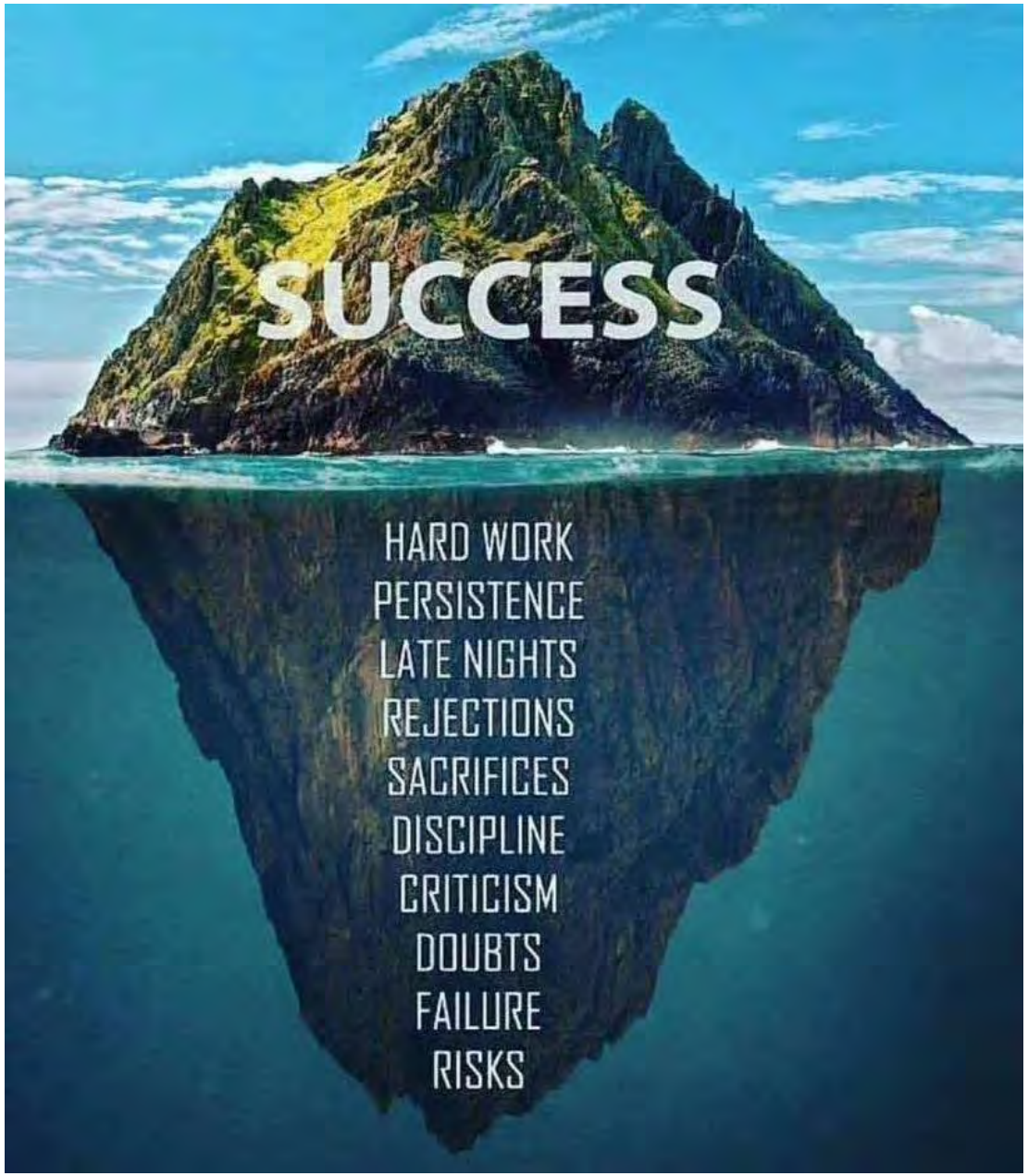
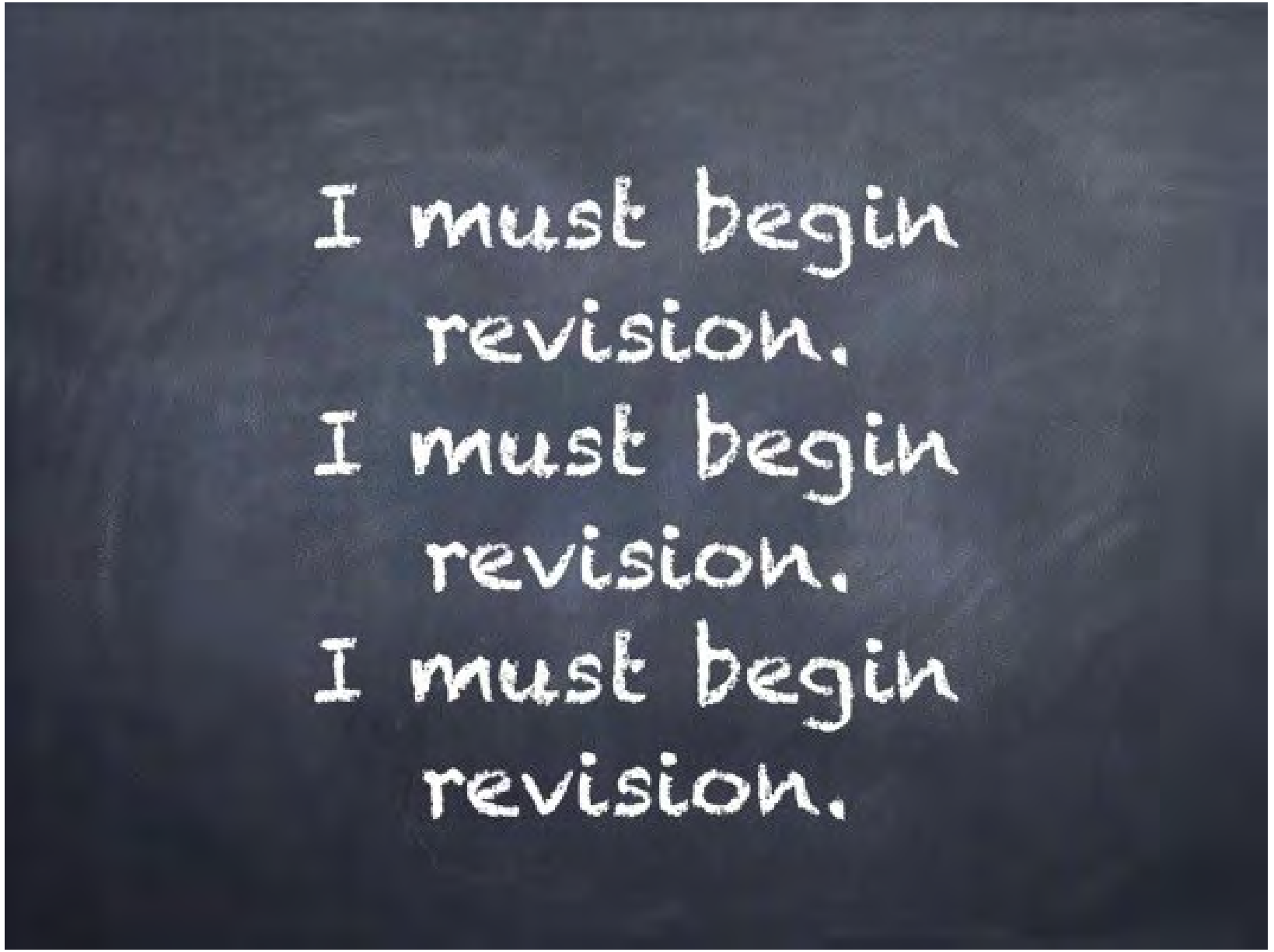


INSPIRE BELIEVE ACHIEVE



