Junior Engineering Competition

Bob The Builders

Credits: Farahnaz Ghulistani, Naimah Ishaque, Tevone Ollubode, Dongju Seo

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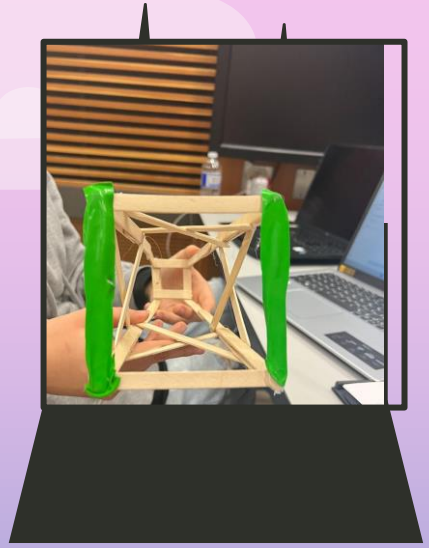
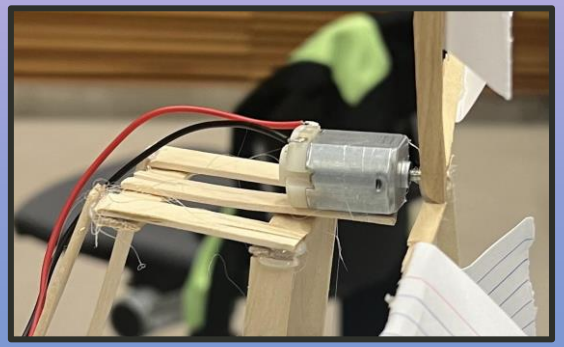
Materials Used:

- Popsicle Sticks
- Glue Gun + Glue sticks
- A Balloon
- Clay
- One Index Card
- Motor



Balloon added for Friction



Top Base

Base:

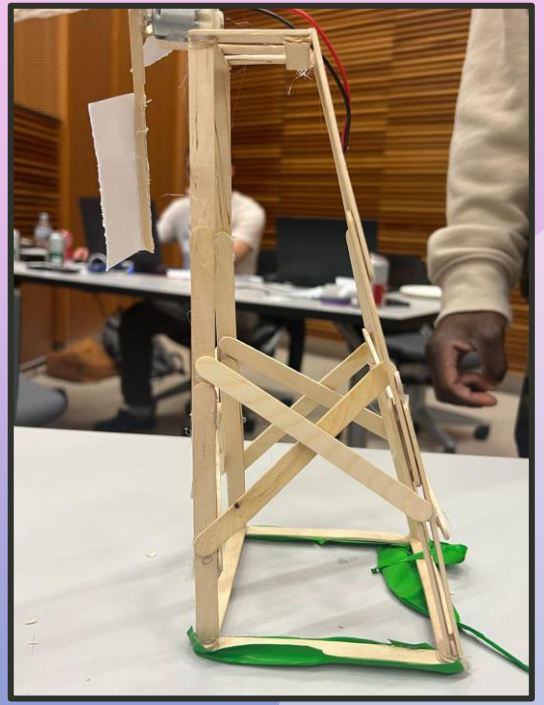
- Bottom of base is a square with rubber for friction for structure support (Friction - Friction Coefficients and Calculator, n.d.)
- Clay is used to add stability (Friction - Friction Coefficients and Calculator, n.d.)
- Top of base is a square with hanging platform

Clay added to Base

Pillars

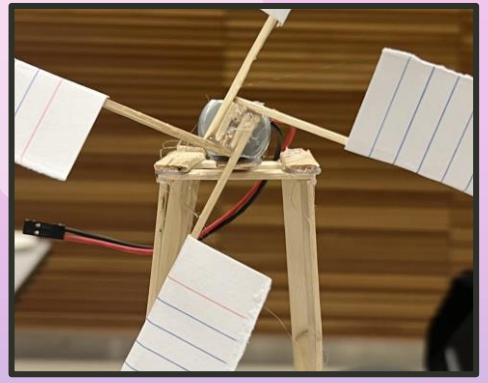
- Height is 24cm for the front two pillars
- The height for the back two pillars is 25.5 cm.
- Two front pillars is at a 90^{o}
- Two back pillars at an angle
- Cross attached to each side of pillars

(Schneider, n.d.)



Pillars Supporting the Turbine

Wind Blades



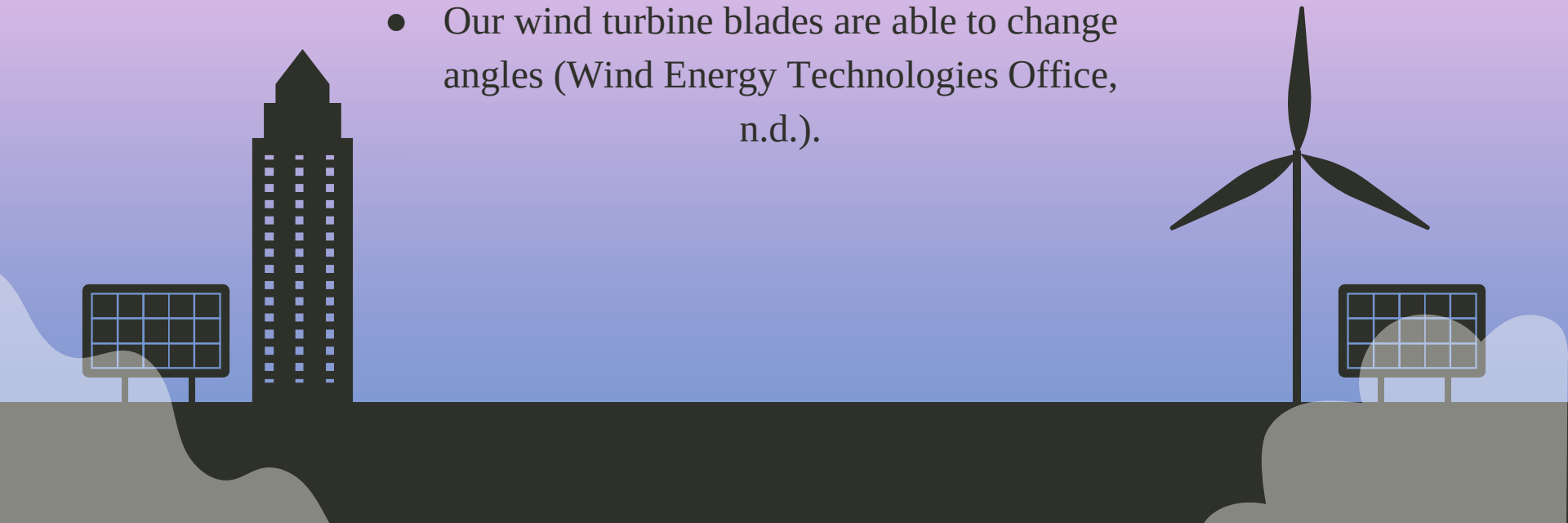
Motor Blade Attachment

Blades attached to Turbine

- Able to change angle due to flexibility of paper
- Four thin popsicle sticks used as blades
- Popsicle stick used as a way to connect the blades to the motor

Creativity/Realism

- Inspired by high-voltage towers and wind turbines design
- Our wind turbine blades are able to change angles (Wind Energy Technologies Office, n.d.).



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Wind Energy Technologies Office. (n.d.). Energy.gov. Retrieved November 18, 2023, from https://www.energy.gov/eere/wind/how-wind-turbine-works-text-version#:~:text=Direct%2DDrive%20Pitch%20System&amp

Thankyou