## Water Clock (Clepsydra)

The ancient Greeks developed the clepsydra. This was a water clock that marked a significant advancement in timekeeping. Instead of a watch, the Greeks would use this tool to tell time.

By regulating the flow of water through a small opening, the clepsydra provided a way to measure time intervals. Water dripping out of a tiny hole in a container would fill another container that had markings on the side. These markings showed how much time had passed. Some were small and measured short periods of time. Others were larger and measured longer periods.

It was widely used for various purposes. It could track daytime hours and ensure timely speeches and debates in the Athenian Assembly.

# **Theater Mechanics**

Ancient Greek theater was a hub of innovation, featuring an array of theatrical devices. The "ekkyklema," a wheeled platform, allowed for dramatic reveals of scenes taking place within structures. It was like a big cart that could roll out from behind the stage. It could be used to show what was going on inside a building.

The "mechane" was like a big crane that had ropes and pulleys. It could lift actors into the air. It would make them look like they were flying or descending from the heavens. It would make plays more magical and fun to watch.

These devices would help make their plays full of surprises. They included special effects that would add enjoyment to the show.

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## **Antikythera Mechanism**

The Antikythera Mechanism was like a very old computer. It was very different from what we think of as a computer today. It was first discovered in a shipwreck off the coast of the Greek island of Antikythera.

This ancient computer was made of many gears like those inside of a clock. The gears were used to follow the movements of the stars and planets in the sky. It was used to help people follow the movements of the stars and planets in the sky. This tool would help the Greeks know when special events, like an eclipse, would happen.

This shows that the Greeks were very intelligent and wanted to learn more about the sky. Scientists are still studying this tool today so that they can learn more about what it does.

### **Astrolabe**

An astrolabe was another instrument that was developed to help the Greeks understand the sky but it had a different purpose than the Antikythera Mechanism. The astrolabe was used as a navigation tool. It would help sailors, explorers, and astronomers find their way.

This tool was flat and round. It had parts that could be adjusted to match the position of the stars and other celestial bodies in the sky at night. There were markings and scales on it to help users make measurements and calculations. These markings could help sailors determine latitude and longitude. It could help tell time based on the position of stars at night but it was not as specialized at keeping time as the Antikythera Mechanism.

### **Archimedes' Screw**

A mathematician and engineer names Archimedes created an invention named the Archimedes' Screw. It was created to help people move water from one place to another. It would help farmers take water from rivers to fields so that crops could grow. Ships would use it to get rid of water that got inside.

The Archimedes' Screw was a long tube that was twisted like a spiral. Inside, there was a special blade. When you turned the screw, it scooped up water from a lower place and pushed it to a higher place. It was like a big corkscrew for water.

This tool is still used today to move water in some places!

### **Greek Fire**

Greek fire was a powerful and mysterious weapon used during battles on the sea. It was like a super-strong fire that could burn even on the water!

This secret was so closely guarded that even today, it is a mystery. We do know that it was a special mixture that could be shot out of tubes on ships. When it hit enemy ships, it burst into flames. The fire couldn't be easily put out with water.

Greek fire was a big help to the Greek navy when they had battles on the sea. They could use it to protect their ships and attack their enemies. This special weapon was a secret that made the ancient Greeks very strong and successful in their battles.

#### **Hodometer**

The ancient Greeks are credited with the development of an early odometer. This device, known as a hodometer, was used to measure distances traveled by land or sea.

The hodometer looked like a wagon with special wheels. The wheels had something like cogs or gears, just like the gears on a bicycle. As the wagon moved along, the gears turned. They counted how far the wagon had gone.

This tool would be used to help the Greeks measure the distances between places. It was even used for taxation. This made it precise for people to measure how far things were from each other.

## **Greek Alphabet**

The Greek alphabet, with its 24 letters, became the basis for many modern alphabets. It is similar to our alphabet but with different letters and shapes. Each letter stood for a different sound or word and people used it to record and share information.

The ability to read and write depended on many factors. These included the time period, location, social class, and gender. For example, many male citizens in Athens were taught to read and write, especially if they were from wealthy families. Women, slaves, and noncitizens were rarely taught to read and write.

Although information could be recorded, it looked different from what we know today. The Greeks wrote on scrolls instead of books. Athens had public and private libraries that were home to collections of scrolls. Some wealthier citizens collected their own scrolls.

### **Gastraphetes**

The gastraphetes was a special kind of bow and arrow used by the Greeks in battles and for hunting. It was a handheld device that used a mechanism to launch projectiles. Targets could be hit accurately and from a distance with this tool. It was a strong and quick shooting tool.

### **Theater Masks**

In ancient Greek theater, actors wore elaborate masks that served multiple purposes. These masks allowed actors to convey emotions and differentiate characters. The exaggerated facial expressions and features of the masks made it easier for the audience to identify the character and understand their emotional state. Theater masks were instrumental in the development of drama and the portrayal of complex characters.

## **Lighthouse of Alexandria**

The Lighthouse of Alexandria, also known as the Pharos of Alexandria, was one of the Seven Wonders of the Ancient World. This colossal lighthouse was constructed on the island of Pharos in the Mediterranean. It was 400 feet tall and made of big stones by using ropes and pulleys. They worked together to stack the stones on top of each other. At the top, there was a big fire that burned brightly to help guide ships and sailors coming to the city of Alexandria. It was a remarkable feat of ancient engineering and contributed to safer navigation.

achievement/ advancement	sketch	2-4 sentences to tell what it is and whits important
advancement		its important

achievement/ advancement	sketch	2-4 sentences to tell what it is and why its important