

Mix and Flow of Matter

Topic 7 - Fluid Pressure Practice Quiz

1. A window washer notices that the spray hoses he uses are spraying water at too high a pressure and damaging the trim on the windows. The rate of flow of water coming out of the nozzle could be reduced by ...

shortening the hoses

lengthening the hoses

increasing the nozzle opening

decreasing the nozzle opening

2. A gas can be compressed if three conditions are met. They include all of the following EXCEPT ...

the gas must be at room temperature

the gas must be in a sealed container

it will remain a gas even after it has been compressed

a force is applied to push the particles closer together

3. When a force is applied to a substance and the particles cannot be forced closer together the substance is said to be incompressible. What happens to the force?

it changes the volume

it is absorbed by the substance

it is applied throughout the substance

it changes direction

4. There are advantages to compression because they can exert a counterforce. This counterforce can be useful in the following application - of a bicycle ...

sprockets

gears

handlebars

shocks

5. The atmosphere around the Earth is approximately 160 km thick. It is the force of gravity which keeps it in place. What effect does this layer of air have on us when we hike up a mountain?

it weighs us down a lot less as we climb

it weighs us down a lot more as we climb

it has no effect, because our body is use to it

it has no effect, because our body can adjust to it

6. When we suck on a straw in a tetrapak juice container, the sides of the container collapse. This happens because ...

we are increasing the pressure inside the container

the atmospheric pressure is collapsing the walls of the container

the pressure inside the container is increased and collapses from the added pressure

we are lowering the strength of the container when we suck on the straw

Check Answers

Mix and Flow of Matter

Topic 7 - Fluid Pressure Practice Quiz (Answers)

1. A window washer notices that the spray hoses he uses are spraying water at too high a pressure and damaging the trim on the windows. The rate of flow of water coming out of the nozzle could be reduced by ...
 - X **shortening the hoses**
 - X **lengthening the hoses**
 - increasing the nozzle opening (Text p. 71) By increasing the size of the nozzle opening, you are able to lower the pressure of the water coming out of the nozzle**
 - X **decreasing the nozzle opening**

2. A gas can be compressed if three conditions are met. They include all of the following EXCEPT ...
 - the gas must be at room temperature (Text p. 73) Check out the 3 requirements in the middle of this page**
 - X **the gas must be in a sealed container**
 - X **it will remain a gas even after it has been compressed**
 - X **a force is applied to push the particles closer together**

3. When a force is applied to a substance and the particles cannot be forced closer together the substance is said to be incompressible. What happens to the force?
 - X **it changes the volume**
 - X **it is absorbed by the substance**
 - it is applied throughout the substance (Text p. 73) The volume does not change when a substance is incompressible, because the particles cannot move closer together, so the force is applied throughout the substance (solids and liquids)**
 - X **it changes direction**

4. There are advantages to compression because they can exert a counterforce. This counterforce can be useful in the following application - of an all-terrain vehicle ...
 - X **sprockets**
 - X **gears**
 - X **handlebars**
 - shocks (Text p. 74) The shocks provide a counterforce against the weight of the vehicle**

5. The atmosphere around the Earth is approximately 160 km thick. It is the force of gravity which keeps it in place. What effect does this layer of air have on us when we hike up a mountain?
- it weighs us down a lot less as we climb (Text p. 75) As you climb higher, there are fewer particles to weigh you down**
- X **it weighs us down a lot more as we climb**
- X **it has no effect, because our body is use to it**
- X **it has no effect, because our body can adjust to it**
6. When we suck on a straw in a tetrapak juice container, the sides of the container collapse. This happens because ...
- X **we are increasing the pressure inside the container**
the atmospheric pressure is collapsing the walls of the container (Text p. 76) The unbalanced force that is created inside the container allows the atmosperic pressure to crush the walls of the container
- X **the pressure inside the container is increased and collapses from the added pressure**
- X **we are lowering the strength of the container when we suck on the straw**