

Wind Around Your Home

Grade Levels:
4-6

Questions:

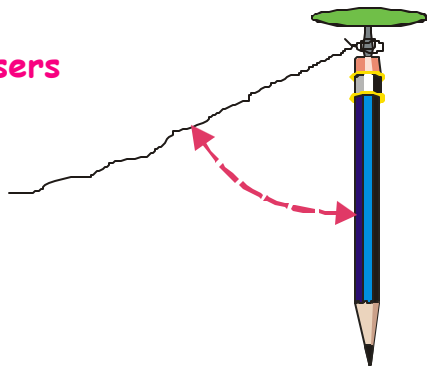
On which side of the house would you put a windmill?
Is there more wind at higher altitudes?

Possible Hypotheses:

There is more wind on the south/north/east/west side of the house.
There is more wind at ground level/at roof level.

Materials:

Pencils with erasers
Thumbtack
Thread - 25 cm
Paper
Protractor
Compass



Procedure:

1. Draw a diagram of your home. Be sure to draw the things around your home such as trees, shrubs, and other things that might block the wind. Label the north, east, west, and south sides of your home with the help of a compass or parent. Mark sites that represent the areas you will be testing.
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?