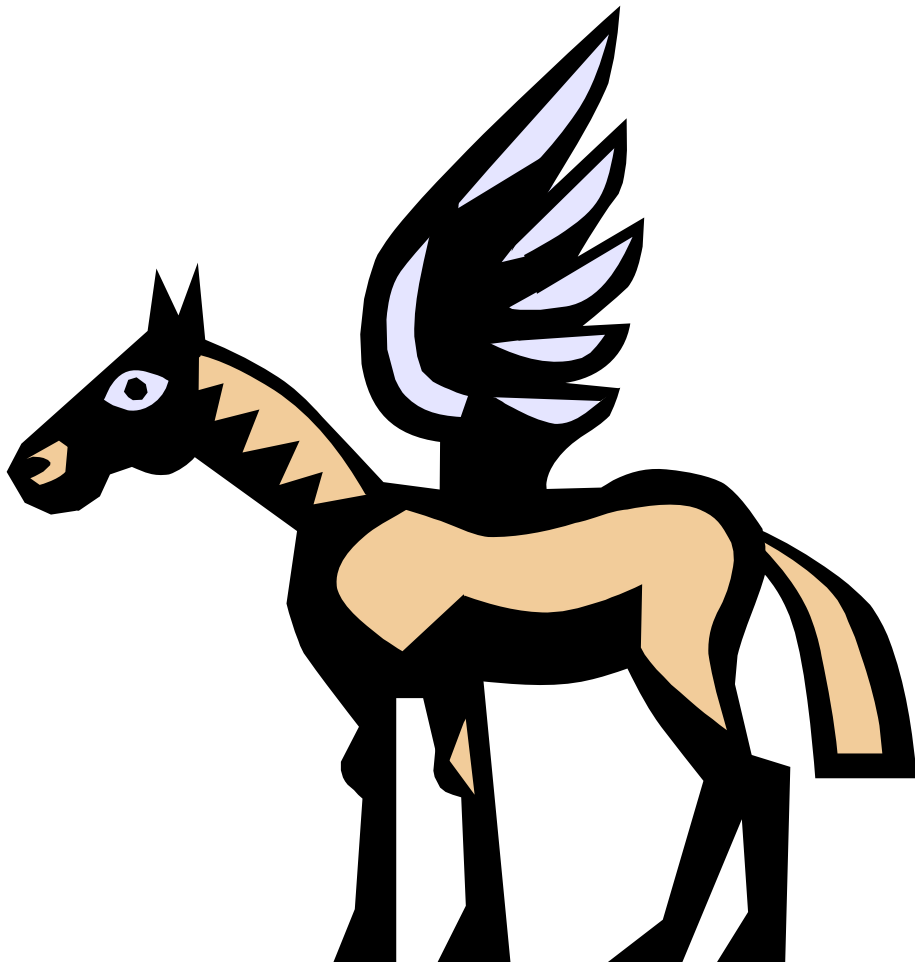


Topic 6 Student Activities

Wind Myths



Topic 6: Wind Energy Myths

The activities in this section were designed to help the student understand different wind energy myths that are often talked about. They should be able to refute a wind energy myth after reading articles and learning from the teacher segment, Topic 6 - Wind Energy Myths. Additional information from that section can be used to aid the students in completing these exercises.

“How Noisy is a Turbine?” - Recommended for Middle - High School.....4-5



“MythBusters!” - Recommended for Middle - High School.....6



Topic 6: Wind Power Myths

Teacher Answer Key

Turbine Noise

Find the difference of intensity for a wind turbine and an office between the threshold of hearing and each other using the Figure 1 on page 4. Work through numbers 1-3 on the student worksheet as an example with the students and then have them do the rest on their own. Be sure the students know that a decibel is a comparison, not a measurement. When solving for the difference in intensity the number the get means that the sound of one object is that many times more intense than the other. See the examples worked out below.

1.) First have students identify the volume in dB of a turbine, average home, and threshold of hearing:

- a. *Turbine - 45 dB*
- b. *An office - 60 dB*
- c. *Threshold of hearing - 0 dB*

2.) Next solve for the difference of intensity:

a. *Between a turbine and the threshold of hearing:*

i. *The difference is 45 dB which is 4.5 B, so to find the intensity you do the following:*

$$10^{4.5} = 31,622.78$$

1) *This means that the sound of a wind turbine is 31, 622 times more intense than the threshold of hearing.*

b. *Between an office and wind turbine.*

i. *The difference is 2.5 B.*

$$10^{2.5} = 316.22$$

1) *This means that the sound of an office is 316 times more intense than a wind turbine.*

c. *Between an office and the threshold of hearing*

i. *The difference is 6 B:*

$$10^6 = 1000000$$

1) *The sound of an office is 1,000,000 times more intense than the threshold of hearing.*

How Noisy is a Turbine?

