Wonder Project

Power Challenge

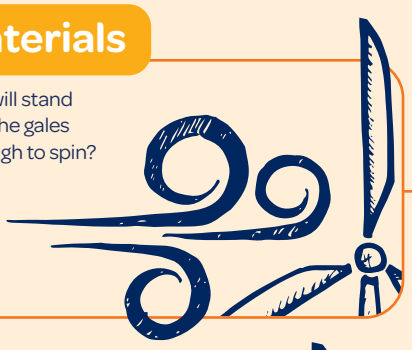
Activity 2.3: Blade design

Draw some 2D and 3D blade designs, thinking about design variables and their impact on aerodynamics.

Power up your imaginations! Imagine and plan some blade ideas that will help you achieve your challenge goal.

Blade materials

What material will stand strong against the gales but is light enough to spin?

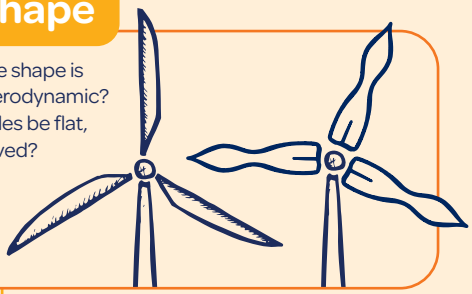


Blade size

Will bigger blades create more electricity or slow the turbine down?

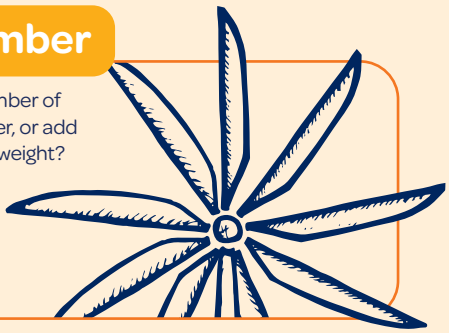
Blade shape

Which blade shape is the most aerodynamic? Should blades be flat, bent or curved?



Blade number

Will a higher number of blades spin faster, or add too much extra weight?



Imagine:
Blade design ideas:

Plan:

I wonder which solution is best?

Decide on your final blade design. Then, draw it in the grid, making it the same size and shape you'd like your actual blades to be. You might like to use a ruler to check measurements.

Our final blade design:

How do you think each blade design variable will affect the amount of electricity your turbine generates?

What materials do you need to create your blades?