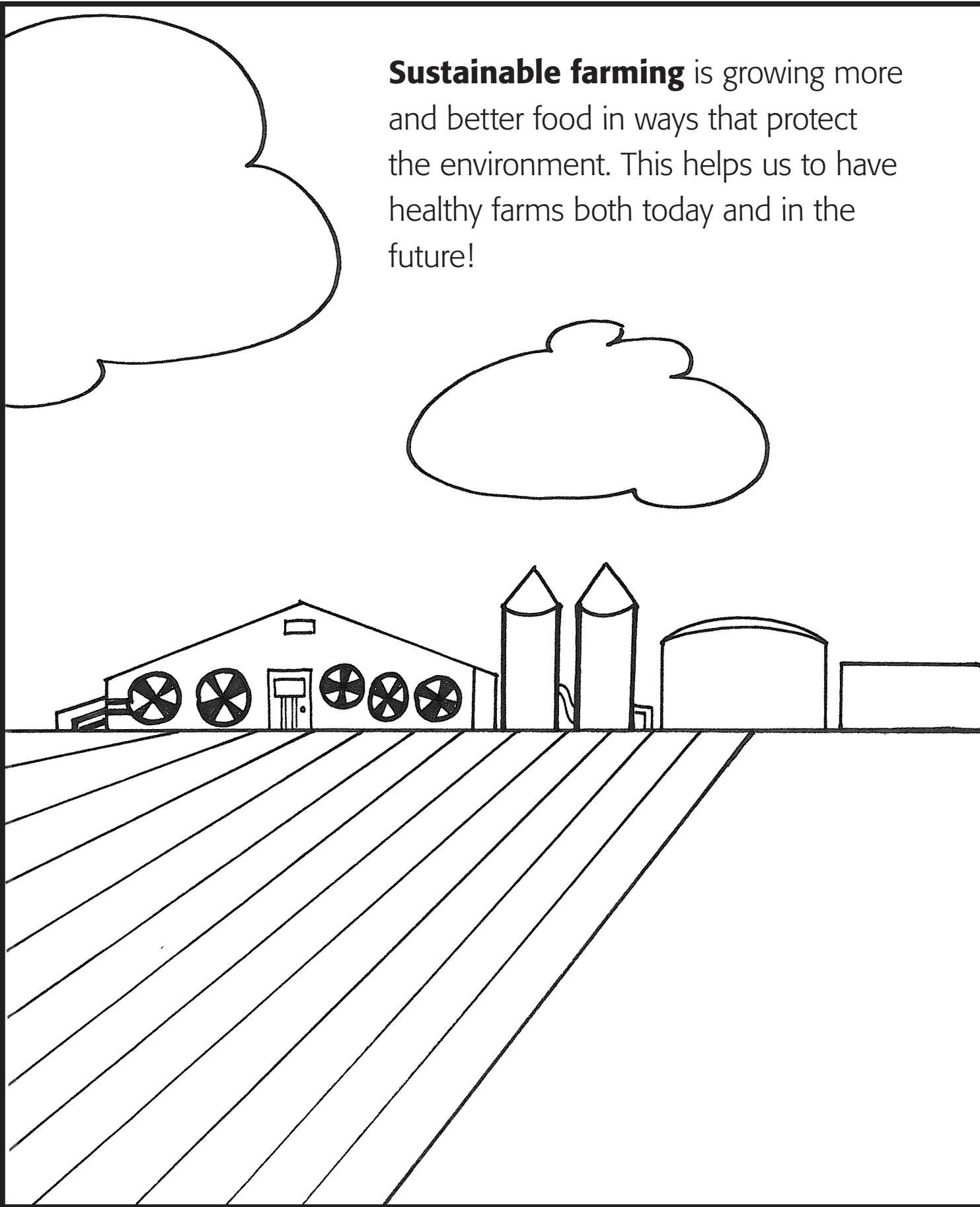
Who Does It?

