



# Wind Around Your Home

## Grade Levels: 4-6

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### Background

Wind is simply air in motion. Wind is created when the sun heats the Earth. Winds can be fast or slow depending on the weather in your area, the land features around you, and even how high off of the ground you are. Wind can be used to make electricity.

### Questions

On which side of the house would you put a windmill?

Is there more wind at higher altitudes?

### Possible Hypotheses

A windmill would be best on the \_\_\_\_\_ side of the house because \_\_\_\_\_.

### Materials

- Pencils with erasers
- Thumbtack
- Thread—25 cm
- Paper
- Protractor
- Compass

### Procedure

1. Draw a diagram of your home. Be sure to draw the objects around your home such as trees, shrubs, and other items that might block the wind. Label the north, east, west, and south sides of your home with the help of a compass. Mark sites that represent the areas you will be testing and collecting evidence.
2. Make a device to measure wind strength. Push the thumbtack into the eraser of a pencil and tie the thread around the thumbtack.
3. Measure the power of the wind using your device. Hold the device in the air and observe the wind blowing the thread. Record the angle of the thread. The larger the angle, the higher the wind energy at the location. Repeat the experiment several times at different times of the day and in weather.
4. Make a chart to record the time of day, the weather conditions, and the angle of the thread at each site.

### Analysis and Conclusion

At what height was the wind strongest? Was this true at different times during the day? Where would you put a windmill around your house to provide the most energy? Is there only one good location or are several locations equally good?

