

Ashton Island

Task one)

The team has four wooden buildings; this obviously means that a fire as means of warmth is out of the question. Also, seeing as there are no natural resources such as coal, oil or gas, our solutions are somewhat limited. However, one solution to the team's problem could be geothermal energy.

The rocks under the Earth's surface are hot. The solution I have would be to use this warmth. I would either surround the building in these rocks, therefore trapping the heat inside, or I would use the warmth of the rocks to produce hot water and then circulate this throughout the building through pipes. This is known as geothermal energy.

Another solution I have is to use solar panels. I would use these solar panels to catch the sun's rays; water could then be passed slowly through the panel so that it heats up. The newly hot water could then be directed back to a warm boiler where it can be stored; this could then be pumped around the buildings through piping and radiators and could heat the dwellings up.

Task two)

One possible solution for the source of hot water for the buildings could be to use the energy created from burning rubbish. The explanation for this is short and sweet and would cost very little in the way of money, because all the materials are ready and waiting. Basically all the rubbish and waste used up over the five years could be collected and burnt; the energy produced from this could be stored and used to produce hot water. Also the methods I suggested for the first task could again be applied here.

Task three)

One possible way of supplying heat for cooking food would be to use the energy from rotting matter; if manure and organic matter are left to rot in a closed tank, methane gas is given off. This is called anaerobic digestion. The gas is called biogas and can be used for cooking, heating and lighting.

Task four)

A way for supplying electricity to the machinery would be to use wind turbines (the same concept as water except in air) which would be situated on the hill to catch strong winds except that there is not too much room and it would be quite tricky to build them on that type of land relief, so the next best thing would be to build wind turbines on the shore facing the sea to catch the tropical winds.

Task five)

One possible way in which to supply the electricity needed to run machinery would be to use water turbines. The turbines would be placed at the bottom of a stream on the island. As the turbines turn they generate electricity which would then be passed partway underground to be stored for when the machinery is in use.

Task six)

The natural resource on the island that should be reserved is the forests (wood). A way to do this is to plant several other trees when one is chopped down for fire wood (or something other) and to help protect the forests from fire or other natural disasters.

Task seven)

See map on separate sheet of paper.

I have chosen sites for the following reasons:-

Buildings - because it is near the coast where the windmills will be situated and it is also near the hot springs where the geothermal site will be situated.

Geothermal energy - because it is between the two hot springs and a good source of heat and hot rocks below the surface

Windmills - because there are strong on the coast to drive the turbines and yet is not too far from the camp.

Solar panels - because it is not too far from the camp and would be in open sunlight.

Burning waste - because yet again it is close to the camp so that the energy released is transferred to the camp quickly.

Rotting waste - because it is close to the camp site yet not overcrowding it.

Water turbine – because it is close to the camp and it's the nearest stream.

Task eight)

For most of my solutions to the problems that have been addressed, I have used natural resources. For instance, the use of rotting matter and the waste and rubbish of the team generally would not need to be paid for, because the waste is just going to be thrown away any way, so it is no inconvenience to anyone to use it to produce energy. However things such as the solar panels and the windmills would need to be paid for somehow. Solar panels at their best can cost up to £500.00 each and therefore could cost a large amount. Windmills as a whole can cost around £50,000.00 and if we are trying to make a lot of watts then it is going to mean additional costs. As for the water turbines and the geothermal energy it is not a matter of leaving them to their own devices, the need to be maintained and to be placed there with caution so they don't get damaged.