

Renewable Energy Sources

Solar and Wind Power

Solar Power

Solar power harnesses the natural force of the sun.

Using solar panels it converts light energy into electricity.

One floor to this point is that it can only be used in the day. You can store the electricity but you would need massive batteries, so the other option is to sell the some of the electricity made to the powers providers, get money and then buy electricity back at night.

Solar panels can be fitted on a large scale Or simply put on the roofs of houses to produce electricity for that building.



Wind Power

Wind power also uses a natural element, the wind.

This is renewable energy because the wind should not run out. It can, however, be weak, causing it to create only a small amount of electricity.

The turbines cost a lot to make but, once in action, save a lot of money in energy production.

Often wind turbines, and wind farms, are placed out at sea because people say they are an 'eye sore'. Also there is generally more wind out at sea than on land.



WIND POWER

Introduction to wind power

Wind power is a useful power source for Britain. Britain, after all, has often very wind weather so to harness that point works to our advantage.

How does it work?

The turbines are spun by the wind which turns a drum inside the head of the turbine. While this is spinning 'brushes' scrape off the electron particles and send them along the wires to the grid.

The grid stores the electricity which can then be sent to different areas, powering houses and other electrical needs.

WIND through-out the ages

Great Britain has, for centuries, used wind to grow and build. The once Great British Empire only became so because of its navy. A navy originally powered by wind.



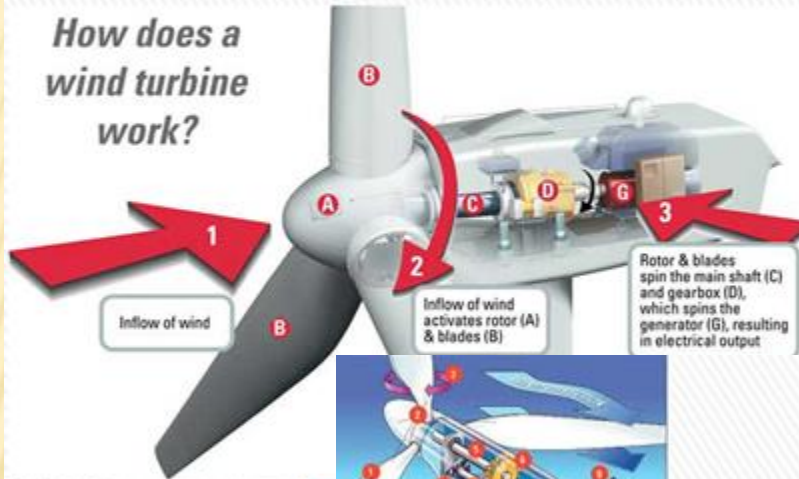
Also, it has been harnessed in the form of wind mills to grind corn. They have since been adapted, as seen, to produce electricity.



How it works

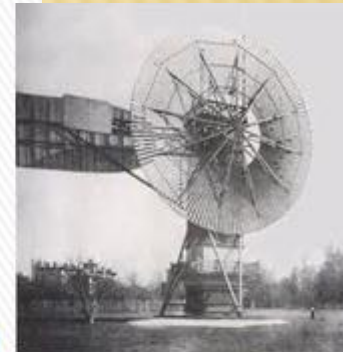
- » The basic wind turbine is the one we see around the country.
- » The way they work is the wind turns the sails and spins the turbine at the centre of the pivot.
- » The turbine turns a drum and wire brushes scrape along the outside of the drum collecting the electrons.
- » The electricity is then sent to the mains.
- » It works like a motor in reverse. Producing power instead of using it.

How does a wind turbine work?



Where has it been used through out the ages

- » Wind power has been used since the first civilisations and before in the simple form of sailing ships.
- » Great Britain as an island has made good use of the wind. Wind power was what backed up the Expansion Of the British Empire for many years until steam power came around.
- » It also fuelled the discovery of the new world (The USA)
- » Wind power may have been thought to have been a thing of the past until a few years ago when the wind turbine was invented. It is now powering homes around the country today.



Wind power is that good because it renewable, clean and widely used across the globe, reducing the greenhouse gas. It depends on how much wind there is, however, it is still only a small price to pay.



Wind power has long been around and used by us, with the Babylonians and Chinese controlling the power of the wind for their needs as early as 2,000 B.C.

