Atmosphere Layers Diagram

Layers of the atmosphere project: Use CH 17 Section 1, pgs 477-480 for help.
On a blank sheet of paper, complete the following tasks. Use the entire sheet for the diagram, then the next page for the questions:

1. Title
2. You are going to combine two different diagrams into one for this assignment.
    a. On the right side of your diagram, label altitudes of each layer of the atmosphere in miles by 5's.
    b. On the left side of your diagram, label the altitude in the following increments, making sure to match them up with the altitude on the right side of your diagram: 0, 5, 10, 15, 20, 25 miles. Make a vertical line on the inside of the altitude markings on the left side of your diagram and put a horizontal dash at each of the altitude markings you labeled (0, 5, 10, 15, 20, 25). Label the atmospheric pressure on these dash lines. Use diagram on page 479 in the book to find the atmospheric pressure.
3. On the bottom of your diagram, label the temperature ranges like the chart on page 480 (use Fahrenheit)
4. Draw and label the four layers of the atmosphere with the pauses between them and the ozone layer.
5. Design a thermometer to show the temperature changes in each layer.
6. Label and draw where the following occur: auroras borealis, meteors burn up, tallest mountain on Earth, most commercial airplanes fly, weather takes place, manned helium balloons, hot air balloon record, spy planes, the ISS (space station), global positioning satellites.
7. Lightly shade the layers in different colors.
8. After you have completed your diagram, answer the following questions: use Ch 17 Section 1 and your Atmosphere notes for help if it's needed.
    a. What gas comprises most of the atmosphere? 2nd most?
    b. What other variable components make up the composition of the atmosphere?
    c. Identify at least one interesting fact about each layer.
    d. The four layers of the atmosphere are divided by what characteristic?
    e. What layer of the atmosphere has most of the world's weather?
    f. Why does air temperature decrease in the troposphere?
    g. Why does air temperature increase in the stratosphere?
    h. Why does air temperature decrease in the mesosphere?
    i. Why does air temperature increase in the thermosphere?
    j. What would happen to the troposphere if carbon dioxide were removed from air? Remember, CO_2 is a key greenhouse gas. Give at least 2 different answers to what could happen in CO_2 was gone from the troposphere.
    k. How are human activities affecting the atmosphere? A detailed explanation is needed. (hint pg 478)
    l. What important UV absorbing gas is found in the stratosphere? What's been happening to it?
    m. Explain how the temperature of Earth's atmosphere changes as you increase altitude.
    n. If the average normal temperature decrease with altitude in the troposphere is 6.5°C/km, calculate the approximate temperature at 6,000m if the surface temperature is 16°C.
    o. For each layer, explain 2 different ways a human could die in that layer. Give an explanation that shows how and why that layer could kill a human.
    p. Compute the volume of the classroom by multiplying the height x width x length to get the cubic meters or feet. How much nitrogen and oxygen are in the classroom? (remember you already know the rough percent of each gas in the atmosphere)
    q. How does the Mesosphere protect life on earth?
    r. How does the Stratosphere protect life on earth?
    s. How does the Troposphere protect life on earth?
    t. After thinking about the state of our present atmosphere, predict what you think our atmosphere will be like in the year *2035*. Will it be the same? worse? better? What makes you think this?