Physical Science Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13.1 wks Period \_\_\_\_\_\_\_\_\_\_\_

Allen

Complete the following statements:

1. Pressure is the result of a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ distributed over a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_.
2. A substance that assumes the shape of its container is called a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. List four examples of fluids.
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ c. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ d. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. As elevation increases, air pressure \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. There are over 1000 N of force that is pushing directly on top of your head by the atmosphere. Why are you not crushed like the can in figure 4 page 393?

Use the formulas to help solve the following problems: P = F / A F = P x A A = F / P

1. A circus performer on a pair of stilts exerts a pressure of 32 kPa on the ground. If the performer stands on one stilt, what pressure does the stilt exert on the ground?
2. A book with a weight of 12 N rests on its back cover. If the back cover measures 21 cm by 28 cm, how much pressure does the book exert?
3. A boulder is resting on the ground on an area of 500 cm2 with a pressure of 25,500 kPa. What is the force of the boulder in Newtons?
4. A young girl is bouncing on a pogo stick. If she has a force of 100 N and the pressure on the pogo stick is 150 kPa, what is the area of the base of the pogo stick in meters2? In cm2
5. Challenge: Some deep-sea fish have been known to explode as they are brought to the ocean’s surface. How do pressure changes cause this to happen?
6. Challenge: A 500 N student stand on one food. A 750 N student stands on two feet. If both students wear the same size shoe, which exerts the greater pressure? Explain.