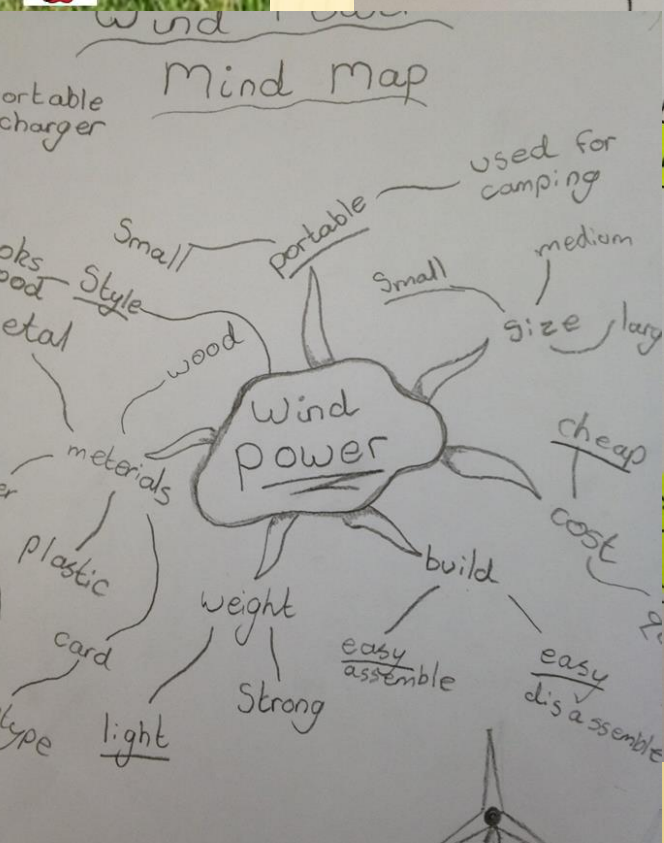
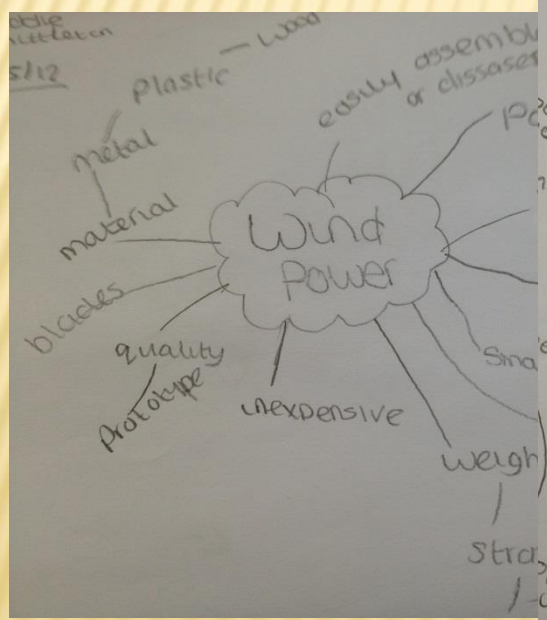
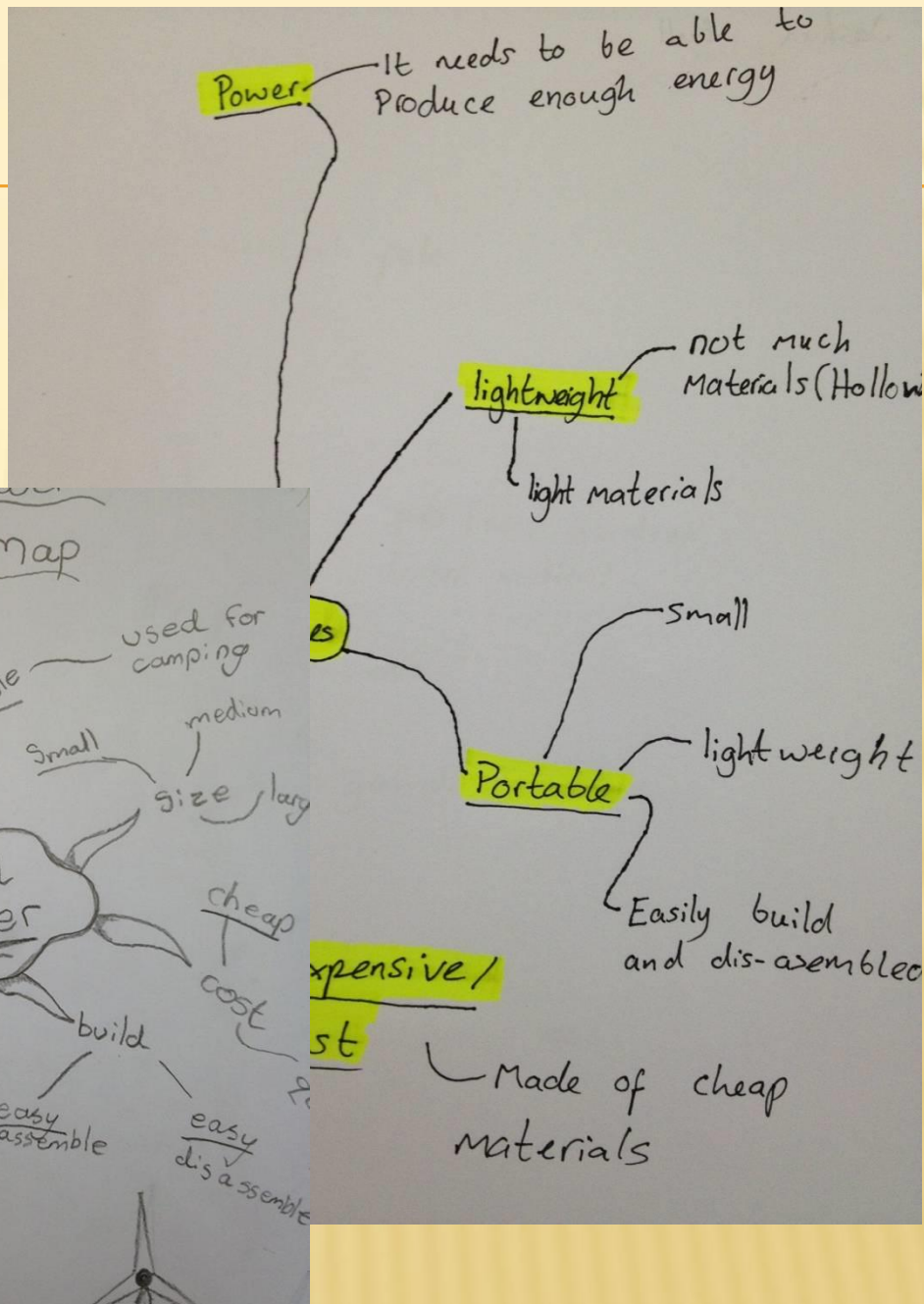
The first windmills were recorded as early as 1 A.D., being powered by wind power.

Wind power has been used through the ages to sail the seas and voyage the Earth.

The modern wind turbine was only developed as late as the 1980s, with research still continuing on how best we can harness wind energy.



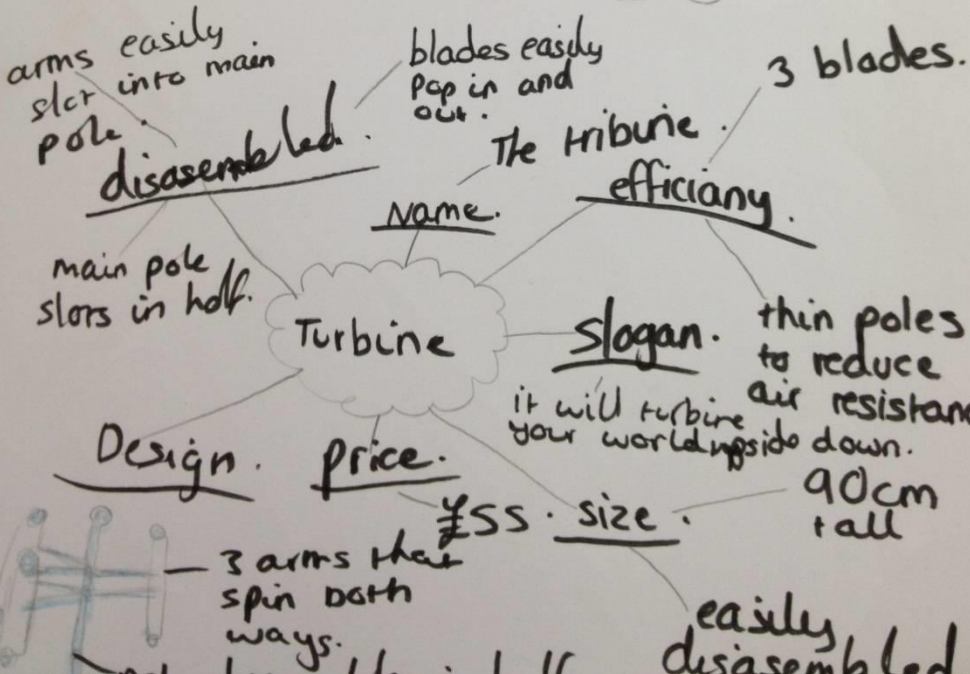
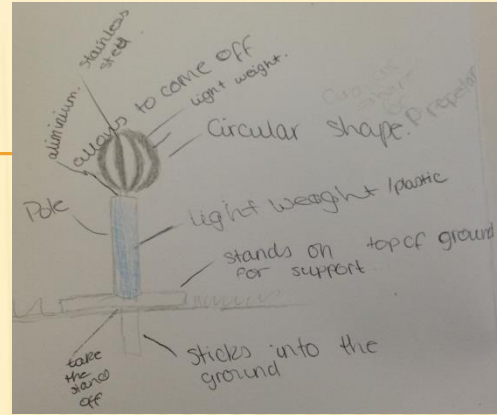
PROTOTYPE PORTABLE WIND TURBINE



