

Layers of the Atmosphere Foldable

Name _____ Class _____

1. Fold a piece of light blue paper in half hamburger bun-style.
2. Open flat and then fold each side toward the center fold - shutter-style.



3. Color the long dark lines that represent temperatures changes: from the bottom -- blue, red, blue, red, representing decreasing, increasing, decreasing, increasing temperatures.
4. Carefully cut out the diagram of the atmosphere. Fold in half lengthwise and cut apart. Paste each half onto the front shutters of the light blue paper. Paste toward the bottom so you have room for a title at the top.
5. Cut the two parts of the title out and paste on the top of the shutters.
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 are 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



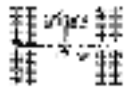
Ozone molecules
20-30 km



Aurora Borealis
100-250 km



Intl. Space Station
300 km



Flock of Geese
6-7 km



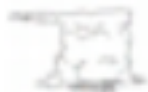
Weather
near the surface



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

Characteristics: to about -60 °C

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 _____