ABILITY

Recommended for grades 2-4

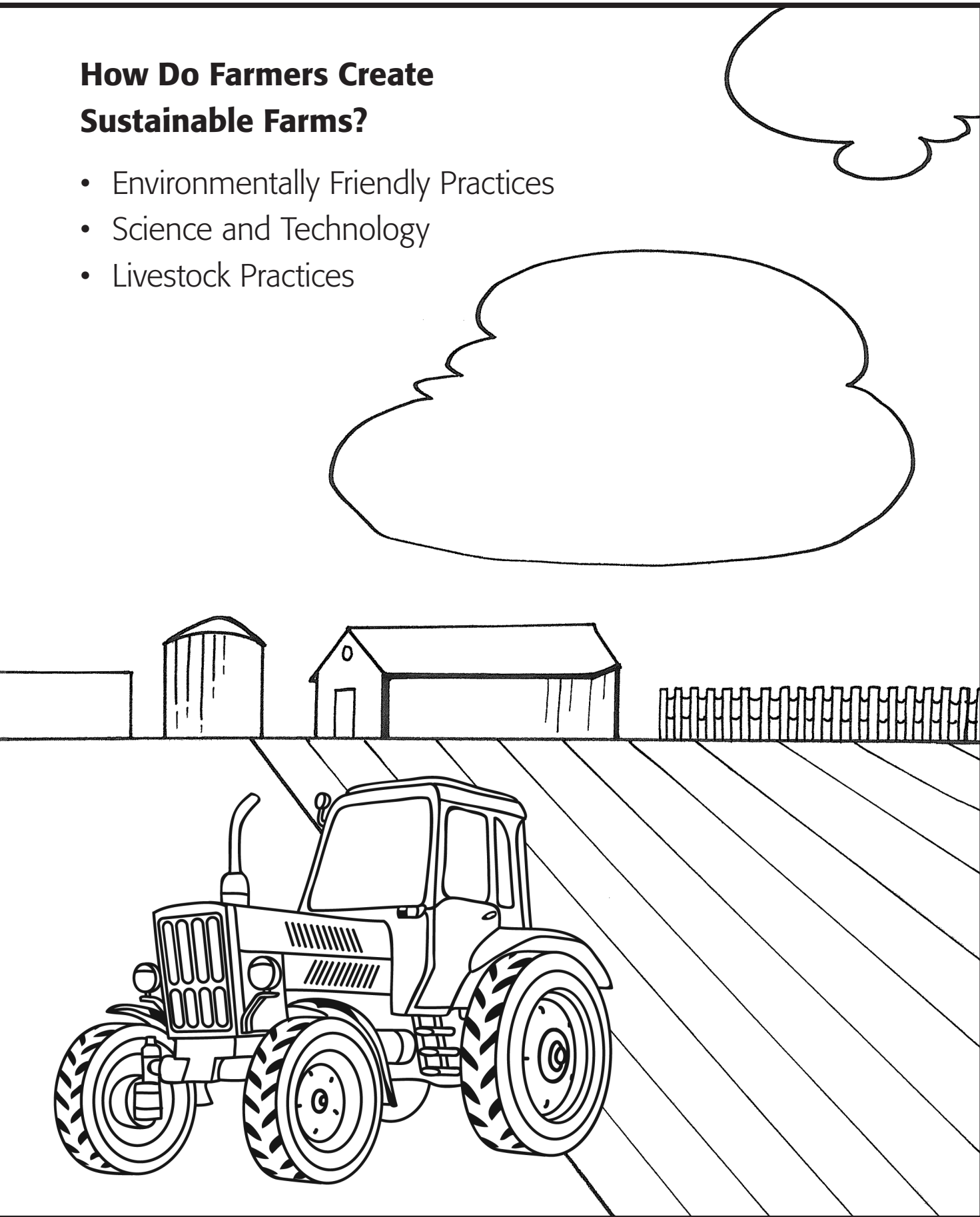


Sustainable farming is growing more and better food in ways that protect the environment. This helps us to have healthy farms both today and in the future!



