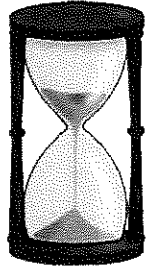


A HISTORY OF TIME

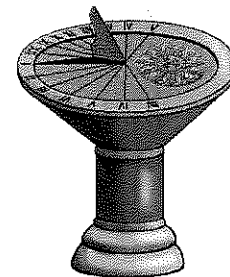
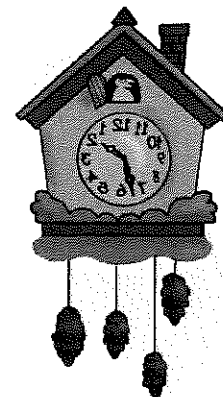
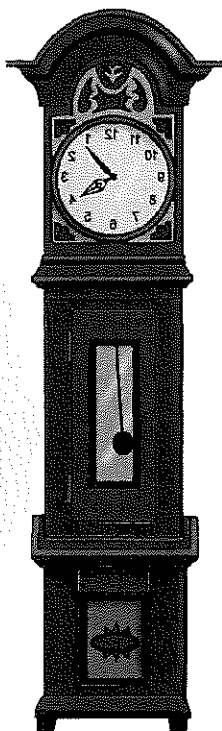
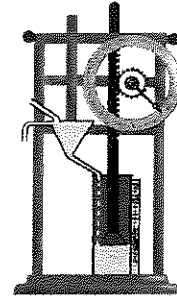


Before time was measured in seconds, minutes and hours, people relied on the sun, the moon and the seasons. Work started at sunrise and finished at sunset. Changes in the seasons told farmers when to plant and when to harvest. As there were no clocks, it would have made no sense to say: "I'll meet you at two o'clock."

People watched how the sun seemed to move across the sky. They realised that smaller amounts of time could be measured by the changing position of the shadow of a stick pushed into the ground: the sundial! This led to more accurate versions. An Egyptian sundial from 800 BC still exists, but they were known and used by astronomers even before this date.

The trouble with sundials is that they are no use at night or when the sun isn't shining. Also, at different times of the year, the sun is higher or lower in the sky, affecting the shadow formed by the sundial. The Greeks and others tried to solve this problem. They invented the *clepsydra* or water clock. The problem with this, however, was that trying to regulate the drips of water that fell into a tank, which then turned the clock pointer, was impossible.

Their popularity with some scientists and wealthy people continued, but they saw them as toys rather than something that told the time.



The hourglass works in a similar way to the water clock, using sand instead of water. People often used them to time the length of sermons from the church pulpit. They are still used today as egg-timers and in board games. They have the advantage of being able to be used at night by the light of the moon or a candle.

The creation of an accurate mechanical clock was the dream of astronomers and inventors in the 13th and 14th centuries. The clock in Salisbury Cathedral, installed around 1386, is still working. Having no clock face, it operates a bell that strikes the hours. (The word *clock* is similar to the French word *cloche*, meaning *bell*.)

The invention of mechanical clocks not only led to the clocks that we are familiar with today, but also to our idea of time itself. With the more recent addition of digital clocks and watches, as well as other displays on mobiles, computers, car dashboards and in public places, we are more aware than ever of time passing, time lost, time wasted and no time to do everything that we would like. Are we like the White Rabbit in *Alice in Wonderland* – always in a hurry?

The problem with water clocks was 'trying to **regulate** the drips of water that fell into the tank'. **Circle** a word that is similar in meaning to **regulate**.

stop

control

design



1 mark

Water clocks were not good at telling the time. The text suggests the type of person who continued to enjoy them. Write down **one** type of person.

.....



1 mark

Give an example from the text of how hourglasses are used today.

.....



1 mark

In what way is an hourglass better than a water clock?

.....

.....



1 mark

One of the earliest mechanical clocks was installed in Salisbury Cathedral. How is it different from clocks today?

.....

.....



1 mark