

## Year 1 DT Windmills

### Key Skills



1. To selecting from a variety of tools and materials to cut, join and finish.
2. To explore structures and seeing how they can be made stronger/stiffer.
3. To explore and using mechanisms (axles).
4. To test and evaluate to see if improvement is needed.
5. To design with a client's preferences in mind.

### Vocab/Key Words

Client- the person you are designing it for.

Design-to make, draw or design plans for something.

Design criteria- - a set of rules to help you design something and test your ideas out.

Evaluation- when you look at the good and bad points about something and try to improve it.

Net- A flat 2D shape that can become a 3D shape once assembled.

Stable-does not easily topple over.

Strong —It doesn't easily break.

Structure- Something that has been made and put together. E.g. building, bridge, etc.



Respect, Believe, Achieve

### Vocab/Key Words con'd

Test- to find out if something works as it should.

Weak- It breaks easily.

Windmill-A structure with sails that are moved by the wind.

Axle - The point from which the turbine or sails move.

Windmill structure- The part that makes the windmill stand up.

Windmill turbine-The parts that move in the wind.

Websites/Signposting/Connection to a famous person

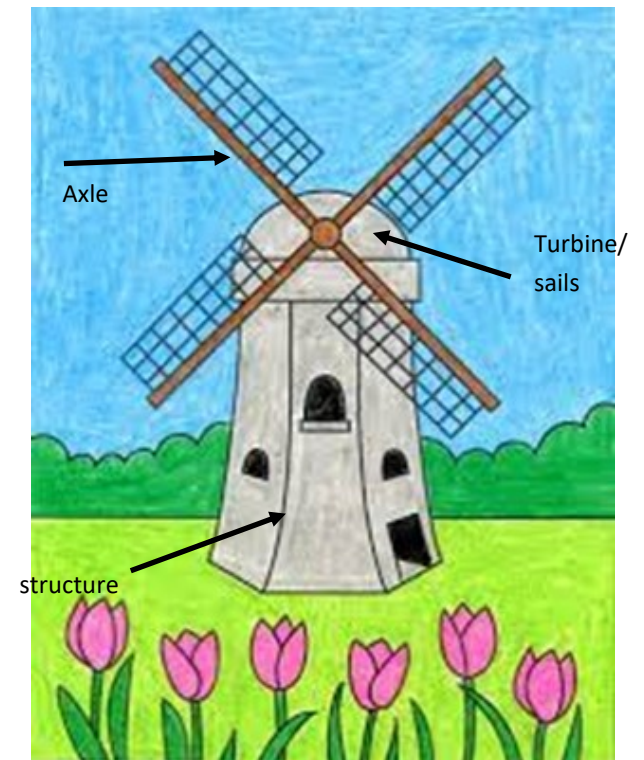
[Professor James Blyth](#)

### Previous Learning

- ◆ Exploration of 3D shapes and building stable structures (Year R)
- ◆ Cutting skills and use of glue (Year R)

### Key Knowledge

- A windmill is a structure that has a turbine/sails that are moved by the wind.
- Windmills need a strong and stable structure to work. They also need an axle so the turbine/sails move smoothly.
- The windmill should be designed with the client in mind.



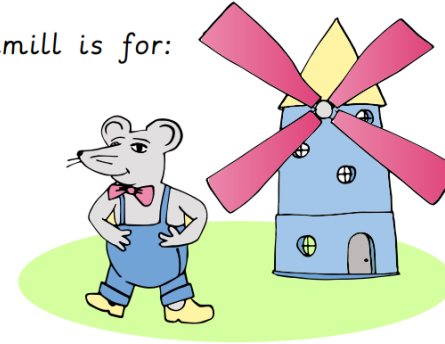
## What I will know/be able to do by the end

- I can explain what a windmill is.
- I can name and label the three main parts of a windmill.
- I can describe the purpose of 'structures'.
- I understand what a 'net' is.
- I understand the importance of clear success criteria.
- I will be able to make my structure 'stable'.
- I know that axles are used in mechanisms to make them turn in a circle.
- I can test and evaluate my windmill to see if it needs improvement/change.

Kapow  
Primary

Design criteria

My windmill is for:



*My windmill should stand up on its own.*

*My windmill should be decorated for its owner.*

*My windmill should have three parts.*

*My windmill should turn in the wind.*

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