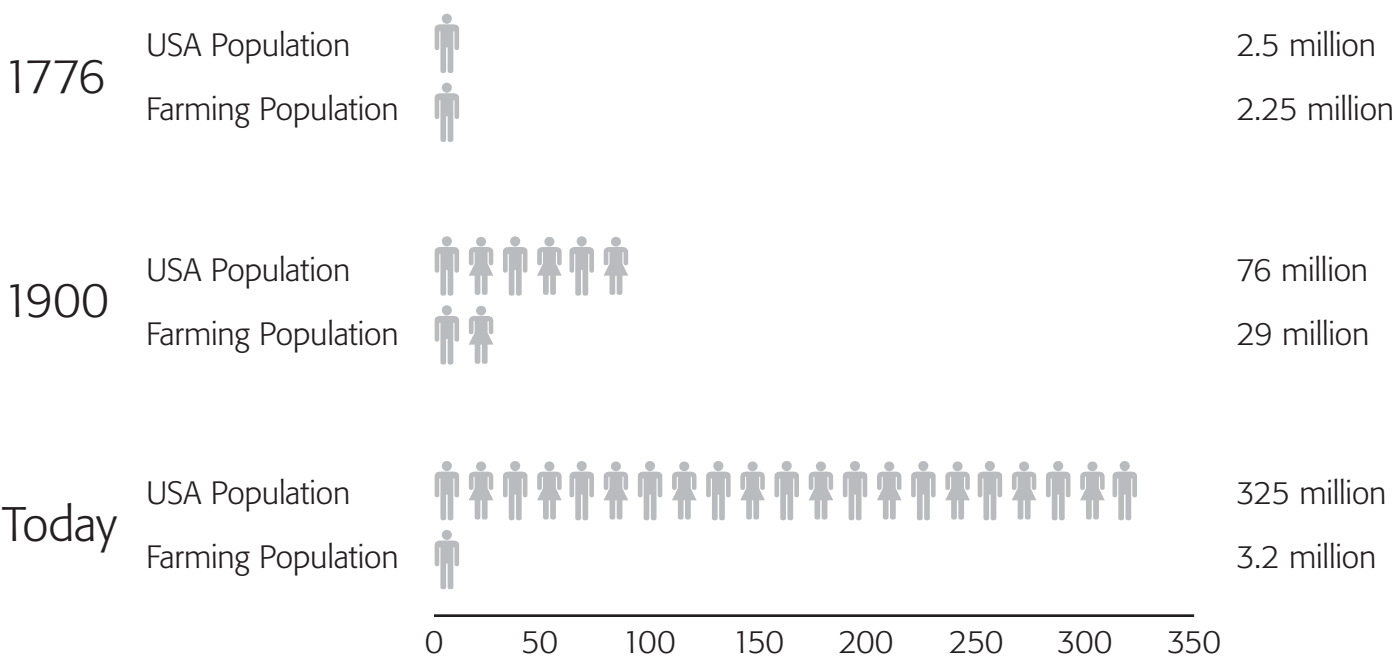
How Do Farmers Create Sustainable Farms?

- Environmentally Friendly Practices
- Science and Technology
- Livestock Practices



The population of the United States and the entire world is growing. Look at how many more people there are now compared to a couple centuries ago.

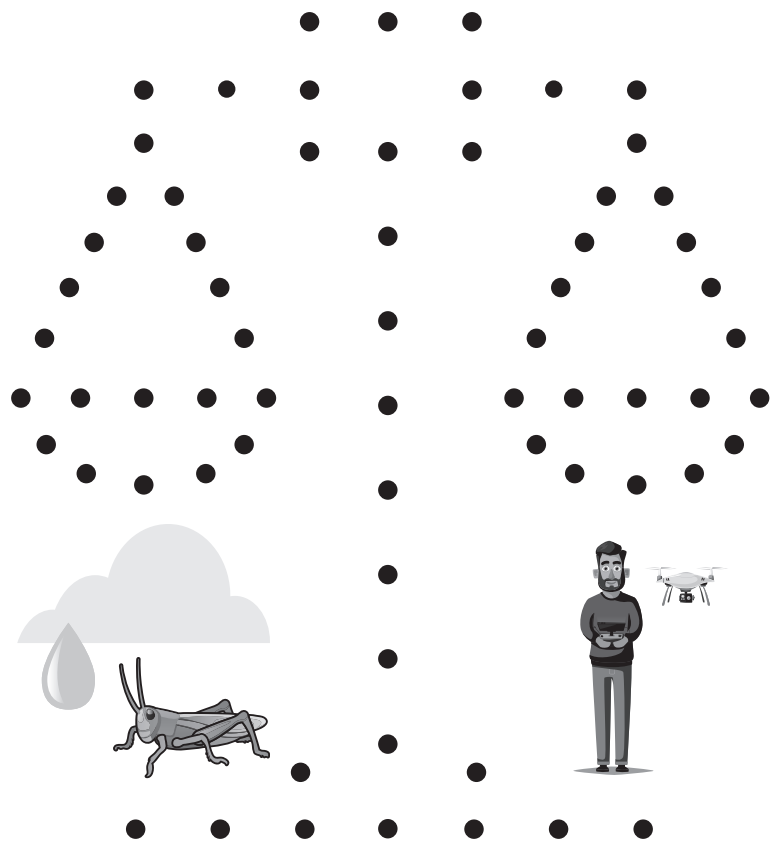
Quick Facts



Sustainable farming allows our farmers to grow enough food for everyone without hurting the environment. The number of people in the United States and in the world continues to grow. Farms have to be sustainable to be able to feed us all.

What Makes a Successful and Sustainable Farm?

Successful farms are like a balanced scale. On one side of the scale is everything that affects quality of the crops or livestock—such as weather, water needs, weeds and disease. On the other side of the scale is what the farmer can do to help the crops and livestock grow, such as irrigation, fertilizers, herbicides, and technology.



Discussion Questions/Activities

1. Think about where you live. How hard do you think it is to feed you, your family, your neighbors, and your town? What are some problems you might run into trying to feed a small town compared to a big city?
2. Water is our most valuable resource. Almost every day-to-day activity we do requires water at some point—from cleaning the house and preparing dinner to watering the grass on the baseball field. How many day-to-day activities that require water can you list?

