LAB 28
Levels of the Earth's Atmosphere

Purpose

The purpose of this lab is to have you identify the four main layers of the Earth's atmosphere by the relationship between their unique temperatures and altitudes. You will also identify the three transitional layers within the atmosphere.

Materials

colored pencils

Procedure

The Earth's atmosphere is divided into four distinct layers, each of which is classified by its unique temperature and altitude. The areas that separate these layers are known as transitional layers.

1. Using the data from Table 28–1 and the graph paper in Figure 28–1, construct a line graph that shows the relationship between temperature and altitude in the Earth's atmosphere. The *y*-axis should be labeled "Altitude (km)."
2. When your graph is complete, correctly label the four levels of the atmosphere and the three transitional layers.
3. Using your colored pencils, shade in each unique layer of the atmosphere on your graph with a different color.

TABLE 28–1 Altitude and Temperature of the Earth's Atmosphere	
Altitude (kilometers)	Temperature (°C)
0	15
5	–18
10	–50
15	–57
20	–57
25	–52
30	–47
35	–37
40	–23
45	–9
50	–3
60	–26
70	–54
80	–75
90	–55
100	–5
110	50
120	125

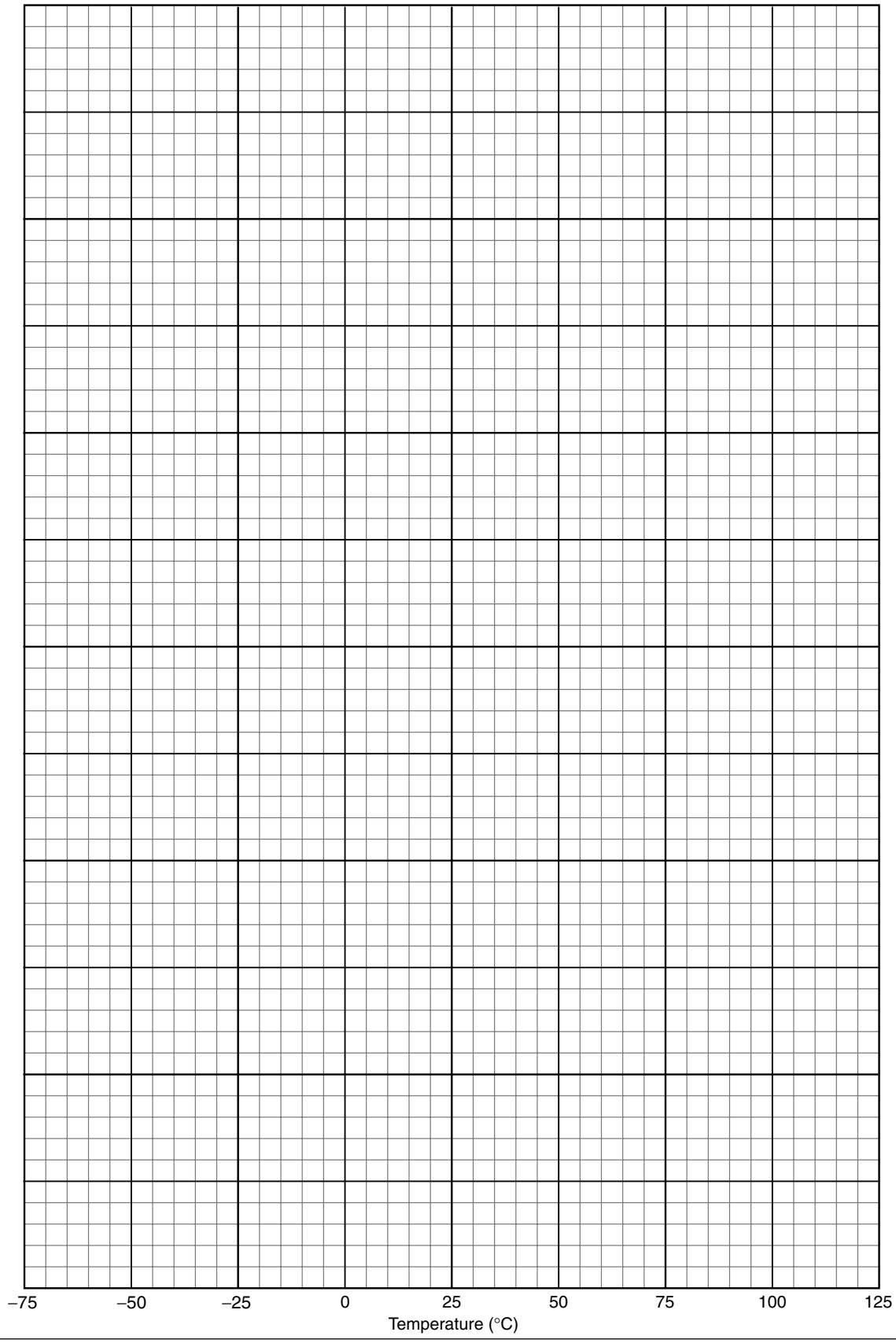

FIGURE 28–1 Graph Paper

Conclusions

1. Explain what a temperature inversion is.

2. List the four layers of the atmosphere in order of increasing altitude.

3. What is meant by the term isothermal?

4. What are the three transitional layers in the atmosphere?

5. In which layers of the atmosphere do temperature inversions occur?

6. In which layer of the atmosphere does weather take place?

7. In which layer of the atmosphere is the ozone layer located?