Use Text Features

Grade 5 Reading Worksheet

Name _____ Date _____

Circle the answer.

READ THIS FIRST

Power from the Wind

People have used wind power for thousands of years. Sailboats crossed oceans with it. Windmills ground grain into flour. Today, giant wind turbines turn the wind into electricity. Wind is a clean source of energy, and it will never run out.

Parts of a Wind Turbine

A modern wind turbine has three main parts. The tower holds everything high in the air, where winds are stronger. The blades catch the wind and spin. The nacelle sits at the top of the tower, behind the blades. It holds a generator.

Photo caption: A worker stands on top of a nacelle. Each blade behind him is longer than a basketball court.

From Wind to Electricity

When wind pushes the blades, they turn a shaft inside the nacelle. The spinning shaft runs the generator. The generator changes the motion into electricity. Cables carry the electricity down the tower and out to homes and schools. One large turbine can make enough electricity for hundreds of homes.

Where Wind Farms Are Built

A wind farm is a group of turbines in one place. Builders look for spots with strong, steady wind. Open plains, hilltops and coastlines work well. Some wind farms are built out in the ocean, where winds blow hard and rarely stop. These ocean turbines are fixed to the sea floor or float on huge platforms.

Wind Power Has Limits

The wind does not blow all the time. On calm days, turbines make little or no electricity. Power companies plan for this by using other energy sources too. Some are testing giant batteries that store extra electricity from windy days. Turbines also need regular care. Workers climb the towers to check the blades and the generator.

Sidebar: Protecting Birds
Turbine blades can be a danger to large birds. Some wind farms now use cameras that spot eagles flying nearby. The turbines slow down or stop until the birds pass.

Table: Top States for Wind Power in 2023
Iowa: about 59 percent of its electricity came from wind
South Dakota: about 55 percent
Kansas: about 47 percent

Glossary
generator: a machine that changes motion into electricity
nacelle: the box at the top of a turbine that holds the generator

1. You want to know why some turbines stand in the ocean. Which section should you read?

   Protecting Birds Parts of a Wind Turbine Where Wind Farms Are Built From Wind to Electricity

2. What does the photo caption help readers understand?
   how big a turbine's blades are
   why wind farms are built on coastlines
   how cameras protect birds
   how a generator makes electricity

3. Use the glossary. What does a generator do?
   carries electricity to homes
   catches the wind and spins
   holds the blades high in the air
   changes motion into electricity

4. Use the table. Which state got the largest share of its electricity from wind?
   Kansas
   South Dakota
   all three got the same share
   Iowa

5. What problem does the sidebar describe?
   Wind does not blow steadily on plains.
   Turbine blades can be dangerous to large birds.
   Cables are hard to run down the tower.
   Generators must be replaced every year.

6. In what order does the section "From Wind to Electricity" describe the steps?
   blades turn, cables carry power, shaft spins
   blades turn, shaft spins, generator makes electricity
   generator makes electricity, blades turn, shaft spins
   shaft spins, cables carry power, blades turn

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Answer Key - Grade 5 Reading Worksheet

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