

READ THE PASSAGE Pay close attention to the organization of the passage.

Grinding Grain Through the Middle Ages

Grinding grain between millstones to produce flour is an ancient practice. Grain, the basis of bread, has always been a very important crop. Grinding grain by hand using millstones was extremely time-consuming. As the population grew and needed more grain, waterwheels came into use around 100 BC to harness the energy of moving water. They helped turn the stones to grind, or “mill,” the grain. This was the first use of technology that was not human- or animal-powered. It was the beginning of industrial production. A waterwheel could do the work of 30 to 60 people!

While waterwheel-powered mills greatly benefited those who lived near rivers or oceans, they were not convenient for people who cultivated land that was not near flowing water. Around 1180, the first European windmills appeared, using wooden posts and stones to grind the grain. By the 1200s, windmills were popping up all over Europe.

The first windmill design had one problem—if the wind changed direction, the miller had to turn the entire millhouse to catch the wind. By the end of the Middle Ages, brick and stone tower windmills appeared. Instead of having to turn the entire millhouse when the wind turned, a miller could turn just the cap, or top, of the windmill, making work easier.

These technological advances were just the start, eventually leading to steam power, which fueled the Industrial Revolution. Each advance made life a little easier and freed people up to make better use of their time. They could even stop to enjoy the tasty bread made from milled grain!

STRATEGY PRACTICE How did the author organize the text to relate the history of windmills? Why was it useful?

SKILL PRACTICE Read the item. Write your response.

1. What need led to the development of the waterwheel?

2. What need led to the invention of the windmill?

3. What caused a problem for early windmills?
