Layers of the Atmosphere Foldable Name_____

Class_____

1. Fold a piece of light paper in half hamburger bun-style.

2. Open flat and then fold each side toward the center fold - shutter-style.

3. With the foldable closed, draw the bottom page (Layers of Atmoshper) covering the entire front side. Color the long dark lines that represent temperatures changes: from the bottom page-- blue, red, blue, red, representing decreasing, increasing, decreasing, increasing temperatures.

6. Cut out the boxes that contain the characteristics of each of the eight layers of the atmosphere. Paste inside the foldable under the correct layer. Be sure to put the main layers on the inside left and the minor layers on the inside right.

7. Cut flaps for each of the layers on the front shutters.

8. Carefully cut out the small sketches **ONE AT A TIME**. Read the words that tell you where to paste the sketch and paste to the front of the foldable on the diagram of the atmosphere. **Do NOT cut out the words that tell you where to paste each sketch!**

9. Fill in the Name Tag and paste on the back.

****Answer these questions:**

1. List the four main layers.
2. List the four minor layers.
3. Which two minor layers of parts of a main layer?
4. Which layer is the most important to you and why?
5. What two layers protect you?
6. Which layer acts like a giant magnet? What does it attract? 7. What does the air in the troposphere do as it heats up from the sun?
8. What cloud indicates the top of the troposphere?

9. What runs along the top of the troposphere?

10. What attaches itself to this jet stream and, in a sense, tells you where the stratosphere begins?

Blackbird SR-70
26 km

Boeing 747
12 km

Balloon
5-7 km

Ozone molecules
20-30 km

Aurora Borealis
100-250 km

Intl. Space Station
300 km

Flock of Geese
6-7 km

Weather
near the surface

Cirrus Clouds
16 km

Cumulonimbus
up to 16 km

Radio Waves
96-112 km

Meteors
48-80 km

Unmanned Spacecraft
3000 km

TROPOSPHERE
Temperature: DECREASES, 6.5 °C per km to about -60 °C
Characteristics:
1. Most weather occurs here where we live
2. Convection Currents

STRATOSPHERE
Temperature: INCREASES, to about -20 °C
Characteristics:
1. Contains most of atmosphere's ozone
2. Where jets and manned balloons have gone

MESOSPHERE
Temperature: DECREASES, -100 °C at top
Characteristics:
1. Protects Earth from meteors
2. Coldest region of atmosphere

THERMOSPHERE
Temperature: INCREASES, 2,000 °C at top
Characteristics:
1. Temps get up to 2000 °C
2. Air molecules are 1 km apart!

OZONOSPHERE
Characteristics:
1. Ozone is made of 3 oxygen atoms
2. Protects the surface from Sun's UV rays
3. Humans are causing Ozone depletion

IONOSPHERE
Characteristics:
1. Lower part of Thermosphere
2. Radio waves bounce back to Earth's surface

EXOSPHERE
Characteristics:
1. Upper part of Thermosphere
2. Artificial Satellites orbit here

MAGNETOSPHERE
Characteristics:
1. Earth's Magnetic Field
2. Causes Aurora Borealis (Northern Lights)

Layers of the Atmosphere

Name_____
Class_____
Date_____