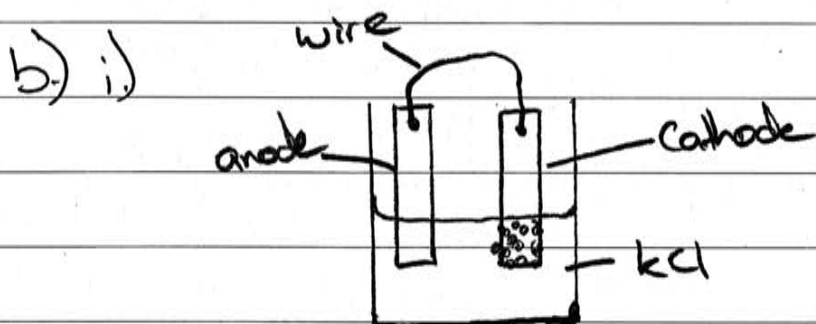


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a) The artefact that ^{was} recovered from the bottom of the sea may not have corroded much because of the cold sea water. The cold water would slow down the electrolysis of the artefact. The strips around the ~~the~~ artefact, if they were made of bronze would have a higher chance of staying intact than that of ~~the~~ iron. The marine environment would slowly corrode the artefact but over a very long time.



ii) The cathode would be identified when the other starts to ~~lose~~ lose mass and particles are on the cathode.

c) The composition of each steel determines its properties and uses because ~~something~~ steel 1 could be used for something that steel 2 couldn't do. The differences in properties may only be minute but they are all used for many different things. The properties of the steel

are all very similar however the addition of
a different material could ~~be~~ make it
stronger or weaker depending on what it is
intended for. The use of ~~the~~ more carbon
would be to make it stronger, where as the
addition of Cr and Ni could be needed for
the use.

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d.) i.) The Three environmental factors would be air, salt water and normal water.

The use of a nail and a piece of Iron could be used. Firstly put the nail in a beaker of salt water a beaker of water and a dish with nothing in it, then do the same for the piece of Iron. Then leave for a couple of weeks and see the results that have formed. The Iron in salt water would corrode first because of the salt.

ii.) the effect of the nail in a marine environment would corrode over a few months because of the salt water.

e.) Techniques that can be used to restore wooden and copper artefacts that have been immersed would be desalination, where the artefact would be cleaned using an experiment so that the artefact could be preserved, however if the artefact is too damaged then they would not be able to do anything. To conserve an artefact that has been submerged would be to keep using the sacrificial anode technique where a metal that is more reactive is

placed on the artefact so that the metal corrodes instead of the artefact. The sacrificial anode technique is effective as it sacrifices the more active metal and leaves the less active metal. Another method is to paint, but it would not be effective because of the water and paint, but if the artefact has been taken out of water then you could paint it to ~~keep it~~ restore it back to its natural state. Not many artefacts would last 100 years under water but if they did the best method would be to use a sacrificial anode.

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