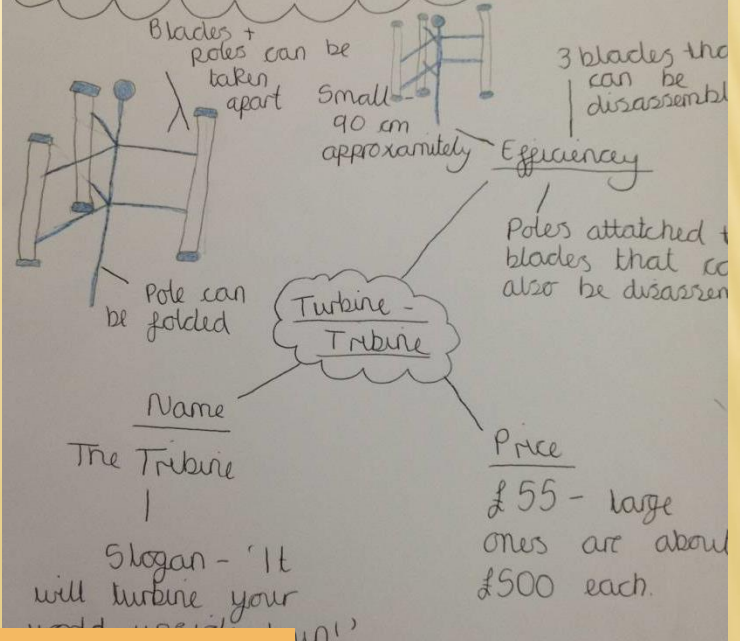
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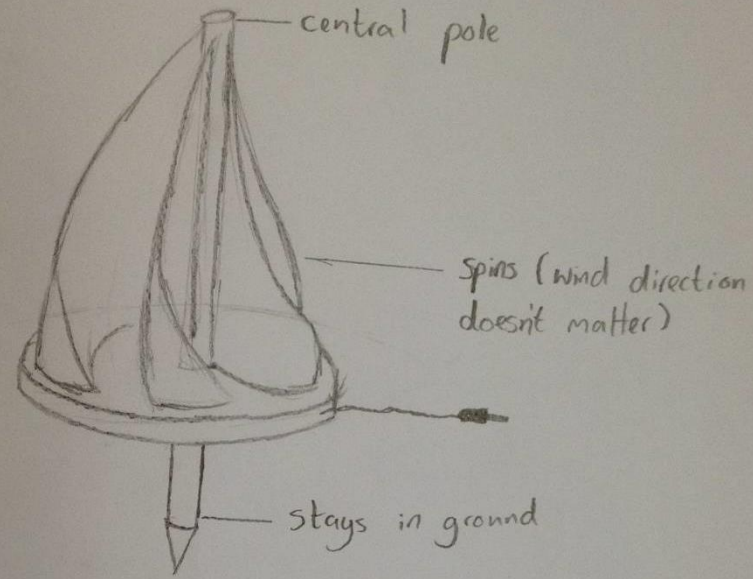
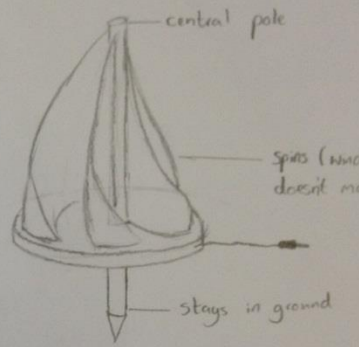
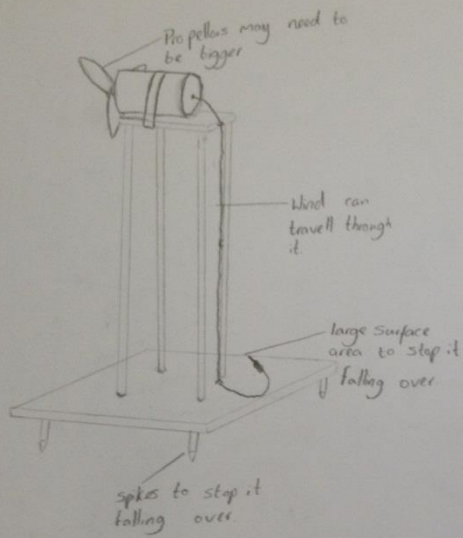
Task:

To design and make a prototype portable wind turbine that can be used when camping to provide power to small electronic devices. The turbine should be as small as is reasonably practical and should be able to be assembled and disassembled and should be inexpensive.



To design and make a prototype portable wind turbine that can be used when camping to provide power to small electronic devices. The turbine should be as small as is reasonable practical and should be able to be assembled and disassembled easily and should be inexpensive.

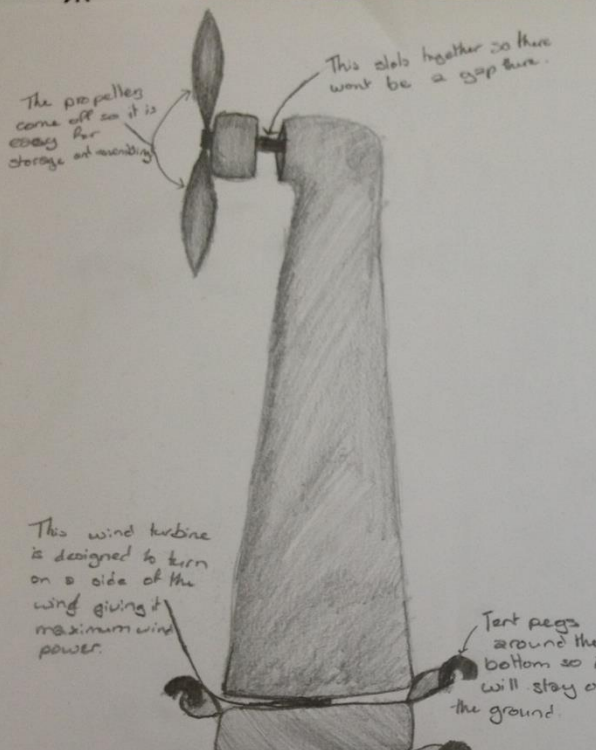




It is good because it stays in the ground and the...