Water, Water Everywhere

Water is the most important resource on the planet, but we often waste much of it. In the past we watered an entire field, but now some farms have computer sensors throughout the field that can tell us how much water each plant needs. This is a great way to use only the amount of water needed, and waste less.

Shape up your math skills!

Draw the correct symbol in the answer space.



Example: $2 + 1 =$ 

1. $12 - 8 =$ _____

6. $22 - 13 - 5 =$ _____

2. $10 - 5 - 2 =$ _____

7. $28 - 26 =$ _____

3. $2 + 1 =$ _____

8. $6 - 3 =$ _____

4. $5 + 4 - 8 =$ _____

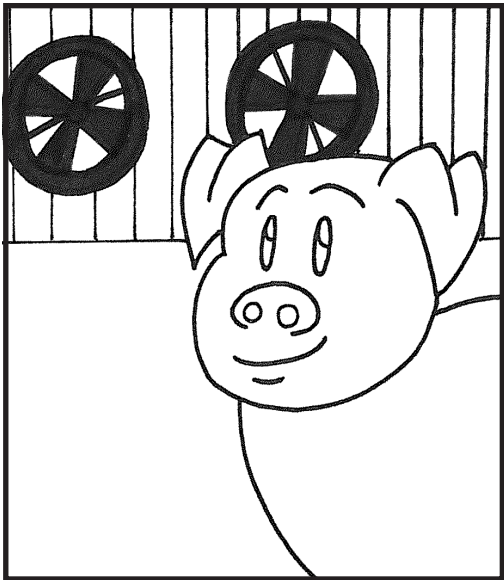
9. $19 - 15 =$ _____

5. $8 - 2 - 2 =$ _____

10. $35 + 7 - 39 =$ _____

From the Farm to the Cloud

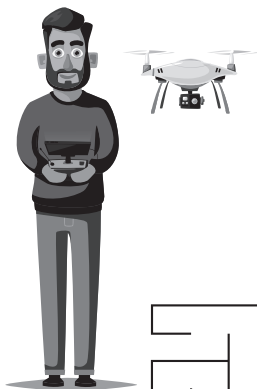
Farmers use technology such as satellite cameras, smartphones, GPS, and drones to build sustainable farms. Farming is a job that uses new technology daily. Many times, farmers are using technology on their farms before the rest of us use it in our everyday life.



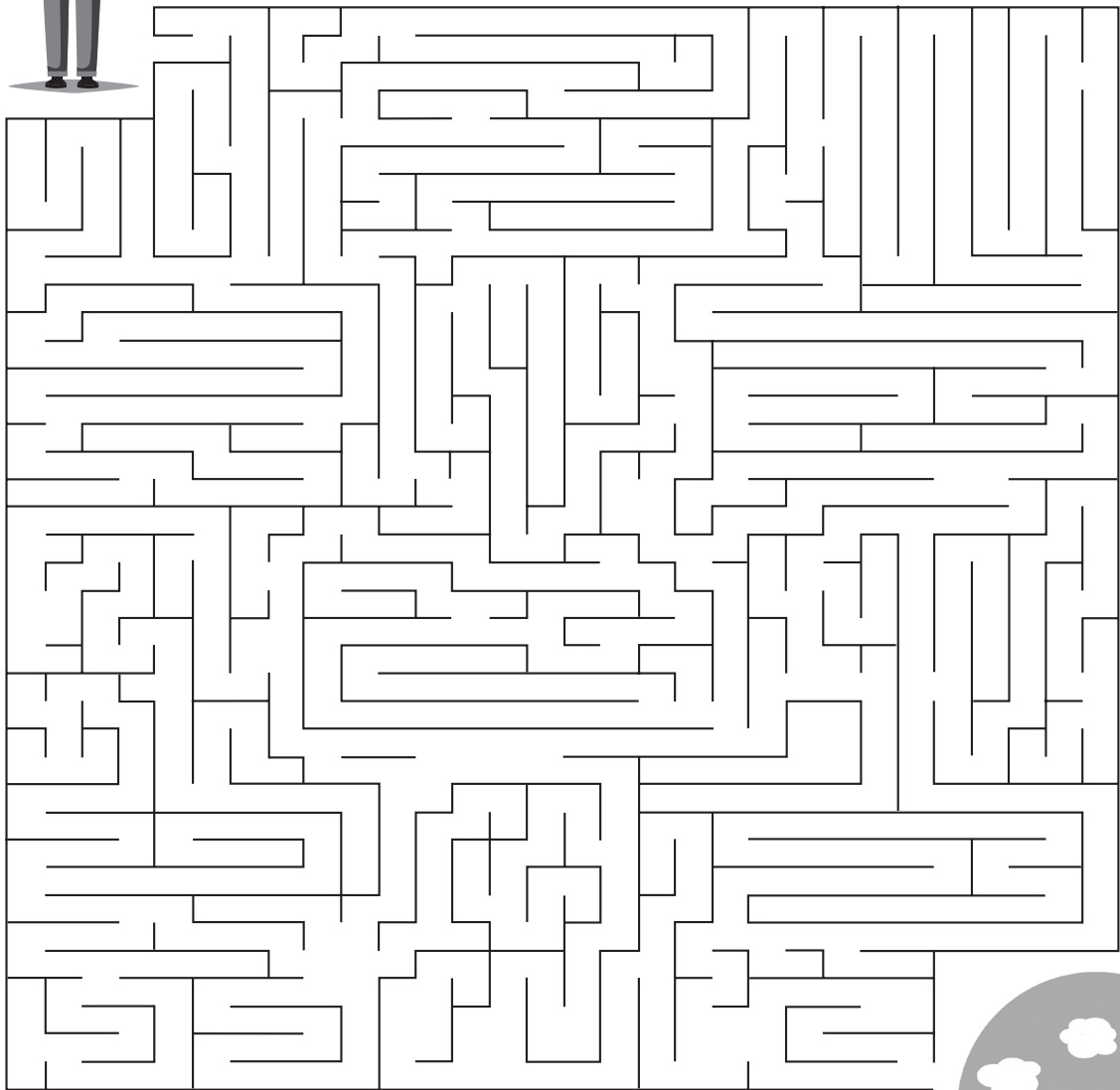
Jumble puzzle—Unscramble the letters to spell out words about sustainability.

