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The search for water on Mars

Grace Richards:

Mars is one of the best places in our solar system to look for signs of ancient life because of its history. Around 4 billion years ago, conditions on Mars were much more hospitable than they are today. When deciding if a planetary body could be capable of harbouring life, we look for water.

Nearly everywhere on Earth where there is water, there is life, which is why we think it is so essential. And there is plenty of evidence to suggest that there used to be liquid water on Mars' surface.

Mars has geological features which shows where rivers flowed, and impact craters were filled with water, forming huge lakes. It is also thought that the climate was much warmer, and the atmosphere was better able to protect the surface from space radiation. But where did the water go? Over Mars' history, it lost its atmosphere. So, the planet cooled to the point where the water froze and was unable to exist as a liquid on the surface.

Today, water on the surface of Mars exists mainly as ice in the poles. However, some evidence suggests that there may be large reservoirs of water existing underneath the ice at the planet's south pole.

Although this is not certain, if there is subsurface water on Mars, it would be a huge discovery as these lakes could be habitats for life.