Improvements
 I would make it a bit sturdier with thicker poles.
 I would also make it so it is easier, more portable, assemble and disassemble.

It is a good idea if it will stand with it is so it will stand with wind.



This wind turbine is designed to turn on a side of the wind giving it maximum wind power.

- * The design is accessible and would be easy to assemble and disassemble.
- * The design is well planned and the design is original and handy.

↳ perhaps

- * I've got to the stage of labelling the information I need for my wind turbine prototype.
- * The parts of my design that went well are the designing and making it easy to assemble and disassemble.
- * I need to find out how confusing it will be to let it spin.

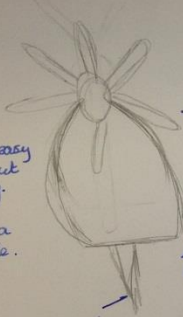
... good design because store and cheap



Credit: All images by courtesy of Graham School, Scarborough.

Amy Hotham

Design Ideas.



- like

- has a flat base so that it doesn't wobble.
- The wind covers the propeller.
- The turbine spins both ways in case the wind changes direction.

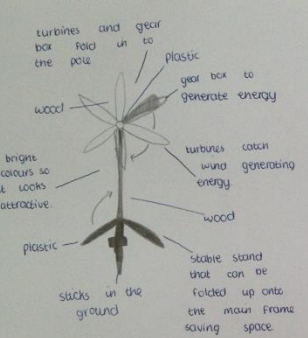
It's easy to put away.
has a handle.

can stick in soil.

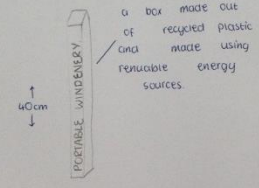


can fold up so it doesn't stab you, can also go in grass.

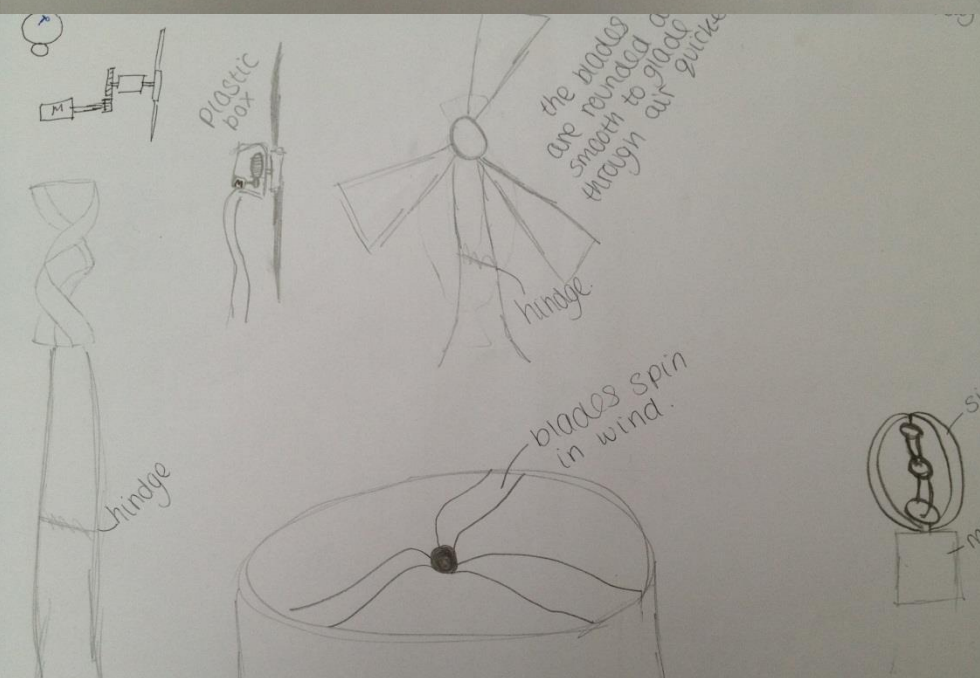
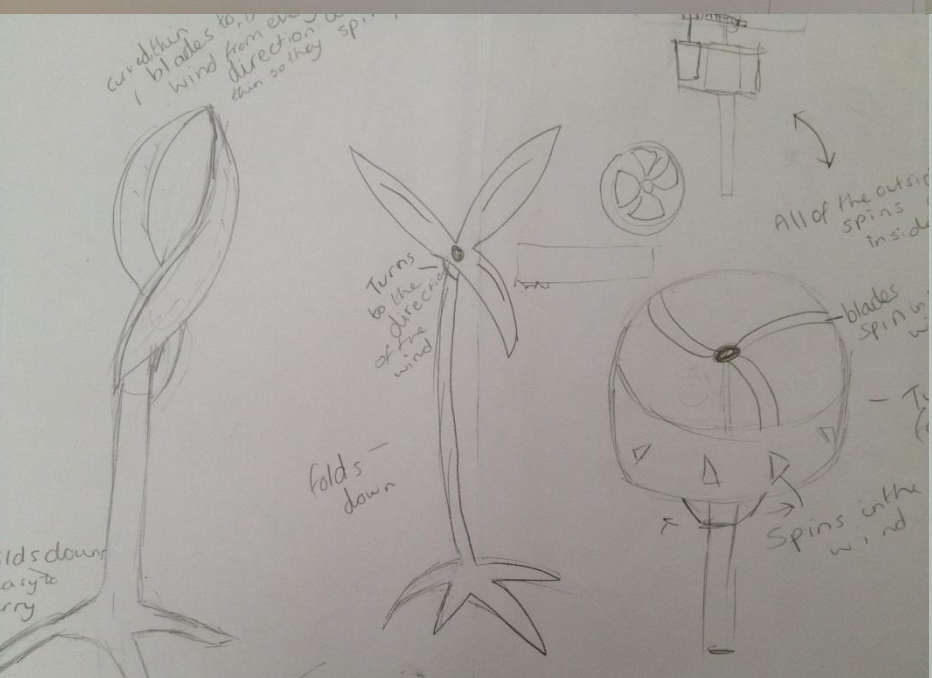
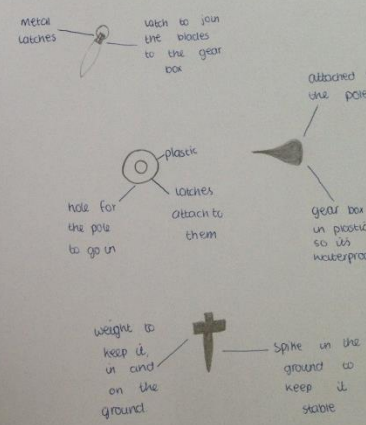
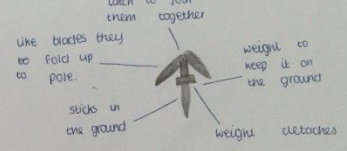
1. like the way it is different style
2. good shape

