



# Make a quiz board

Construct a simple electronic circuit to create a fun interactive quiz

**Suitable for Cubs, Scouts, Explorers, Network**

## You will need (per group)

- Batteries (1.5–3V) ● Masking tape
- Bulb (1.5–3V) ● Bulb holder
- 2 alligator clips or 2 pencils wrapped in foil
- Paper clips (enough to match the number of questions and answers)
- Thin cardboard
- Quiz board grid download from [scouts.org.uk/IET](https://scouts.org.uk/IET)
- Ruler ● Wire strippers
- Insulated copper bell wire cut to lengths of 2 x 30cm, 1 x 12cm and 7 x 40cm, with 2.5cm of insulation stripped off both ends

## Instructions

- 1 Working in small groups, ask the young people to draw a grid on cardboard: two columns down and seven rows across, or use the downloadable template grid.
- 2 Ask them to write the questions on the left and mix up the answers on the right.
- 3 Push paper clips through the card or attach a paper clip next to each question. Then wrap one end of each of the 40cm wires around the clip. Keeping the wires behind the card,



### SAFETY FIRST!

This experiment uses low-voltage battery power. DO NOT use household electrical current for this experiment, it is high voltage and could cause serious injury

wrap the other ends of the wires around a paper clip. Then clip each of these next to the correct answer.

4 Taking an alligator clip, attach one end of the 30cm wire to it. Then repeat with the second clip and 30cm wire.

5 Taking one 30cm wire, attach the free end of the wire to the positive (+) lead of the battery, or stick the wire to the battery using tape.

6 Slot or screw the bulb into the bulb holder, then take the other 30cm wire and clip it to the bulb holder. Use the final 12cm piece of wire to connect the bulb holder to the negative (-) terminal on the battery.

7 Ask the young people to test their quiz board by clipping one alligator clip to a question, then attaching the other clip to their selected answer. When the correct answer is selected, the circuit is complete and the bulb will light up.

Download a quiz board and circuit diagram from [scouts.org.uk/IET](https://scouts.org.uk/IET)

## TIME NEEDED

30–45 minutes

## BADGE



The Institution of Engineering and Technology partners the Scout Electronics Activity Badge.

## PARTNER



## OUTCOMES

With this activity the young people will discover the basics of electronic circuits and they will have carried out a simple construction.

## TAKING IT FURTHER

After each young person creates their own quiz board, why not have a quiz night fundraiser and invite parents along? This circuit can also be made with a buzzer.

## MORE INFORMATION

Visit [scouts.org.uk/IET](https://scouts.org.uk/IET) for more information and activities.