

Name: \_\_\_\_\_

## Where is the Best Place to Locate a New Wind Farm? Investigation Sheet

Wind is moving air and is a locally plentiful source of energy. In this activity, you will use Web GIS to examine wind speed patterns and land use in Pennsylvania to determine the best place to locate a new wind farm. You will

1. Examine wind speed patterns in Pennsylvania.
2. Examine land use patterns in Pennsylvania and in the Lehigh Valley.
3. Determine the best place to locate a new wind farm in Pennsylvania and in the Lehigh Valley.

Read **all** instructions on your handout and answer **each** question.

1. Describe the general pattern of wind speeds in Pennsylvania. Where are the highest wind speeds located?

Where are the lowest wind speeds located?

2. What is the wind speed and land use at the PA and Lehigh Valley wind farm sites?

**NOTE:** Some wind speed and land use data are already completed.

### Wind Farm Sites Data Charts

PA Wind Farm Sites	Land Use	Wind Speed (mph)
1	Agricultural	14.51 - 15.7
2		
3		
4		
5	<15% Cultivated	13.41 – 14.5
14	Urban/Suburban	12.3 – 13.4
15		
16	Agricultural	0 – 12.3

Lehigh Valley Wind Farm Sites	Land Use	Wind Speed (mph)
6	Forested	13.41 – 14.5
7		

8		
9	Forested	13.41 – 14.5
10		
11	Agricultural	13.41 – 14.5
12		
13	Agricultural	0 – 12.3

Use your **Wind Farm Sites Data Charts** and the Web GIS map to answer the following questions.

3. Which wind farm site in **Pennsylvania** (sites 1-5, 14-16) do you think is the **best place** to locate a new wind farm?

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4. Why did you select that wind farm site? Support your decision with **evidence** from the **GIS map**.

5. Which wind farm site in the **Lehigh Valley** (sites 6-13) do you think is the **best place** to locate a new wind farm?

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6. Why did you select that wind farm site? Support your decision with **evidence** from the **GIS map**.

7. Do you think wind farm site **5** is a good place to locate a wind farm? \_\_\_\_\_  
Why? Support your answer with **evidence** from the **GIS map**.

8. Do you think wind farm site **14** is a good place to locate a wind farm? \_\_\_\_\_  
Why? Support your answer with **evidence** from the **GIS map**.