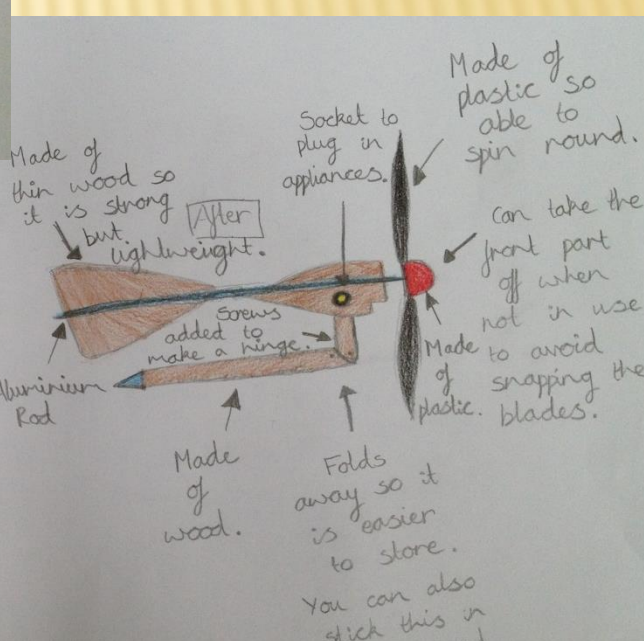
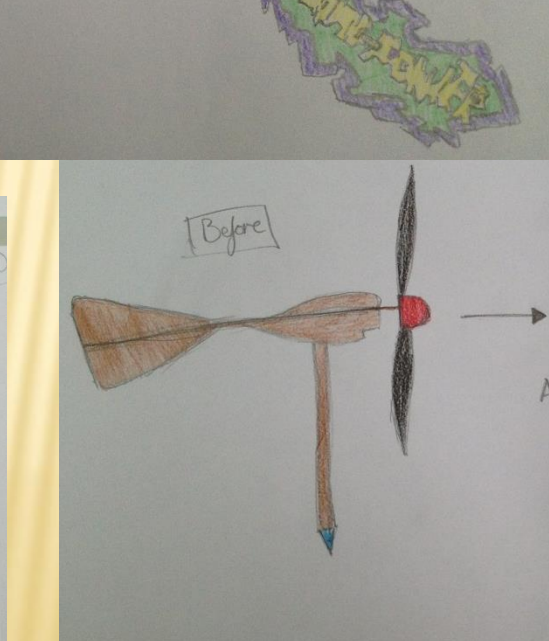
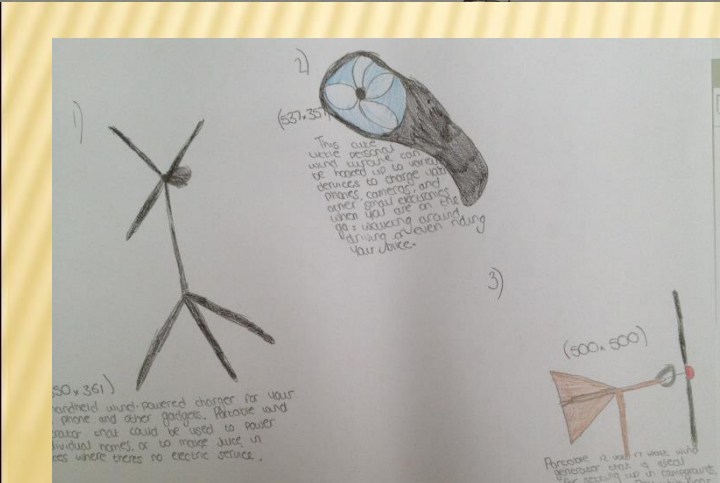
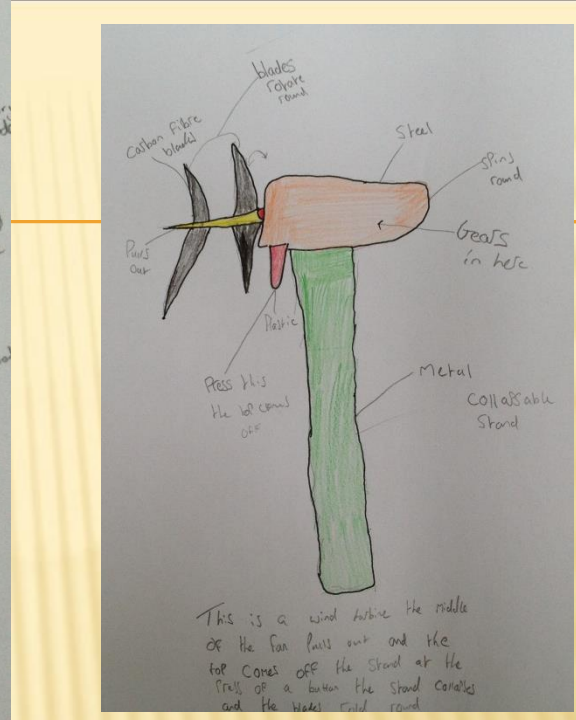
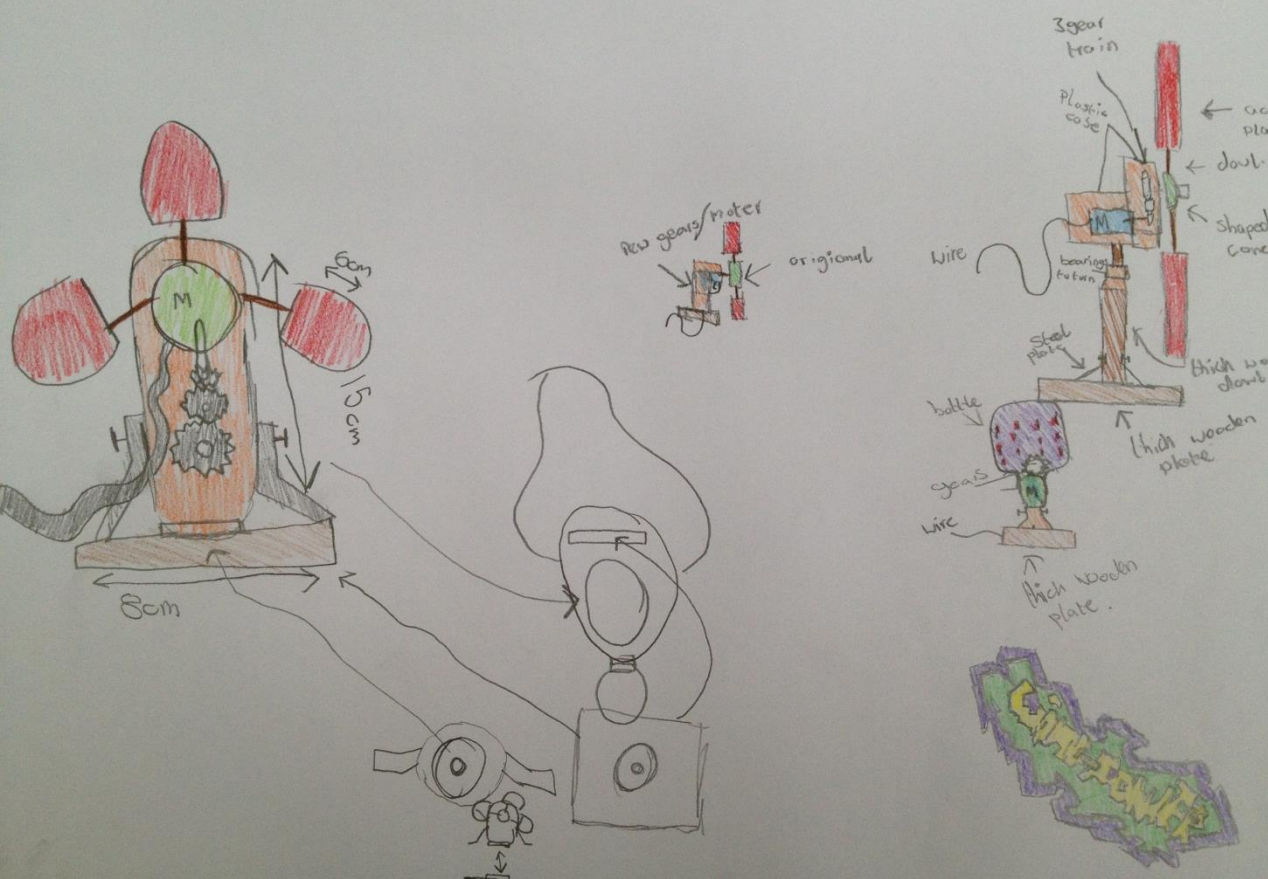


