

Exploration and New Technology

Directions: Use the reading below to help you complete the chart on the back.

Merchants in northern and western Europe wanted to sell goods like silks and spices without having to pay Arab and Italian merchants. Goods from Asia traveled either through southwest Asia or the Ottoman Empire. In both regions, these goods were sold to Arab merchants, who moved the goods along the established trade routes, like the Silk Road, to Europe. Merchants in the Italian city-states usually bought them and sold them to the rest of Europe. It took a long time for goods to reach merchants in northern and western Europe. Each time these goods changed hands, the price went up. Each merchant would take a share of the profits. If merchants from countries like Portugal, England, or the Netherlands (Dutch) could buy these goods direct from merchants in India, China, or southeast Asia, the prices would be cheaper.

Scientific and technological advances made it possible for ships to travel further, and for different people to explore beyond their borders. By the 1600's, European powers dominated trade in Asia and in the Americas.

Beginning in the 1440s, Portuguese ships ventured further and further into the Atlantic and down the southern coast of Africa. They used small, light ships known as caravels. The invention of the rudder also allowed ships to be easier to steer. This was important when boats needed to escape danger quickly. After every expedition, map-makers for Portuguese kings incorporated information from the most recent voyages of exploration. By 1492, Portuguese cartographers (mapmakers) were creating enormous master charts (maps) containing all the latest knowledge of coastlines, and oceans. In order to follow these new maps European sailors would use a compass. A compass is an instrument with a magnetic needle that always points north. This gave sailors the ability to determine geographic direction by using the earth's magnetic field. An astrolabe is an instrument which measures the angle of stars and can be used to find latitude. Other technology, such as gunpowder, which was used in guns and cannons, helped Europeans dominate trade and controlled the natives who already lived on the lands that they conquered.

The superiority of European technology changed the world during this period. It forced Africans, Asians, and Native Americans to submit to European dominance. Non-European lands were exploited while Europe became the most powerful region in the world.

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Age of Exploration Technology Questions

7-1.2

1. Why was there a need for European nations to explore for new trade routes by sea?

2. Where did the European countries intend to sail to?

3. What technological and scientific advances were used to help Europeans sail, and how did these advances help? (fill in the chart provided)

	What it is...	How it helped European nations...
Caravels	Caravels are small light ships.	It allowed the Portuguese to go further and further into the Atlantic and down the Southern coast of Africa
Rudder		
Master Charts (maps)		
Compass		
Astrolabe		
Gunpowder		

4. How did the superiority of European technology change the world during the 1600s-1700s?