

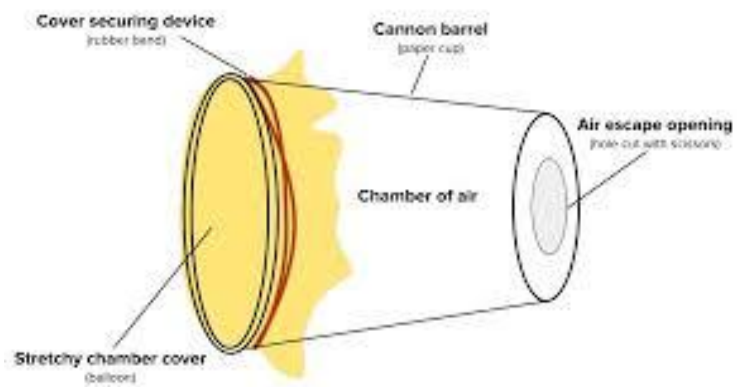
LB03 & LB03A
Hands-on Workshops
SDG 9 Industry, Innovation and Infrastructure

Workshop title:	Air Bazooka
Workshop owner: (Name of School/ Institution/University/Or ganization)	Lee Kong Chian Faculty of Engineering & Science – Institute of Engineering Technology
Description of workshop: (objective, content, etc)	<p><u>1. Air Bazooka</u></p> <p>A simple air cannon that will shoot puffs of air in the shape of rings. Add smoke and you get smoke rings.</p> <p>Procedures:</p> <ol style="list-style-type: none">1) Punch out the bottom of the paper cup2) Attach skin (duct tape) on the bottom of the paper cup3) Attach lid on the top of the paper cup <p>*Participant may bring home the constructed air bazooka.</p> <p>Objectives</p> <ol style="list-style-type: none">1) Learn about engineering design, air force and air pressure concept2) Learn about critical thinking and problem solving. <p><u>2. Electromagnet</u></p> <p>In an electromagnet, an electric current runs through a piece of metal and creates a magnetic field. A new electromagnet can pick up small metal objects.</p> <p>Procedures:</p> <ol style="list-style-type: none">1) Wrap the iron screw with copper wire<ul style="list-style-type: none">-Choose an iron nail or screw as the core-Pull a strand of copper wire loose from the spool-Leave 2–3 in (5.1–7.6 cm) of copper wire loose at the end

	<ul style="list-style-type: none"> -Wrap insulated copper wire around the iron going in one direction -Push the wire close together as you're wrapping it -Wrap the entire screw in wire -Cut the wire so that the end is roughly 2–3 inches (5.1–7.6 cm) long <p>2) Create conductible and the end of the copper wire</p> <ul style="list-style-type: none"> -Remove 1–2 cm (0.39–0.79 in) of insulation from the ends of the wires -Curl the ends of the wire to create a small circle -Position the ends of the wires to each end of a D battery -Test out the magnet while holding the wire onto ends of the battery <p>*Participant may bring home the constructed electromagnet.</p> <p>Objectives</p> <ol style="list-style-type: none"> 1) Learn about electromagnetic force and energy conversion concept 2) Learn about critical thinking and problem solving.
Age group:	Primary school (10 years old or above) Secondary school (13 - 18 years old)
Group size:	2 person x 6 group
<p>Number of session per day:</p> <p>Duration per session (eg. 30 minutes):</p> <p>Time (eg. 9.00am – 9.30am):</p>	<p>9 sessions per day</p> <p>30 minutes per session</p> <p>9.00 am – 9.30 am 10.00 am – 10.30 am 11.00 am – 11.30 am 12.00 pm – 12.30 pm 1.00 pm – 1.30 pm 2.00 pm – 2.30 pm 3.00 pm – 3.30 pm 4.00 pm – 4.30 pm 5.00 pm – 5.30 pm</p>

Pictures/photos.

1. Air Bazooka



2. Electromagnet