- Everytime the blade turns, the gear box energy is made 4 times faster
- The portable wind turbine is made out of all renewable energy and materials
- The turbine folds up into a small space and is portable

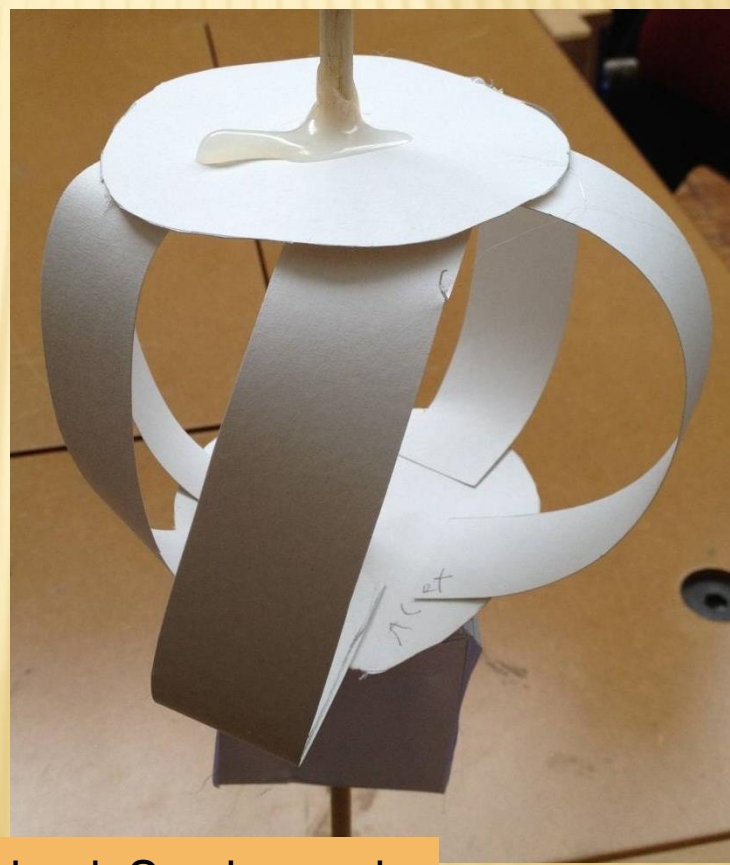


- The turbine and blades move to the direction of the wind making the most wind.
- Easy to assemble so its available to an array of people and audiences.

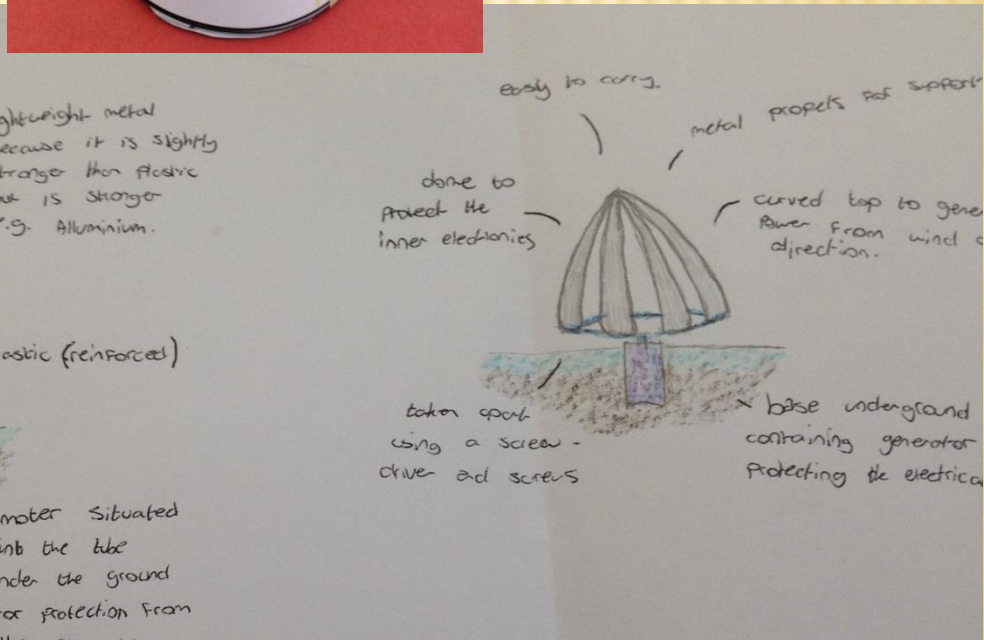
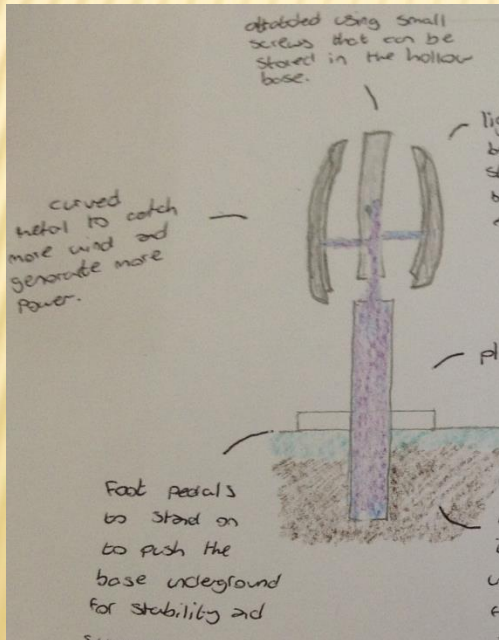