FEARMR	F <u> </u> <u> </u> <u> </u> R
DORNE	D <u> </u> <u> </u> E
BNLAACE	B <u> </u> <u> </u> <u> </u> <u> </u> E
CPTUMOER	C <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> R
WREAT	W <u> </u> <u> </u> R
LOISVETCK	L <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> K

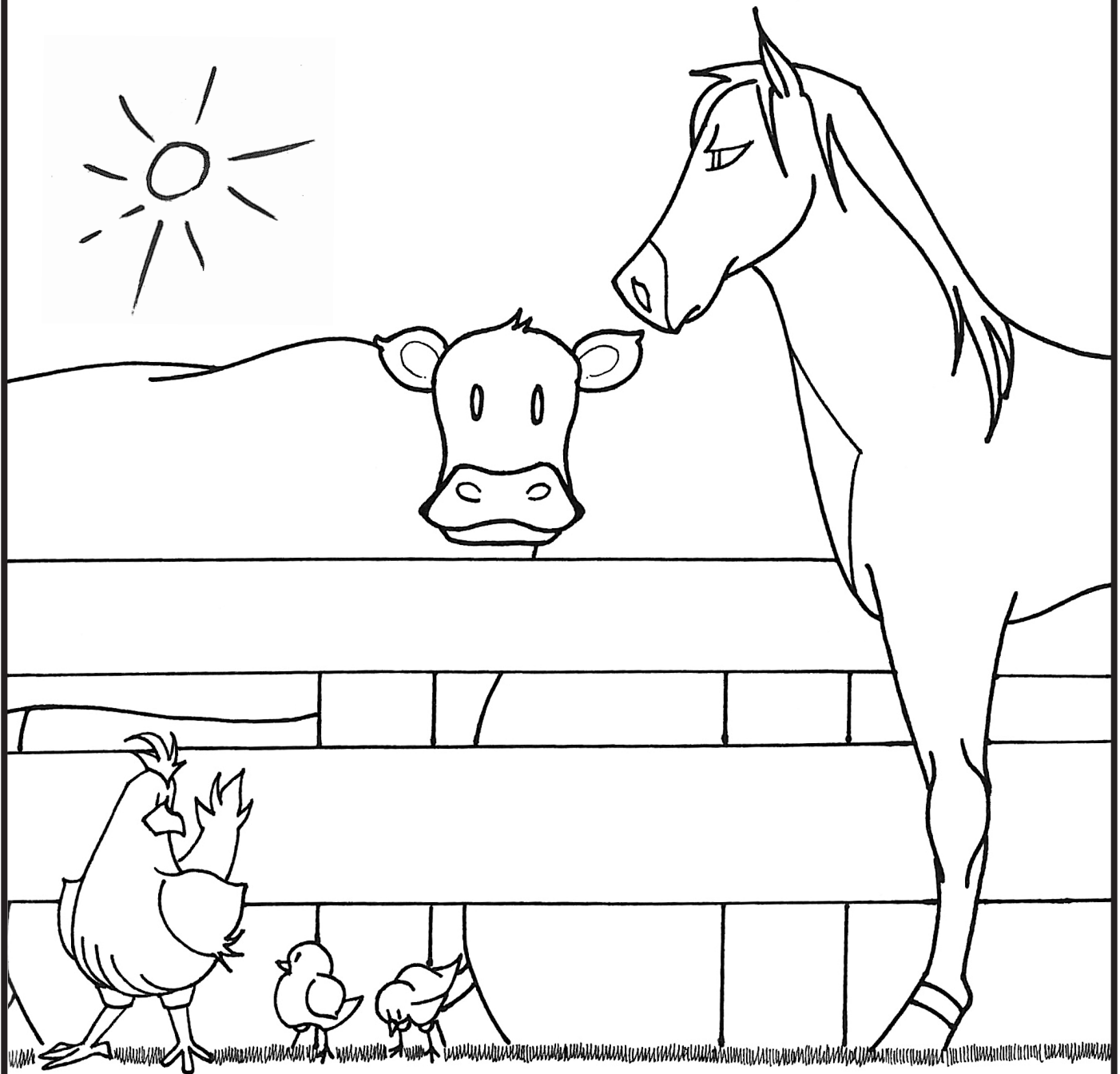
High-Tech Farming Maze



David needs to look at his soybean plants to see if they are healthy and growing. While he could fly his drone above the crops, find the path he could take to walk from one end of his field to the other.



A farm isn't sustainable if it doesn't take care of its livestock! Farmers who raise cattle and other livestock can and do raise their animals in sustainable and humane ways. They move them from field to field to save natural resources, use technology to know early if an animal is sick, and provide feed, water and care to their livestock every single day of the year (even on holidays!).



You can help!

We are glad our farmers are trying to take care of the environment. Can you do your part and help us at home and school? Here are some ways you can help:

Save Water—Turn off the faucet when you aren't using it, and take shorter showers.

Save Energy—Turn off TVs and computers when you're not using them, turn the heat down in the winter, and check doors and windows for leaks.

Recycle—Instead of throwing away cans, plastic bottles, and glass jars—recycle them! This “trash” can be used over and over to make new bottles and cans instead of going to a landfill!

Be a Leader—Get your family, friends, and teachers to pitch in. Don't just ask them to help, lead by example!



