SUITE SCIENCE

Alka Seltzer Rock-Et!

CLASS: 3rd – 6th	30 mins	SESE (SCIENCE)

Learning Objectives - WALT (We are learning to…)

Investigate how tablets dissolve and turn into a

Investigate how air pressure builds up in a

Curriculum links
Science

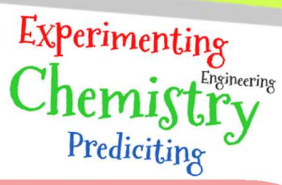
Mixing and other changes – dissolving materials in water

Forces – Using trapped air pressure

Properties and characteristics of materials – Solids, liquids and gases, air pressure

Breakdown:

Welcome	*5 mins*	Finding space and settling
Theory	*5 mins*	Theory of experiment
Experiment	*15 mins*	Rockets!
Close	*5 mins*	Evaluation and clean up



Equipment and Important Notes for Tutors:

Flipchart
Pens
Water
Film canisters (old 35mm ones)
Alka seltzer tablets
Tub/Basin
Timers
Beakers

Safety

Make sure the children keep a safe distance or else wear safety goggles in case the canister hits them

Children can get excited about the experiment, make sure they listen and obey the rules (e.g. – Follow the steps when told)

Make sure to incorporate the scientific learning process throughout this experiment. Establishing a sense of familiarity with the students on these will improve their scientific thinking as well as instilling the framework of future lessons. Remember to ask trigger questions and be inclusive. If children ask questions you do not know the answer to, **it is ok to say you don't know,** as it will show the children that science is about chasing the unknown and make them feel more at ease with you.

Introduction:

In this experiment, the children will learn about chemical reactions by making fizzy tablet (Alka-Seltzer) rockets! When you add the water to the cannister it starts to dissolve the tablet and creates the gas carbon dioxide. As the carbon dioxide is released, it creates pressure inside the film canister. The more gas that is made, the more pressure builds up, until the cap it blasted down and the rocket is blasted up. This thrust system is the same workings behind a rocket. A similar buildup of pressure from gases is also what causes volcanic eruptions.

Experiment:

Set up: 5 mins
Have the children split up into groups and hand out safety googles if you have them. Make su they are in a safe area, hand out markers and whiteboard markers (or whatever you have to h nd!)

Theory: 5 mins
Ask the children if they know any famous rockets, space agencies, trips to the moon. Explain that all rockets basically have a big bomb inside them, but it's a *smart* bomb and that all astronauts have a big one sitting under their bums before they go to space!

If you have a simple diagram of a rocket you can use it to explain there's lots of rocket fuel inside the middle that's really dangerous and explosive. So, when the astronauts want to takeoff, they start a chemical reaction off that causes the fuel to ignite. All this fuel inside is ready to explode.... **BOOOM** *(shout!)*. Remind the children this is a smart bomb, If all the sides of the rocket were the same strength the pressure would build and build until.....(*let the kids shout boom or failing that you again)* but because there is an opening or weaker side to the design, the bottom of the rocket, the gas/fuel has a place to rush out. Thrusting the rocket up!

Tell the children we are going to build our own small rockets! And try to figure out which one will take off the fastest. But instead of using rocket fuel, we are using fizzy (Alka-Seltzer) tablets and water.

Activity: 15 mins

*Ask the children to **predict** how long it will take for our rockets to take off.* Give each one a film canister and beaker, asking them to fill up the canister with 10ml of water. Hand out half a tablet while telling them **not to drop it in the water until you say**.
Drop the tablets into the canister, close the lid, turn them upside down in the tub and have the children start the timer. Record how long it takes.

Get the children to **evaluate** the results in comparison to their prediction. Repeat the experiment with 20ml of water and again, have them predict and work through the scientific process.

The power in these little rockets is so small so you can imagine how big and how unbelievably powerful rockets that go to space are! This works horizontally too, if you want to get a car to zoom really fast along the ground use rockets. If you want to fire a sandwich into your mouth really fast... maybe don't use a rocket :p

REFER BACK TO YOUR **WALT** GOALS AND HAVE THE CHILDREN SHARE WHAT THEY LEARNED TODAY AS WELL AS RECAPPING ON ANYTHING THEY MISSED!

Fondúireacht Eolaíochta Éireann
Dá bhfuil romhainn
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