

Under Pressure

Materials – wood block, spring scale, rubber band, ruler

Do this...Place a wooden block flat on your hand with side "A" facing down. Have as much of the block's surface in contact with your hand as possible. Make a mental note of how heavy the block feels. Now, rotate the block so that side "B" is facing down and make a mental note of how heavy the block feels. Finally, rotate the block so that side "C" is facing down, again making a mental note of how heavy the block feels.

Answer these...In your opinion, which side resulted in the block feeling heavier? You may want to repeat the above process in order to make your final decision.

Is the block really changing weight just because it is sitting on a different side?

Explain what you think is going on?

Now do this...Use a spring scale to determine the actual weight of the block in each of the three orientations. Record the values in Newtons.

Does the weight change?

Have your teacher approve at this point

Use a ruler to measure and record the length and width of each side. Calculate the area of one side of the block. (show **E-S**) Record all 3 areas

Pressure is the amount of force exerted over the surface area of contact. In this activity, the weight of the block is the force exerted. Calculate (**K-U-E-S**) the pressure exerted by one side on your hand. Record all 3 pressures.

Have your teacher approve at this point

Briefly explain how your results relate to your original opinion of the block's weight when placed on each side in your hand.

In terms of pressure: Why do Coach Morris and Coach Milam (basketball coaches) get upset when someone walks on the basketball court with high heel shoes?