

Name: _____

16-1 Energy in the Atmosphere



1. Why is heat a major factor in the weather?

2. Where does all the energy come from?

3. How does the energy travel?

4. How are electromagnetic waves classified?

5. Define radiation:

6. Most of the energy from the sun reaches Earth as what three E-M waves?

7. Complete the chart:

Type of E-M Wave	Definition	Wavelength	Effect
UV			
Visible light			
IR			

Name: _____

8. Some of the energy from the sun is absorbed within the atmosphere. Describe what absorbs the sun's energy.



9. How are the sun's rays reflected?

10. Define scattering.

11. Why is the daytime sky blue?

12. When the sun rises and sets the sky turns red, orange and pink. Explain why this happens.

13. What two things can happen when the sun's energy reaches the Earth's surface?

14. Describe the greenhouse effect.



15. Why is the greenhouse effect necessary?

Chapter 16-2 Heat Transfer

1. The energy that heats our planet comes from the _____.

2. Look at Figure 3 on page 532. Which liquid is hotter? _____

How can you tell? _____

3. What is the relationship between the speed of particles in a substance and the temperature of the substance? _____



4. Define thermal energy: _____

5. Define temperature: _____

6. If you had a cup of boiling water and large pot of boiling water, which would have more thermal energy? _____

Which would have a greater temperature? _____

7. How does a thermometer work? _____

8. Complete the following chart

	Celsius	Fahrenheit
Freezing point	_____	_____
Boiling point	_____	_____

16-3 Winds

1. How do fluids (gasses and liquids) move?

2. Define wind and explain what causes it.

3. What causes differences in air pressure?

4. In what two ways do we describe winds?

5. How do we determine wind direction? Explain.

6. Toward what direction does a west wind blow?

7. What is the instrument used to measure wind speed? Describe how this works.

8. Define wind chill factor.



Local Winds

1. Define and give an example of a local wind.
2. What causes local winds?
3. Draw and label a diagram to represent a sea breeze.

4. Draw and label a diagram to represent a land breeze.



5. Describe a monsoon.
6. Compare and contrast summer and winter monsoons.

Global Winds

1. Define global winds:

2. Explain why there is unequal heating of Earth's surface.

3. Explain global convection currents. What do they produce?

4. Describe the Coriolis Effect.

GLOBAL WINDS AND PRESSURE BELTS

NAME	DESCRIPTION	LOCATION
DOLDRUMS		
HORSE LATITUDES		
TRADE WINDS		
PREVAILING WESTERLIES		
POLAR EASTERLIES		
JET STREAM		

