

## The world's biggest supercomputer - 5 July, 2018

How fast is your home computer? Does it sometimes take a long time to open a document or download a file? Maybe you should buy a supercomputer. It will be about one million times faster!

*How much faster will the new supercomputer be?*

On 8 June, 2018, a supercomputer called 'Summit' started working. Summit is the world's fastest supercomputer and is at the Oak Ridge National Laboratory in Tennessee in the USA. IBM developed it. Before Summit, the world's fastest supercomputer was China's Sunway supercomputer and the four most powerful supercomputers in the world were all Chinese.

*When did the new supercomputer start working?*

*What is it called?*

*Where is it?*

*Who developed it?*

*Before Summit, what was the name of the world's fastest supercomputer?*

*Where did the four most powerful supercomputers come from?*

Summit can process 200 thousand trillion calculations per second and can process 30 years of data in just one hour. Sunway processes 90,000 trillion calculations per second.

*How many calculations can Summit do?*

*How long does it take Summit to do these calculations?*

*How much data can it process in just one hour?*

*How does this compare to Sunway?*

Before Summit, the fastest American supercomputer was Titan, which started working in 2012. It was the fifth fastest supercomputer in the world. Summit is eight times more powerful than Titan.

*What was the name of North America's supercomputer?*

*When did it start working?*

*What was its world ranking?*

*How does Summit compare to Titan?*

Summit has more than 4,600 servers and is bigger than two tennis courts. It has 37,000 processors and uses 15,000 litres of water a minute to cool those processors.

*How many servers does Summit have?*

*How big are they?*

*How many processors does it use?*

*Why does it need water?*

*How much water a minute does it use?*

Scientists will use Summit for scientific and medical research. It is so powerful that it will be able to process billions of pieces of medical data and may be able to find cures for diseases such as cancer and Alzheimer's disease.

*Who will use Summit?*

*What will they use it for?*

*How many pieces of medical data will it be capable of processing?*

*What do some people think Summit might be able to do?*

How long will Summit be the world's biggest and fastest supercomputer? The US is already building an even more powerful supercomputer, called Aurora. China, Japan and the European Union are also building new, more powerful supercomputers. The Chinese supercomputer will start working in 2020 so Summit will not be in first place for very long.

*Who is already working on another bigger and faster computer?*

*What is it called?*

*Who else is working on supercomputers?*

*How long will Summit be in first place for?*