



Connection to the museum: Our museum features windmills, tractors, steam engines, and other machines that helped families work, travel, and build communities across the Texas Panhandle.

Grade level targeted: PK/Kindergarten

Connected learning targets:

Science: Observe how objects move and identify sources of energy.

ELAR: Ask questions and describe observations.

Engineering: Build and test simple structures.

Objective of lesson:

Students will identify different sources of energy and recognize how machines help people do work.

Summary of lesson:

Read a picture book such as *The Boy Who Harnessed the Wind* (picture book edition) or another simple story about wind or machines.

Students visit: Windmill, Steam Engine, and Tractors

Discussion:

What makes a windmill move?

What helps a tractor work?

How do machines help people?

Student Activity:

Build a simple paper pinwheel and test it outside to see how wind creates movement.

Assessment:

Students name one machine they saw and explain what kind of energy makes it work.



Connection to the museum: Our museum's transportation and agricultural exhibits show how new inventions changed life on the Texas Plains.

Grade level targeted: 1st – 2nd

Connected learning targets:

Science: Observe and describe how energy causes change.

Engineering: Explore how tools solve problems.

ELAR: Make observations and communicate ideas.

Objective of lesson:

Students will explain how different energy sources help machines do work.

Summary of lesson:

Students explore: Windmill, Steam Engine, Tractor, and Airplanes

Discussion:

What makes each machine move?

Where does the energy come from?

How have machines changed over time?

Students compare:

Wind energy

Steam energy

Gasoline/Diesel engines

Student Activity:

Sort pictures of machines by their energy source (wind, steam, fuel, electricity).

Assessment:

Complete the sentence:

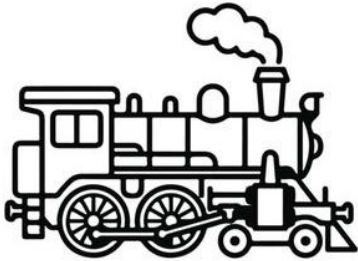
"The _____ uses _____ energy."

Name: _____

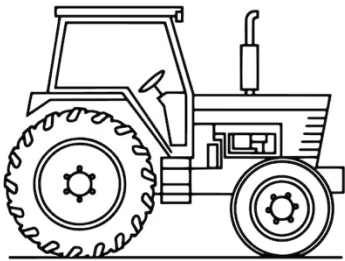
Draw a line to match the picture to the energy type.



Steam



Light



Wind



Fuel

Complete the sentence:

The _____ uses _____ energy.



Connection to the museum: Our museum's exhibits demonstrate how innovation and technology transformed ranching, farming, transportation, and industry in the Texas Panhandle.

Grade level targeted: 3rd – 5th

Connected learning targets:

Science: Investigate different forms of energy and how energy transfers occur.

Engineering: Design and test solutions.

ELAR: Draw conclusions using evidence.

Objective of lesson:

Students will investigate how different energy sources powered transportation, farming, and communities in the Texas Panhandle.

Essential Question: How has energy changed the way people live and work?

Summary of lesson:

Energy Investigation

Students examine: Windmill, Steam Engine, Tractor, Oil & Gas Exhibits

Students determine:

What powers this machine?

What job does it perform?

How did it improve life?

Discussion Questions:

Why were windmills important in the Panhandle?

How did steam engines change transportation?

Why is energy important to communities?

Student Activity:

