

Pressure of an Object

What happens when the same force is applied to two areas of different size? To find out, perform this simple activity. Grab a heavy book at its spine using one hand. Make sure to wrap your entire hand around the book. Hold the book several centimeters above your desktop for 20 seconds. Next, repeat the process using only your thumb and forefinger. Again hold the book for 20 seconds.

1. What difference do you notice in the two methods of holding the book?
2. Does the weight of the book change? Does the area over which you apply the force needed to hold the book change?

ANSWERS

1. It is much harder to hold the book for 20 seconds when you use only two fingers.

2. The weight of the book does not change. The area over which the force is applied does change. The area is much larger when the book is held using the entire hand wrapped around the spine.