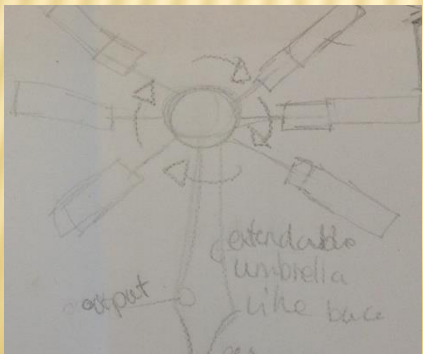
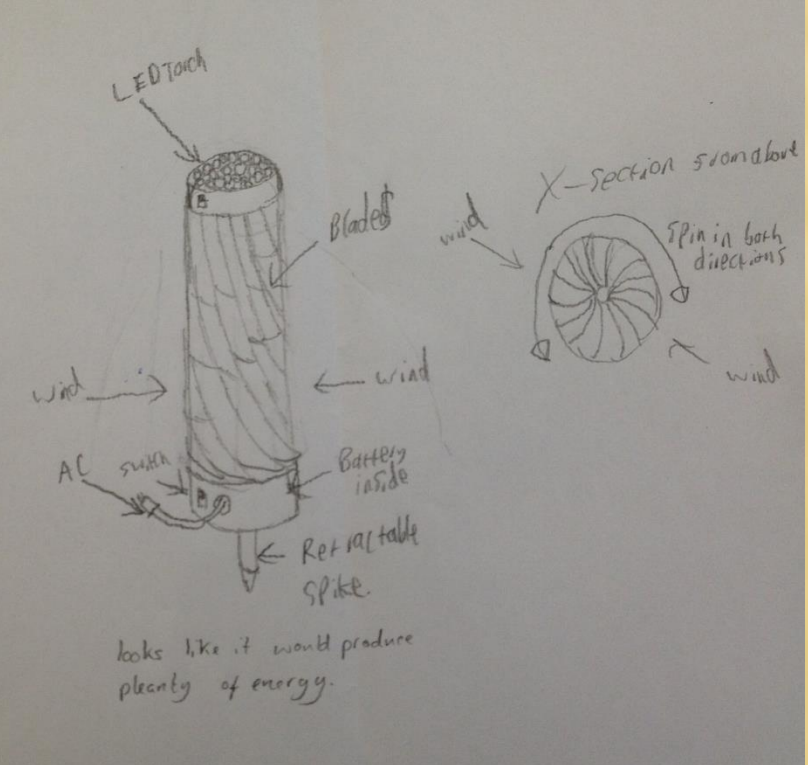
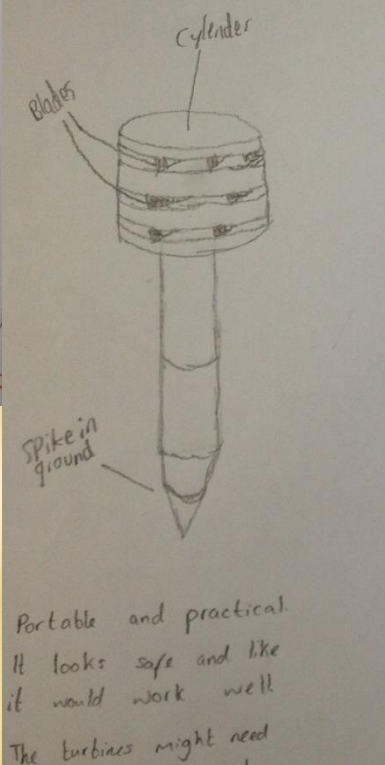
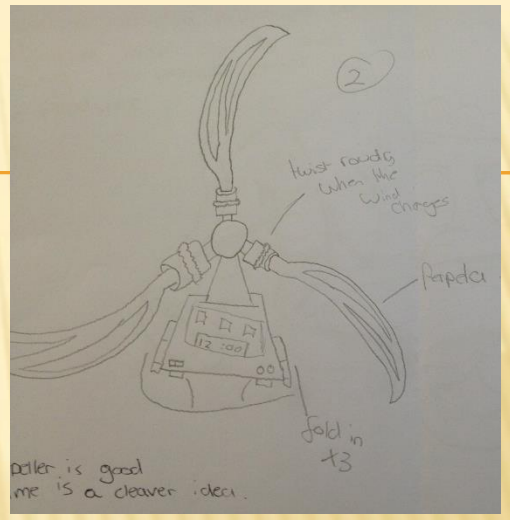
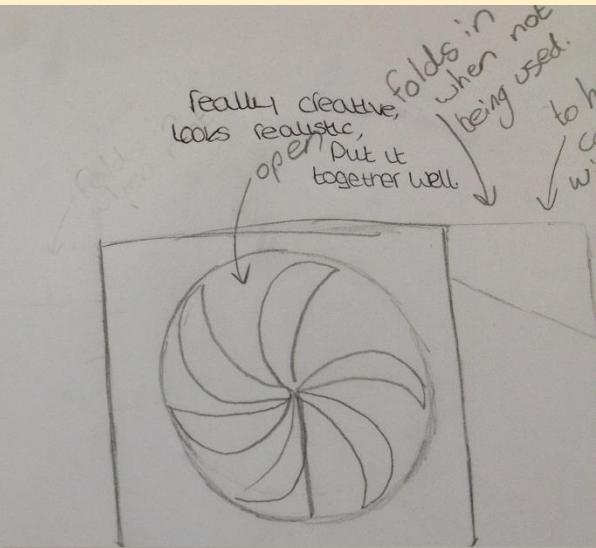