Sustainability Word Search and Find



RECYCLE

ALUMINUM

PAPER

GLASS

LEADER

WATER

ENERGY

CONSERVE

FARMER

Crossword

Across

1. What is the most important resource on the planet?

5. Farm animals need to be a fed a _____ diet.

6. The U.S. population is more than 300 _____ people.

7. Successful farms are balanced like a _____ .

8. What small flying machine helps farmers improve their farms?

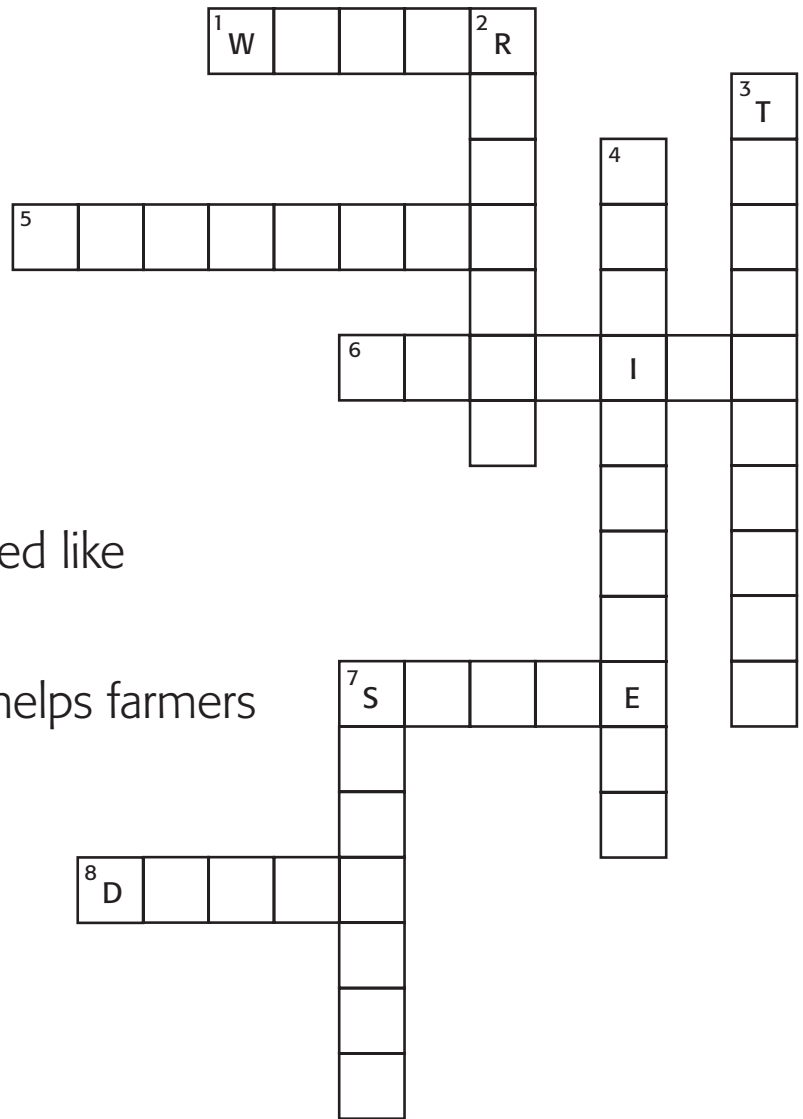
Down

2. Instead of throwing away bottles and cans, you can _____ them.

3. Farmers use _____ everyday to work smarter and be more sustainable.

4. Sustainable farms protect the _____ , including water, air, and soil.

7. Sustainable farms use _____ and technology.



Sustainability Glossary

Environment. The air, water, minerals, organisms, and all other external factors that surround us.

Fertilizer. A substance applied to fields to make the soil more productive.

GPS (Global Positioning System). A system of satellites that allow us to map locations on Earth with incredible accuracy. GPS allows farmers to be precise when planning and mapping fields, as well as when planting, irrigating, spraying, and applying nutrients.

