

WINDMILL



Make your own windmill generator and power a LED



BEE CREATIVE Tools and materials



1. Windmill
2. Milling machine and cutter
3. Neodymium magnets (very strong)
4. LED's and CD's
5. Cardboard
6. Tape and double sided tape
7. Plastic bottle cap
8. Thin copper wire with insulated coat, can be recycled from a broken electrical motor or speaker

BEE CREATIVE Step 1 – Attach the magnets



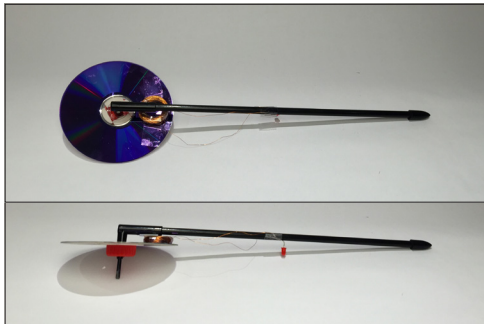
1. Tape the CD onto the wings
2. Tape 2 stacks of magnets to the CD. Be sure the poles of the 2 stacks are turned in the opposite directions.
Be careful, these magnets have a very strong attractive force, they can cause contusions or metal splinters! Read tips for safe handling.

BEE CREATIVE Step 2 – Prep the coil



1. Drill a hole in the bottle cap to use as a spacer
2. Tape the cap to the CD
3. Use the copper wire to create a coil of 800-1000 windings
4. Scrape the insulated coat at the ends of the coils with the cutter
5. Wrap the ends around the legs of the LED

BEE CREATIVE Step 3 – Assemble coil



1. Tape the CD to the pole
2. Tape the coil to the CD
3. Tape the LED to the pole

BEE CREATIVE Step 4 – Assemble wings



1. Assemble the wings on the pole
2. Make sure the space is as minimal as possible between the magnets and the coil

BEE CREATIVE Step 5 – Generate electricity



1. Let the wings turn and the LED flickers
2. Enjoy the maker-magic!

BEE CREATIVE Notes

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