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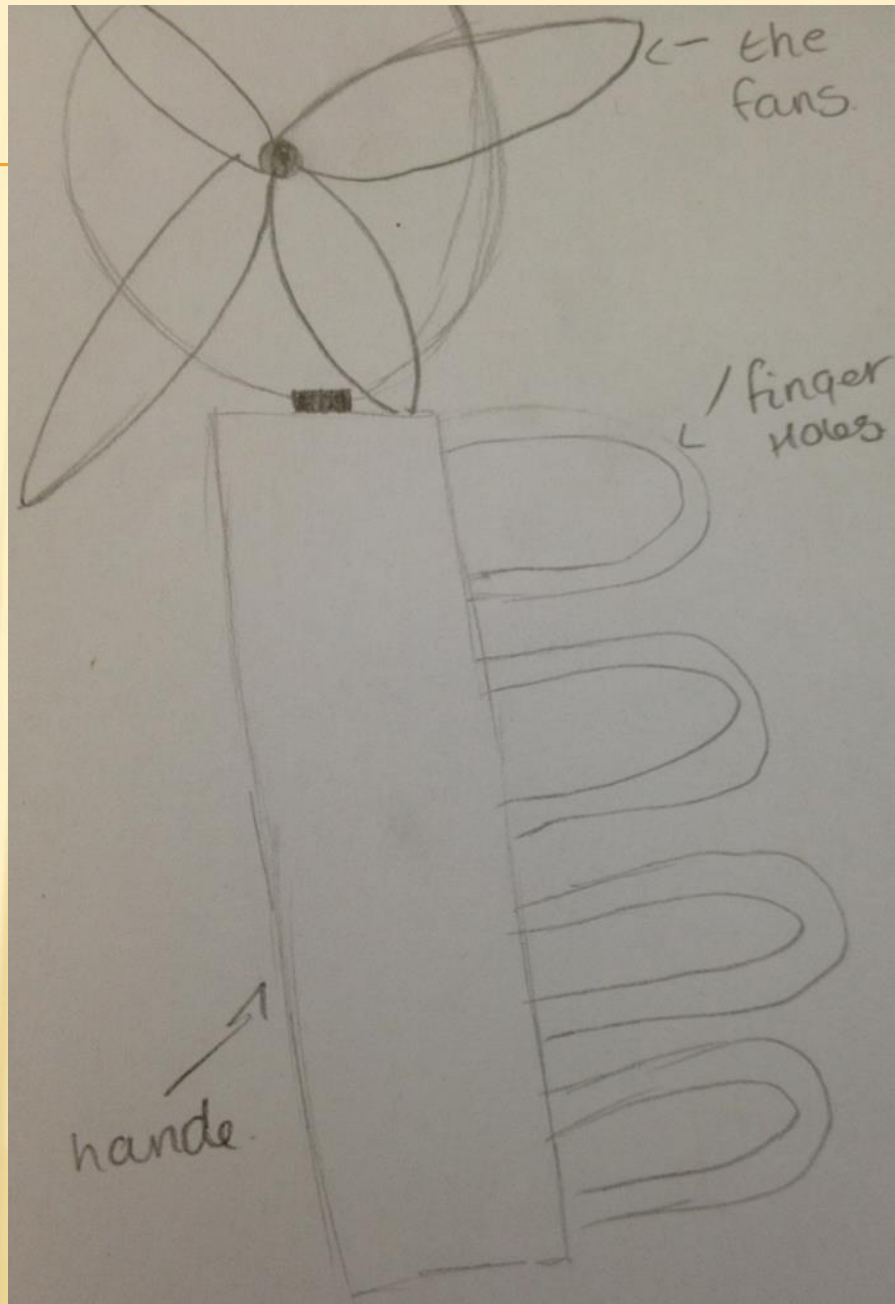
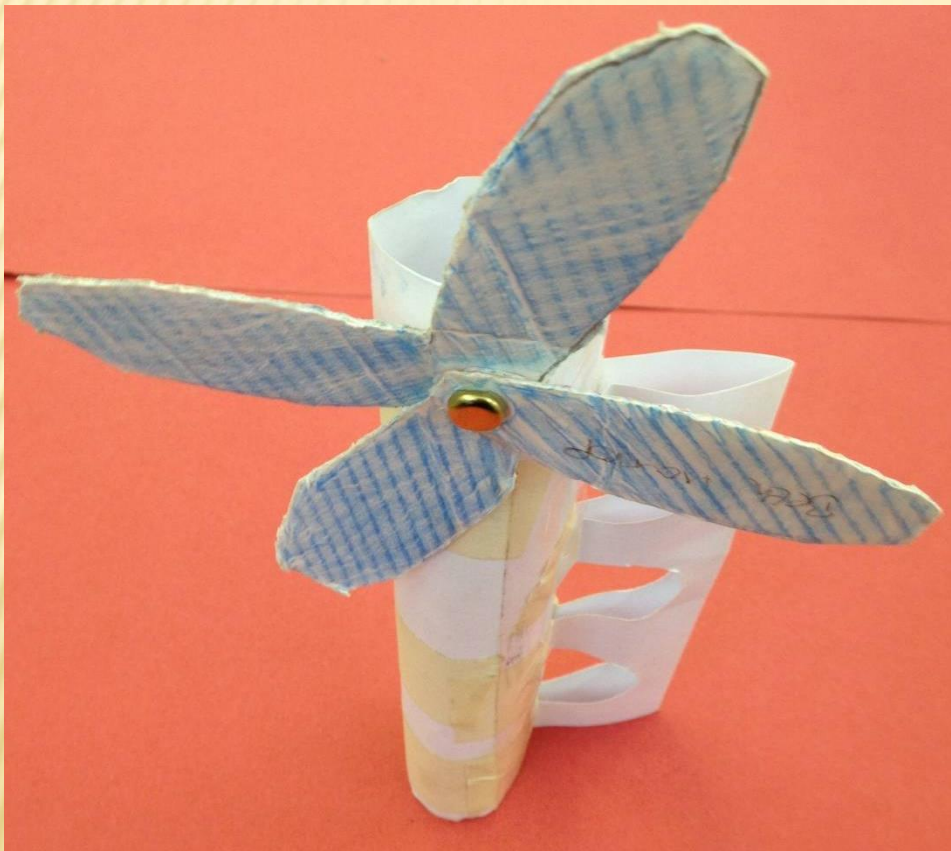


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