

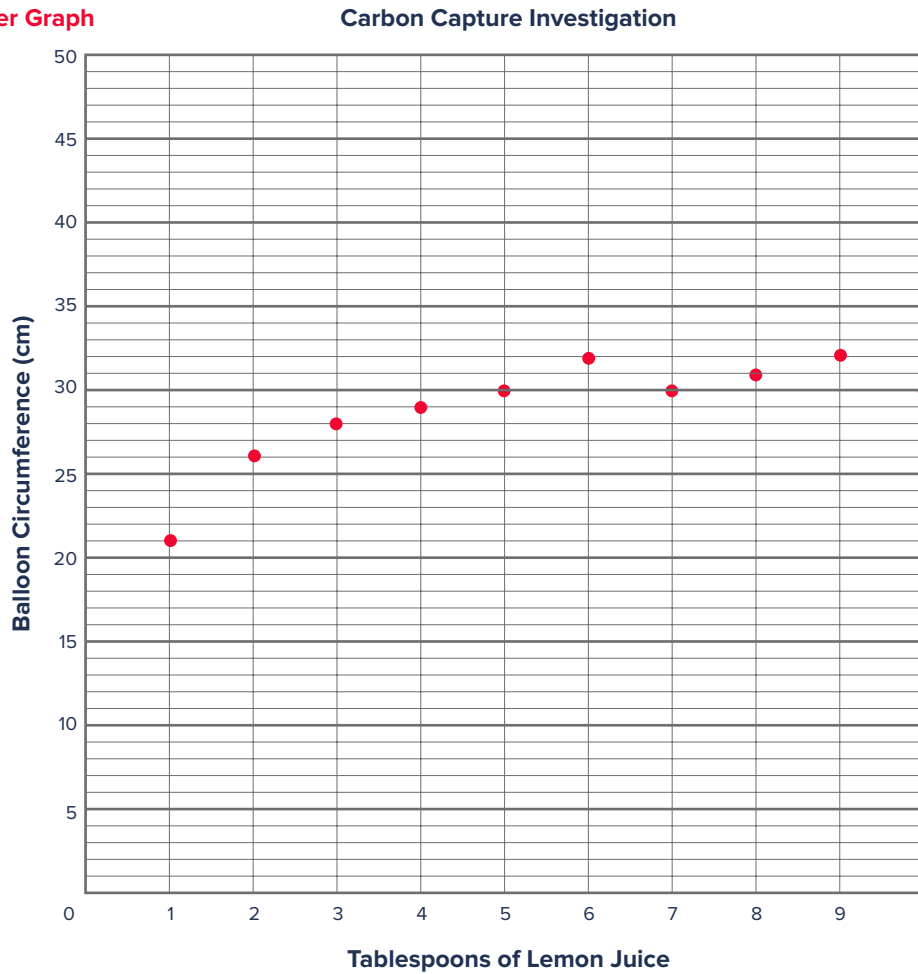
Powering The Future Lesson 2a | Answers

- Bubbles were created, suggesting that a gas was released as a result of a chemical reaction.
- Depending on how much lemon juice they used each time, they may see differences in the volume of bubbles produced, the size of the balloon once inflated, and the amount of bicarbonate of soda that remained at the bottom of the bottle once the reaction was finished.
- Carbon dioxide naturally exists as a gas. If there is a leak in the pipes used for transportation, gases are more likely to leak and escape. Liquids are easier to manage and transport, and less likely to leak from pipes.





1. Example Scatter Graph



2. The more lemon juice, the larger the circumference of the balloon because more carbon dioxide has been released in the reaction with bicarbonate of soda. However, this is only up until a certain point, after which there isn't enough bicarbonate of soda to release more carbon dioxide.
3. A tablespoon isn't an accurate measurement, so even though groups added the same number of tablespoons, this was still a different volume.

The same is true for the teaspoon of bicarbonate of soda, a teaspoon isn't an accurate measurement.

The balloons may have allowed some carbon dioxide to leak due to imperfections. Some balloons may have been more easily stretched than others.

There may have been a leak in the seal between the bottle and the balloon.

4. Some of the carbon dioxide dissolves in water, meaning that it doesn't all gather in the container, and we can't get an accurate measurement of the volume of carbon dioxide.
5. Carbon dioxide gas could interact with other minerals underground.

Carbon dioxide gas could escape if it isn't properly contained.

As time passes, we need to be sure that the carbon dioxide gas won't be disturbed, or it will just be released into the atmosphere, and will contribute to climate change.

Gas takes up more space than liquid, so that must be considered when liquid is injected.