Herbicide. A substance or product for killing plants, especially weeds.

Irrigation. The application of water to land to assist in crop growth.

Livestock. The horses, cattle, sheep, hogs, and other useful animals raised on a farm or ranch.

Satellite cameras. A tool farmers use to provide pictures that show the condition of crops to track growth and changes over time.

Sustainable. Causing little or no damage to the environment and therefore being able to continue for a long time; a way of using a resource so that the resource is not depleted or permanently damaged.



PUZZLE ANSWERS

Shape Up Your Math Skills, pg. 6

1

2

3

4

1. 12 - 8 = 

2. 10 - 5 - 2 = 

3. 2 + 1 = 

4. 5 + 4 - 8 = 

5. 8 - 2 - 2 = 

6. 22 - 13 - 5 = 

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9. 19 - 15 = 

10. 35 + 7 - 39 = 

Jumble Puzzle, pg. 7

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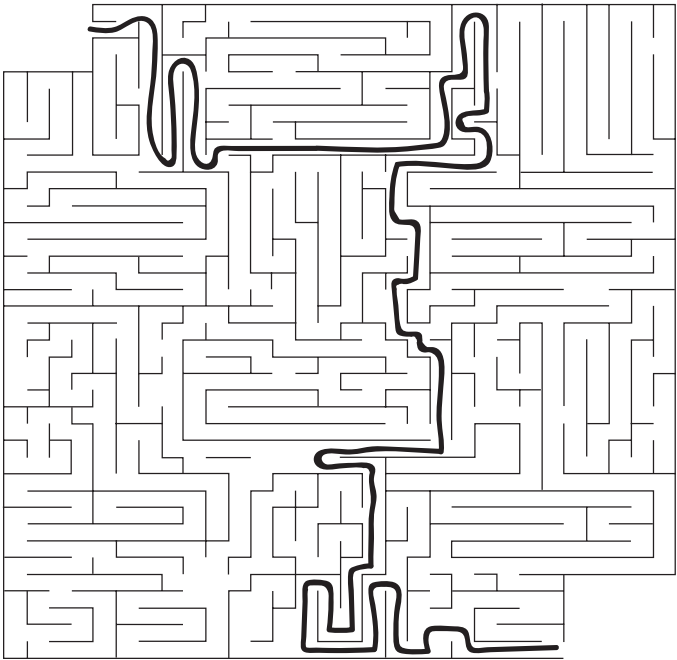
B A L A N C E

