# Build a Bottle Rocket - Instructions

**Step 1:** We are going to use the pencils to enable the bottle to stand up-side down. Tape the pencils to the outside of the bottle, ensuring the bottle is able to stand and the nozzle of the bottle is at least 10cm from the ground.

**Step 2:**We now need to prepare the cork. Using a pair of scissors shape the cork so that it fits the bottle nozzle (you may need an adult to help you with that part). The cork shouldn’t be loose but not too tight, or else your rocket won’t launch.

**Step 3:** We are now going to prepare the ‘fuel packets’. Take a single piece of kitchen roll and place 2 tablespoons of baking soda in a line down the middle of it. Then fold in the edges and roll the kitchen roll up to contain the baking soda. The end result is a long thin roll of paper containing the baking soda. This should be narrow enough to fit into the bottle, though for now keep it to one side.

**Step 4:**We are now ready to prepare for launch. Pour some of the vinegar into the bottle, around 200ml worth is ideal.

**Step 5:** Slide a ‘fuel packet’ into the bottle and quickly push the cork into place, stand the rocket up (nozzle pointing towards the ground and **MOVE WELL AWAY** from the rocket.

**Step 6:**The soda and vinegar will now react together and create a lot of carbon dioxide gas. This gas is trapped in the bottle so the pressure will build and build. Eventually the pressure will be so great the cork will be pushed down and out of the nozzle and the rocket pushed up into the air.

**SAFETY:**

* Ensure adult supervision at all times
* Take care when using scissors
* Once you have put the soda in the bottle and corked it, move away quickly and DO NOT return to the rocket even if nothing appears to be happening
* If the rocket fails to launch, ensure an adult retrieves it. The likely cause is that the cork was pressed in too tight but this will mean the bottle is highly pressurized so great care should be taken in retrieving it and removing the cork
* This activity can be great fun but should be used at your own risk