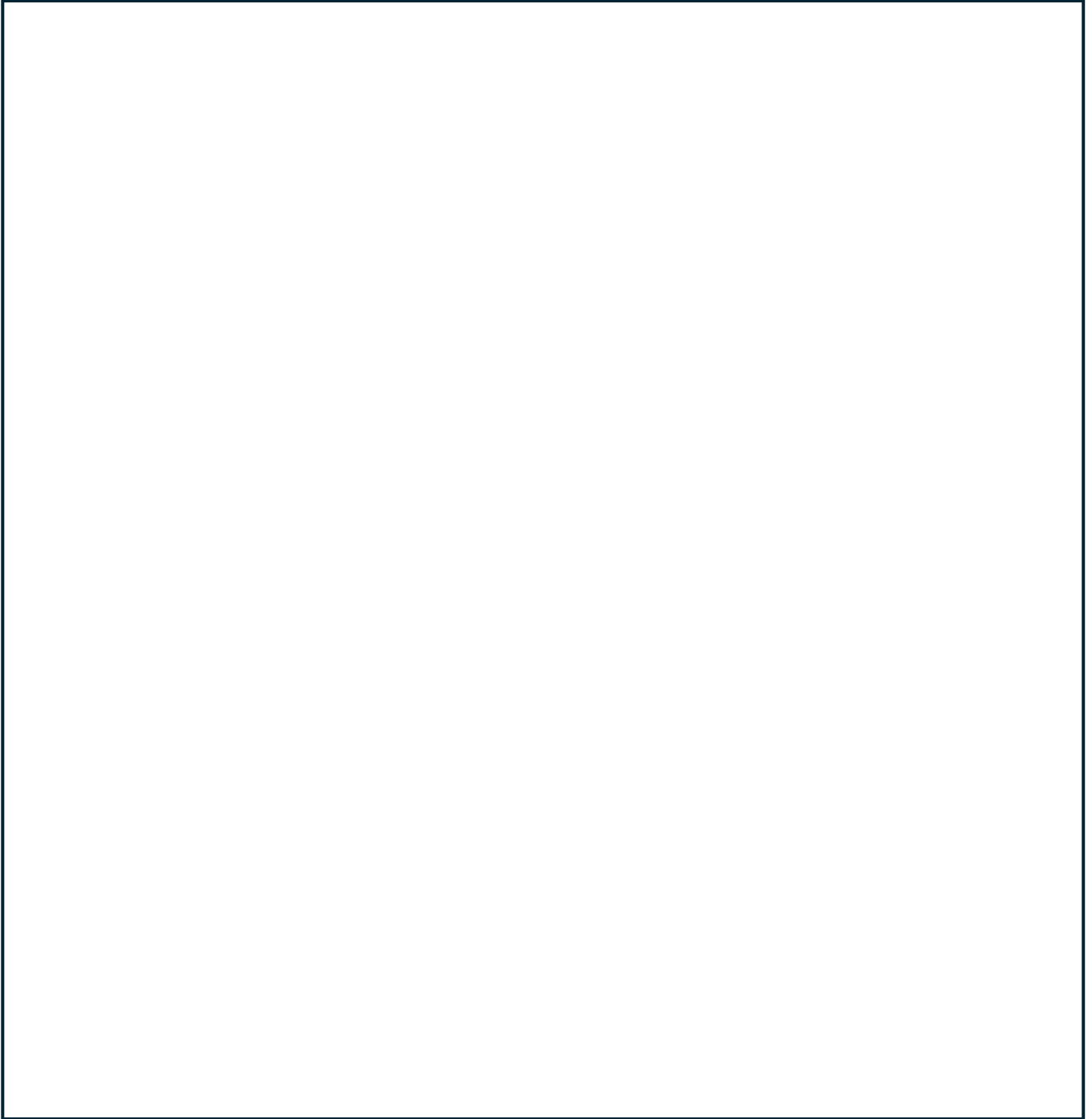
Design a machine that uses one type of energy to help solve a problem on a ranch or farm.

Assessment:

Students explain which energy source they chose and why it is the best solution.

Name: _____

Design a machine that uses one type of energy to help solve a problem on a ranch or farm.

A large, empty rectangular box with a thin black border, intended for a student to draw a machine design. The box occupies the central portion of the page, below the design prompt and above the explanation prompt.

Explain to a partner which energy source they chose and why it is the best solution for a farm.



Connection to the museum: Our museum preserves artifacts that tell the story of how innovation and energy helped shape the Texas Panhandle.

Grade level targeted: 6th – 8th

Connected learning targets:

Science: Analyze energy transformations.

Engineering Design: Evaluate technological solutions.

Texas History: Analyze how technology influenced settlement and economic growth.

ELAR: Support claims using evidence.

Objective of lesson:

Students will evaluate how different energy sources have influenced agriculture, transportation, and industry in Texas.