C O M P U T E R

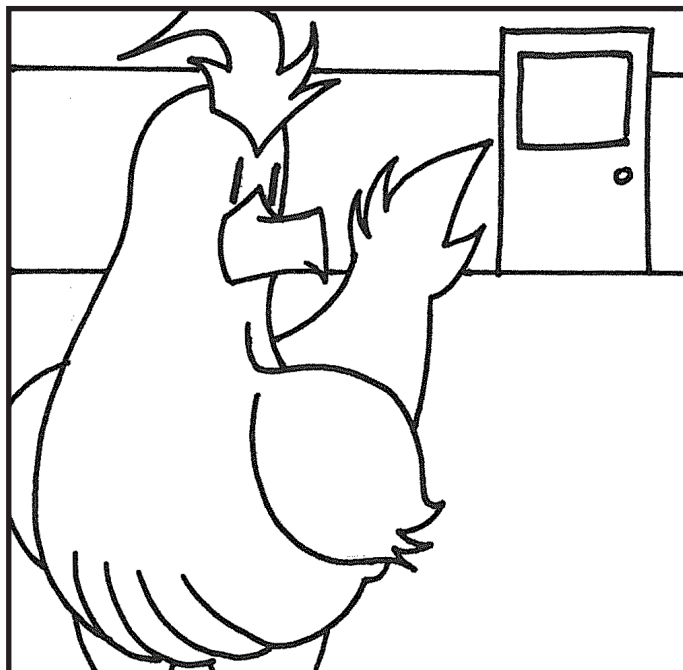
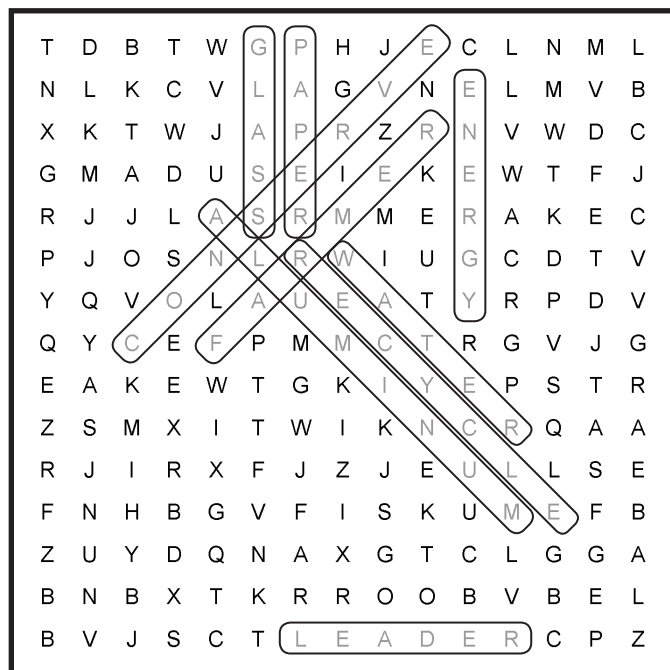
W A T E R

L I V E S T O C K

High-Tech Farming Maze, pg. 9



Sustainability Word Search and Find, pg. 12



Crossword, pg. 13

Across

1. What is the most important resource on the planet?

Answer: water

5. Farm animals need to be a fed a _____ diet.

Answer: balanced

6. The U.S. population is more than 300 _____ people.

Answer: million

7. Successful farms are balanced like a _____.

Answer: scale

8. What small flying machine helps farmers improve their farms?

Answer: drone

Down

2. Instead of throwing away bottles and cans, you can _____ them. **Answer: recycle**

Answer: recycle

3. Farmers use _____ everyday to work smarter and be more sustainable. **Answer: technology**

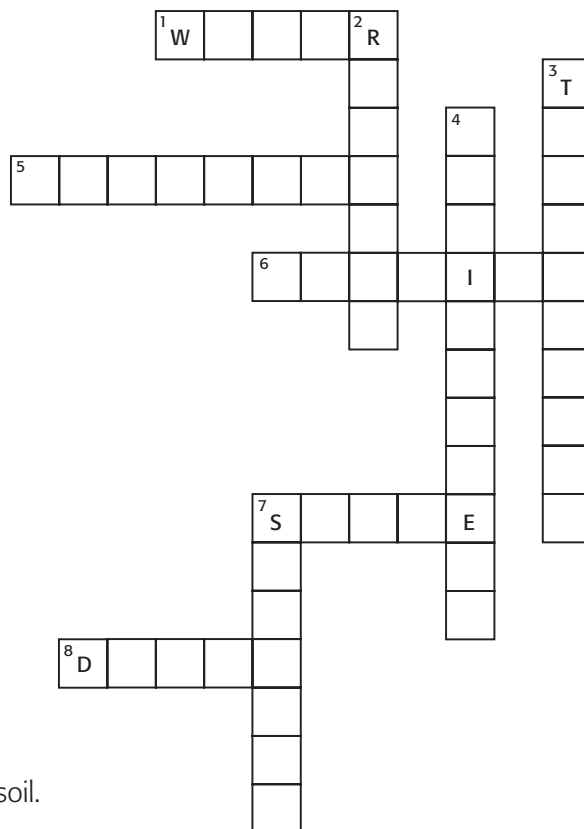
Answer: technology

4. Sustainable farms protect the _____, including water, air, and soil.

Answer: environment

7. Sustainable farms use _____ and technology. **Answer: science**

Answer: science



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