



St. Antony's Catholic College

Aspire - Believe - Achieve

Year 7 Science – Zones 3 & 4

Instructions for the week beginning Monday 20th April 2020

If you've any issues with this work your assigned teachers to contact are:

7A and 7M – Mr Hunt at G.Hunt@st-antonys.com .

7B, C and W – Mr Parker-Smith at G.Parker-Smith@st-antonys.com .

Watch

Watch: https://www.youtube.com/watch?v=_649VtZQMol

Read

Read pages 100-101 of your Exploring Science textbook (penguins on the front)

Do

Gas is a state of matter that has no fixed shape and no fixed volume. Gases have lower density than other states of matter, such as solids and liquids. There is a great deal of empty space between particles, which have a lot of kinetic energy. The particles move very fast and collide into one another, causing them to diffuse, or spread out, until they are evenly distributed throughout the volume of the container.

When more gas particles enter a container, there is less space for the particles to spread out, and they become compressed. The particles exert more force on the interior volume of the container. This force is called pressure.

There are several units used to express pressure. Some of the most common are atmospheres (atm), pounds per square inch (psi), millimeters of mercury (mmHg) and pascals (Pa). The units relate to one another this way: 1 atm = 14.7 psi = 760 mmHg = 101.3 kPa (1,000 pascals).

Find answers for the following questions in the article above.

1. What is the standard unit for pressure that we use?
2. Draw the particle model of a gas in a box.
3. Label your drawing from question 2 with arrows to show the pressure that the gas is exerting on the walls of the box.
4. Give one way the pressure could be increased inside the box mentioned in the previous questions.
5. What would happen if the pressure on the inside of the box exceeds the pressure limit of the box?
6. At the top of Mount Everest, the air pressure is 0.3 atm, convert this to Pascals.

- 1** Draw five diagrams to illustrate sentences a to e, which explain what happens when all the air is removed from a can.
- Show the air particles inside and outside the can.
 - Draw a maximum of ten air particles inside the can.
- a The can is full of air particles moving around. Some of them push against the inside walls of the can.
- b Air particles push against the outside of the can.
- c When the pump is turned on, there are fewer particles in the can.
- d There are fewer air particles pushing against the inside of the can wall, so the pressure in the can is lower.
- e The higher air pressure outside the can squashes the can.

Complete the questions 1-7 on pg 100-101 on Pressure Problems.

The answers to these questions will be posted on SMHW on the afternoon of Friday 24th.

Go to

<https://quizlet.com/103608522/pressure-flash-cards/>

Complete the learn activity and then the test.

Fantastic Friday – Please email Mrs Wright (f.wright@st-antony.com) by 12pm on a Friday if you'd like to share some of your best work of the week with her. She'd love to see it!