

Texas Ideas at Work

Trace how inventions and discoveries changed life in Texas.

4.18 "Science, technology, and society. The student understands the impact of science and technology on life in Texas. The student is expected to: identify famous inventors and scientists such as Gail Borden, Joseph Glidden, Michael DeBakey..."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline the names of the four inventors and scientists. Circle words that tell what each person did or how the work helped people, then number the three fields named in the last paragraph.

Problem Solvers in Texas

- ① Texas innovators solved problems people faced every day. Gail Borden created a process for making condensed milk, which stayed safe longer than fresh milk. His company sold this milk to families and travelers, and it helped create jobs. Joseph Glidden invented barbed wire. Ranchers used the wire to fence land, protect crops, and manage cattle. His invention changed agriculture and ranch businesses across Texas.
- ② Dr. Michael DeBakey was a Texas heart surgeon who improved tools and methods for heart care. He helped develop a roller pump that moved blood during some operations. These advances gave doctors ways to treat patients with serious heart problems. Millie Hughes-Fulford, a Texas scientist and astronaut, studied how spaceflight affects human cells. Her research helped scientists learn about health in space and on Earth.
- ③ Scientific discoveries and new technology continue to shape Texas. Aerospace work supports satellites, weather information, and research. Energy innovations help produce and move electricity and fuels. Computer technology lets businesses communicate, plan deliveries, and serve customers. These changes can benefit individuals, businesses, and whole communities. For example, weather information can help a family prepare, a farm plan work, and a town respond to a storm.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What did Gail Borden create, and why was it useful to families and travelers?

2 How did Joseph Glidden's barbed wire help ranchers?

3 What did Dr. Michael DeBakey help develop, and what did Millie Hughes-Fulford study?

4 Choose one field named in the last paragraph. Describe one benefit from that field for an individual, a business, or a community.

3 YOUR TURN _____ Your own words

Invent a new Texas tool or discovery that solves a problem. Name its field, aerospace, agriculture, energy, or technology, and explain how it would help an individual, a business, and a community.

PART 1 • READ AND MARK

Underline the names of the four inventors and scientists. Circle words that tell what each person did or how the work helped people, then number the three fields named in the last paragraph. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What did Gail Borden create, and why was it useful to families and travelers?	He created a process for making condensed milk. It stayed safe longer than fresh milk.
2	How did Joseph Glidden's barbed wire help ranchers?	It helped ranchers fence land, protect crops, and manage cattle.
3	What did Dr. Michael DeBakey help develop, and what did Millie Hughes-Fulford study?	DeBakey helped develop a roller pump that moved blood during some operations. Hughes-Fulford studied how spaceflight affects human cells.
4	Choose one field named in the last paragraph. Describe one benefit from that field for an individual, a business, or a community.	Answers may include aerospace providing weather information, energy innovations producing or moving electricity and fuels, or computer technology helping businesses communicate, plan deliveries, and serve customers. The response must name a benefit for an individual, business, or community.

PART 3 • YOUR TURN (SAMPLE ANSWER)

I would create a solar-powered charging station for rural Texas towns. It would give families power during outages, help stores keep devices working, and help the community share emergency news.

Accept accurate descriptions of the four people and their contributions as stated in the passage. For Your Turn, accept any sensible invention or discovery in a named field that clearly explains benefits for an individual, a business, and a community.