Essential Question:

How has technology changed the way Texans produce and use energy?

Summary of lesson:

Technology Investigation

Students investigate: Windmill, Steam engine, Oil & Gas exhibit, Tractor, and Airplane

Students analyze: Source of energy, Advantages, Limitations, and Historical impact

Discussion Questions:

Why were windmills essential on the High Plains?

How did steam power change transportation?

How has oil and gas shaped Texas?

Student Activity:

Students create an energy timeline showing how technology evolved from wind and steam to gasoline and electricity.

Assessment:

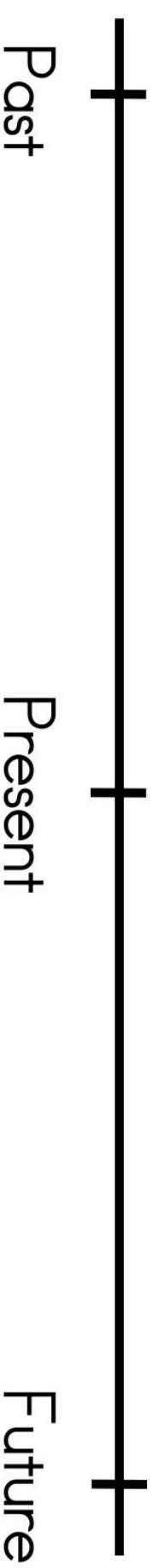
Claim: One invention that transformed life on the Texas Plains was _____.

Evidence: _____.

Name: _____

My Timeline

6th/8th



Claim: One invention that transformed life on the Texas Plains was _____.

Evidence: _____.

Claim: One invention that transformed life on the Texas Plains was _____.

Evidence: _____.

Claim: One invention that transformed life on the Texas Plains was _____.

Evidence: _____.



Connection to the museum: Our museum's collections illustrate more than a century of technological innovation, showing how energy transformed daily life, transportation, agriculture, and industry across the Texas Panhandle.

Grade level targeted: High School (9th – 12th)

Connected learning targets:

Physics
Engineering
Texas History
Environmental Science
Economics

Objective of lesson:

Students will evaluate the role of energy and technological innovation in the economic development of the Texas Panhandle.

Essential Question:

How has the use of energy influenced the growth of communities in the Texas Panhandle?

Summary of lesson:

Students investigate museum artifacts related to:
Wind Power, Steam Technology, Oil and Gas, Agricultural Machinery, and Aviation

Students analyze:

Technological innovation, Economic impact, Environmental considerations, and Community development

Discussion Questions:

How did new technologies transform agriculture?
Why has the Texas Panhandle relied on multiple forms of energy?
How do today's energy challenges compare with those of the past?

Student Activity:

Students create an energy timeline showing how technology evolved from wind and steam to gasoline and electricity.

Assessment:

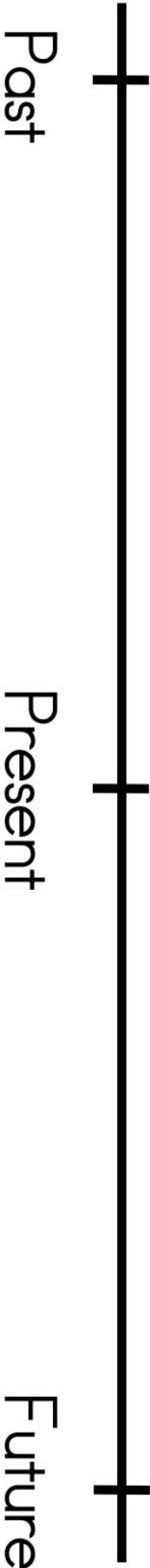
Claim: One invention that transformed life on the Texas Plains was _____.

Evidence: _____.

Name: _____

My Timeline

9th/12th



Claim: One invention that transformed life on the Texas Plains was _____.

Evidence: _____.

Claim: One invention that transformed life on the Texas Plains was _____.

Evidence: _____.

Claim: One invention that transformed life on the Texas Plains was _____.

Evidence: _____.