2019-2021

Wind is Energy
Student Guide

NEED
National Energy Education Development Project

PRIMARY

Cover Photo:129MW Forward Wind Energy Center.
Photo by Invenergy LLC, NREL 16037

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AWEA AMERICAN WIND ENERGY ASSOCIATION

NEED National Energy Education Development

Weather Calendar

Month: _____

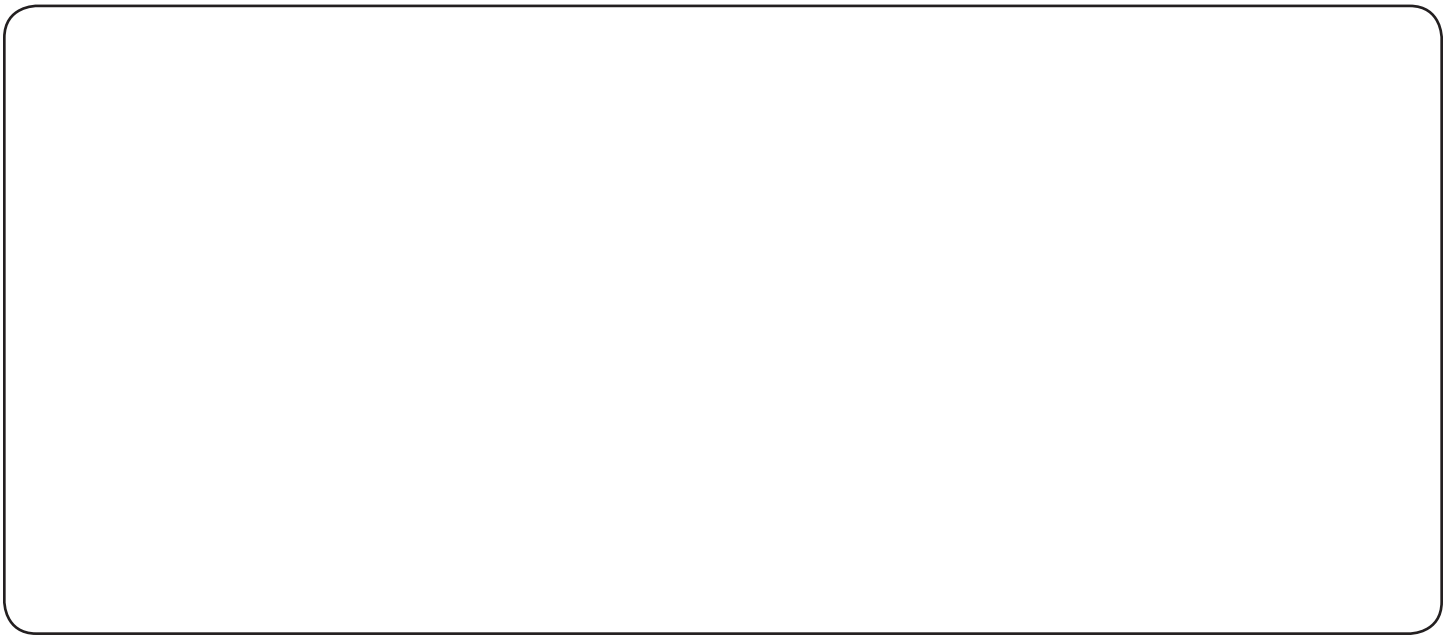
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY

Date: _____

Wind

Question: What evidence is there that the wind is blowing?

Observe the wind. Draw pictures of evidence that the wind is blowing.



Date: _____

Wind

Question: What evidence did you find that proved the wind was blowing?

Look back at your evidence that the wind was blowing. Describe how the wind was blowing. Write about what you saw that proves the wind was blowing.

Date: _____

Energy Search

Question: How do we use energy at school?

Energy is light. 	
Energy is sound. 	
Energy is heat. 	
Energy is motion and growth. 	
Energy runs machines. 	

Date: _____

Pinwheels

Question: What makes the pinwheel spin?

Date: _____

Wind Can Do Work, Part 1

Guiding Question: How can wind do work?

Question: What will happen when wind blows into the windmill?

I predict _____

_____

because _____

_____

Draw a picture and use words to explain what happened.

_____

_____

_____

Date: _____

1. Make your windmill.
2. Draw a diagram of the windmill below and label the parts.

Windmill Diagram

Date: _____

Wind Can Do Work, Part 2

Question: How many paper clips can the wind lift to the top of the windmill?

I predict _____

_____

because _____

_____

Trial	Number of Paper Clips	Lifted to the top? (Yes or No)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Date: _____

Question: _____

_____

_____

Weightlifter Turbine Diagram

Date: _____

Blade Design Ideas

Draw some ideas you have for what the blades could look like.

My blade design ideas...

My group's blade design will be...

Date: _____

Question: _____

_____

_____

I predict _____

_____

because _____

_____

_____

Data:

Date: _____

Data and Observations Continued:

Blade Investigation Results

Date: _____

Wind Can Do Work Conclusion

How does wind do work? What did you learn in your windmill investigations? How much work did your windmills do? Is the wind a good source of energy to do work? Why or why not?

Date: _____

Wind Measurement Tools

Draw diagrams of the wind measuring tools you will be using. Label each one and tell what it measures.

Date: _____

Measuring the Wind

Question: Will the wind blow the same speed in different locations around the school?

I predict _____

_____

because _____

_____

_____

Data and Observations: From what direction is the wind blowing?

_____

_____

_____

Date: _____

Location	Time	Revolutions in 10 Seconds	Speed

Date: _____

Wind Reflection

What did you learn about wind and energy? What is the most important thing you learned?

Date: _____

Date: _____

What are You Wondering About?

After learning something new, scientists often have even more questions to which they want to find answers.

- What questions about wind do you still have?
- How can you find the answers to your questions?

Date: _____

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Oklahoma Gas and Electric Energy Corportation
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