

Texas Ideas at Work

How innovations can help people, businesses, and communities

4.18.B “describe how scientific discoveries and innovations such as in aerospace, agriculture, energy, and technology have benefited individuals, businesses, and society in Texas.”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Circle each of these four innovation names: *lightweight materials*, *precision agriculture*, *wind turbines*, and *power-system monitoring technology*. Underline every phrase that tells a benefit, then write I, B, or S beside it for individuals, businesses, or society.

Innovations Across Texas

- ① Texas scientists and engineers have helped people travel beyond Earth. At NASA's Johnson Space Center in Houston, teams train astronauts and plan space missions. Research there has led to new tools and knowledge. For example, NASA-supported work helped improve lightweight materials that can be used in products. These materials can make some equipment easier for workers to carry and help companies build durable goods.
- ② On Texas farms, precision agriculture uses GPS, sensors, and computer programs to guide planting and watering. A sensor can show where soil is dry, so a farmer can use water where it is needed. This can lower water and fuel costs for farm businesses. Using less water can also protect a shared resource for Texas communities, while careful planting can help farmers grow crops.
- ③ Wind turbines across parts of Texas turn moving air into electricity. This renewable energy can provide power without burning fuel, which can reduce air pollution. Texas businesses install, maintain, and operate turbines, creating jobs. Power-system monitoring technology helps electric companies watch the power system and find problems quickly. When workers restore service faster after a problem, families, schools, and businesses can use electricity again.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 How can lightweight materials benefit an individual worker?

2 How does precision agriculture benefit both farm businesses and Texas communities?

3 What is one benefit of wind turbines for society in Texas? Use a detail from the passage.

4 How does power-system monitoring technology help electric companies and the people who need electricity?

3 YOUR TURN _____ Your own words

Choose two innovations from the passage. Write three sentences that compare their benefits, including a different group helped by each innovation.

PART 1 • READ AND MARK

Circle each of these four innovation names: *lightweight materials*, *precision agriculture*, *wind turbines*, and *power-system monitoring technology*. Underline every phrase that tells a benefit, then write I, B, or S beside it for individuals, businesses, or society. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	How can lightweight materials benefit an individual worker?	They can make some equipment easier for a worker to carry.
2	How does precision agriculture benefit both farm businesses and Texas communities?	It can lower water and fuel costs for farm businesses. Using less water can protect a shared resource for Texas communities.
3	What is one benefit of wind turbines for society in Texas? Use a detail from the passage.	Wind turbines provide electricity without burning fuel, which can reduce air pollution.
4	How does power-system monitoring technology help electric companies and the people who need electricity?	It helps electric companies find problems quickly. Workers can restore service faster, so families, schools, and businesses can use electricity again.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Precision agriculture benefits farm businesses by lowering water and fuel costs. Wind turbines benefit Texas communities because they provide electricity without burning fuel, which can reduce air pollution. Both innovations can benefit Texas communities.

Accept any two innovations named in the passage and benefits supported by the passage. The response should have three sentences, compare the innovations, and identify different groups helped by each one.