Name: _____

Find the difference of intensity for a wind turbine and an office between the threshold of hearing and each other using the figure on the right.

1.) First, identify the volume in dB of a turbine, an office, and threshold of hearing using Figure 1.

	Decibels (Db)	Bel (B)
Turbine		
An Office		
Threshold of Hearing		

2.) Next, solve for the difference in intensity:

a. Between a turbine and the threshold of hearing.

Turbine	B
Threshold of Hearing	B
Difference in Volume	B

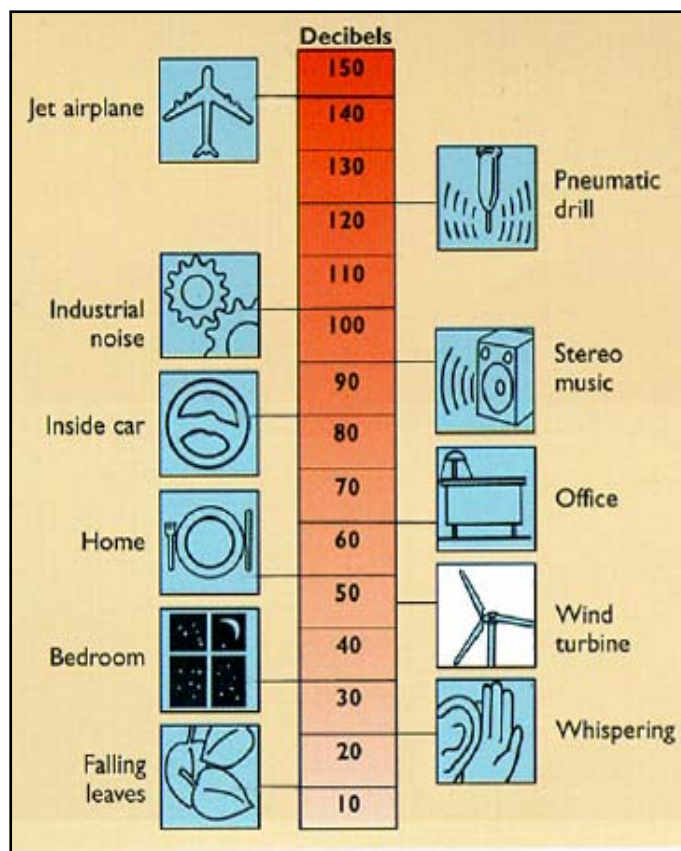
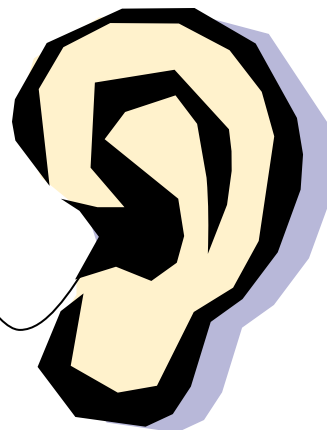
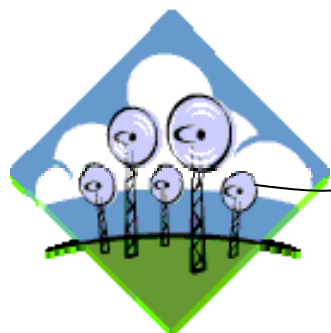


Figure 1

3.) Finally, take 10 to the power of the difference in volume to find the intensity.

a. What does this number mean?

$$10^{\square} = \text{difference in intensity}$$



How Noisy is a Turbine? con't

Name: _____

4.) Find the difference in intensity between an office and wind turbine.

Turbine	B
Office	B
Difference in Volume	B

a. What does this number mean? _____

5.) Find the difference in intensity between an office and the threshold of hearing.

Office	B
Threshold of Hearing	B
Difference in Volume	B

b. What does this number mean? _____



MythBusters!

Name: _____

Pick one of the articles attached and answer the following questions:

1.) What are the wind myths found in this article?

2.) Does the article refute any of the myths found? If so, how?

3.) Recalling what you learned in topic 6, how would you refute the myth?

4.) Do you agree with the opposition in the article and why?
