

i-Engineering

Workshop 1

2 Aug 2015



In association with:



People's Association



People's Association Youth Movement

What is Engineering?



How to bbq without a pit?

Some solutions:

Just buy one! Book from RC (HDB bbq pits)

Borrow from friends/families?

Rent from somewhere?



How about **BUILDING**
your own bbq pit?



Sourcing the correct materials

Question 1:

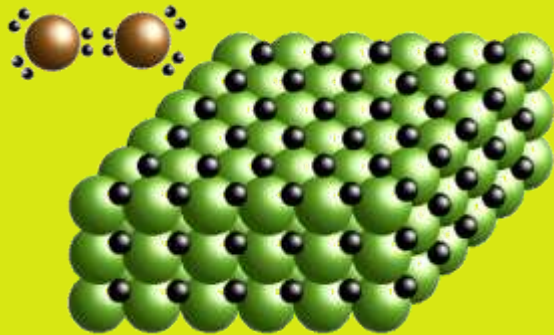
What sort of material is good for conducting heat (transfer of heat)?

Insulators

Wood • Plastic • Rubber • Glass

Conductors

Metals



How?

Metals conduct heat well for two reasons: metal ions pack very closely together in their molecular lattice, and electrons drifting through the metal carry kinetic energy around the lattice.

Question 2:

Where can you easily find metal containers that you can use for this project?



**DRINK
CANS!!**



Introducing the Bitty-Q pit!

Let's get started!



Make sure you have these materials:

- 1) Empty cans (already cut – be careful!)
- 2) Wire clothes hangers (for the grill plate) / wired grill mesh (already cut)
- 3) Sand paper (to sand off any plastic / film on the wire hangers)
- 4) Wire Cutters (to bend the hangers)
- 5) 4 nos 4-inch U-Bolts / 4 nos 65mm length bolts and 8 nuts (for bbq stand)
- 6) 1 no 1-inch utility hinges + 4 nos screws and nuts (for cover)
- 7) 1 no Strap Loop + 2 nos screws and nuts (for the handle on cover)
- 8) Gloves
- 9) Markers – raise up your hand when you need them
- 10) Scissors – raise up your hand when you need them

Step-by-Step Instructions

Step 1: Work on your cover

Step 2: Measure and draw all the holes

Step 3: Go to station to poke the holes

Step 4: Put in all the legs and screw tightly

Step 5: Place hinge on the can

Step 6: Put strap loop on the cover

Step 7: Connect cover to the can

Step 8: Proceed to bbq area!

Step 9: Collect HOT coals + wire mesh

Step 10: Enjoy your bbq!