Physical Science Worksheet: Pressure

Short Answer

1. You have been accepted into a boat building competition. You get to pick between two boat plans. Boat A's plans has the dimensions of 10m wide and 85m long and exerts 2200Pa of pressure. Boat B's plans has the dimensions of 3m wide and 173m long and exerts 3100Pa of pressure. In order for the boat to float, the force applied to the water must not exceed 2.0×10^6N. Would you pick Plan A or Plan B?

2. If you are standing on one foot and then put both feet down, you have _____ the force on the ground.

3. If you are standing on both feet and then stand on one foot, you have _____ the pressure on the ground.

4. 50 mL of soda in a soda can exerts _____ 50 mL of soda in a 1L bottle.

5. According to Archimedes, the buoyant force on an object is equal to _____.

6. As the speed of a fluid increases, _____.

7. Snowshoes enable a person to walk on deep snow because the snowshoes

8. A unit of pressure is called a

9. Air pressure decreases as

10. Water pressure increases as

11. A ship stays afloat as long as the buoyant force is

12. A raft is floating on the water. The bottom of the raft takes up an area of 22m^2. It exerts a force of 847N onto the water. How much pressure did the raft push on the water?

13. A jack hammer exerts 6000 Pa of pressure onto the concrete. The tip only covers an area of 0.04m^2. How much force does the jack hammer apply to the concrete?

14. You have been accepted into a boat building competition. You get to pick between two boat plans. Boat A's plans has the dimensions of 45m wide and 126m long and exerts 2300Pa of pressure. Boat B's plans has the dimensions of 6m wide and 115m long and exerts 2700Pa of pressure. In order for the boat to float, the force applied to the water must not exceed 2.0×10^6N. Would you pick Plan A or Plan B?

15. You have been accepted into a boat building competition. You get to pick between two boat plans. Boat A's plans has the dimensions of 9m wide and 106m long and exerts 2000Pa of pressure. Boat B's plans has the dimensions of 135m wide and 54m long and exerts 2800Pa of pressure. In order for the boat to float, the force applied to the water must not exceed 2.0×10^6N. Would you pick Plan A or Plan B?