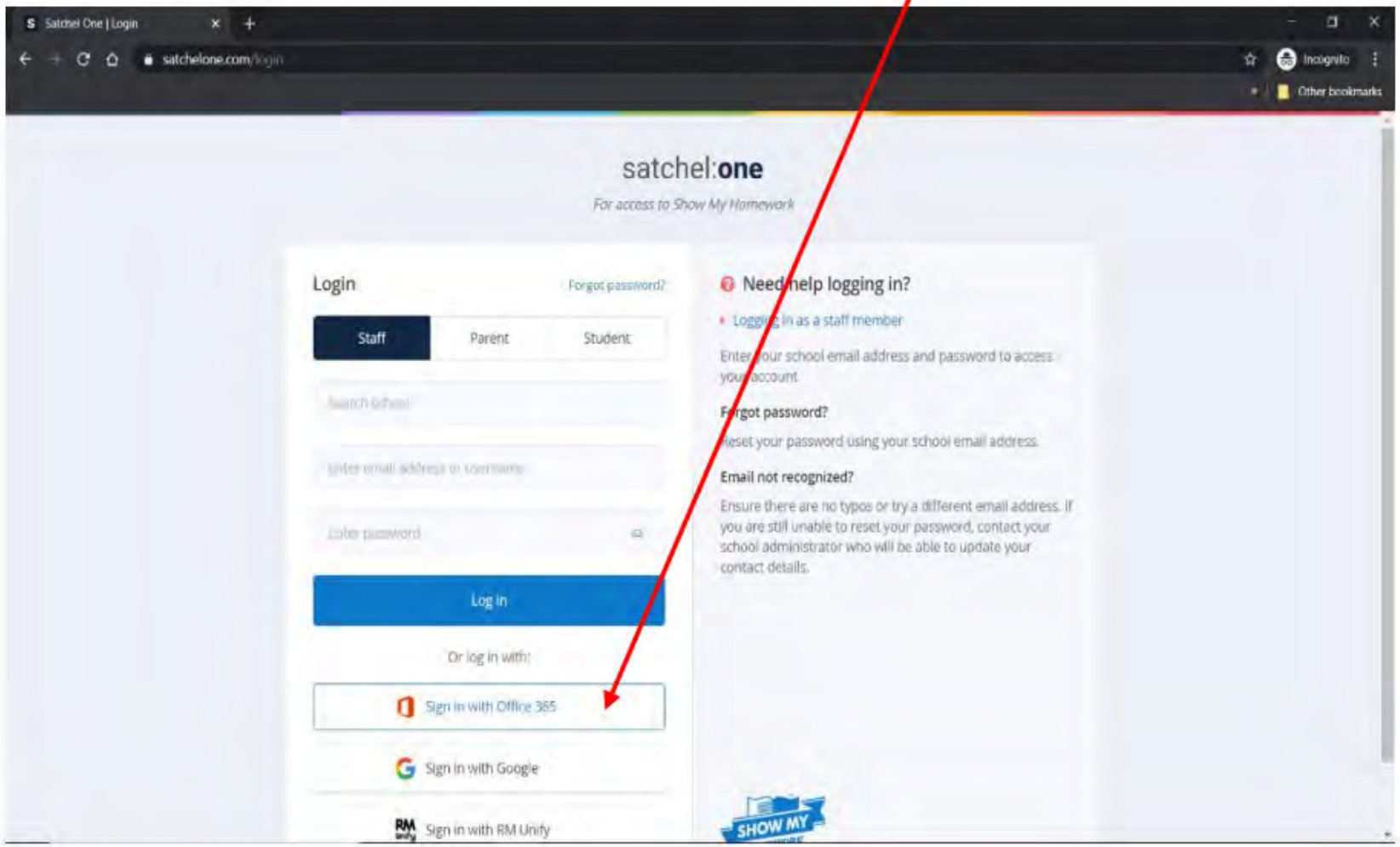
INSPIRE BELIEVE ACHIEVE

Home Learning and Revision Materials

Step 1: Open any web browser and go to https://teamsatchel.com and click on Log in

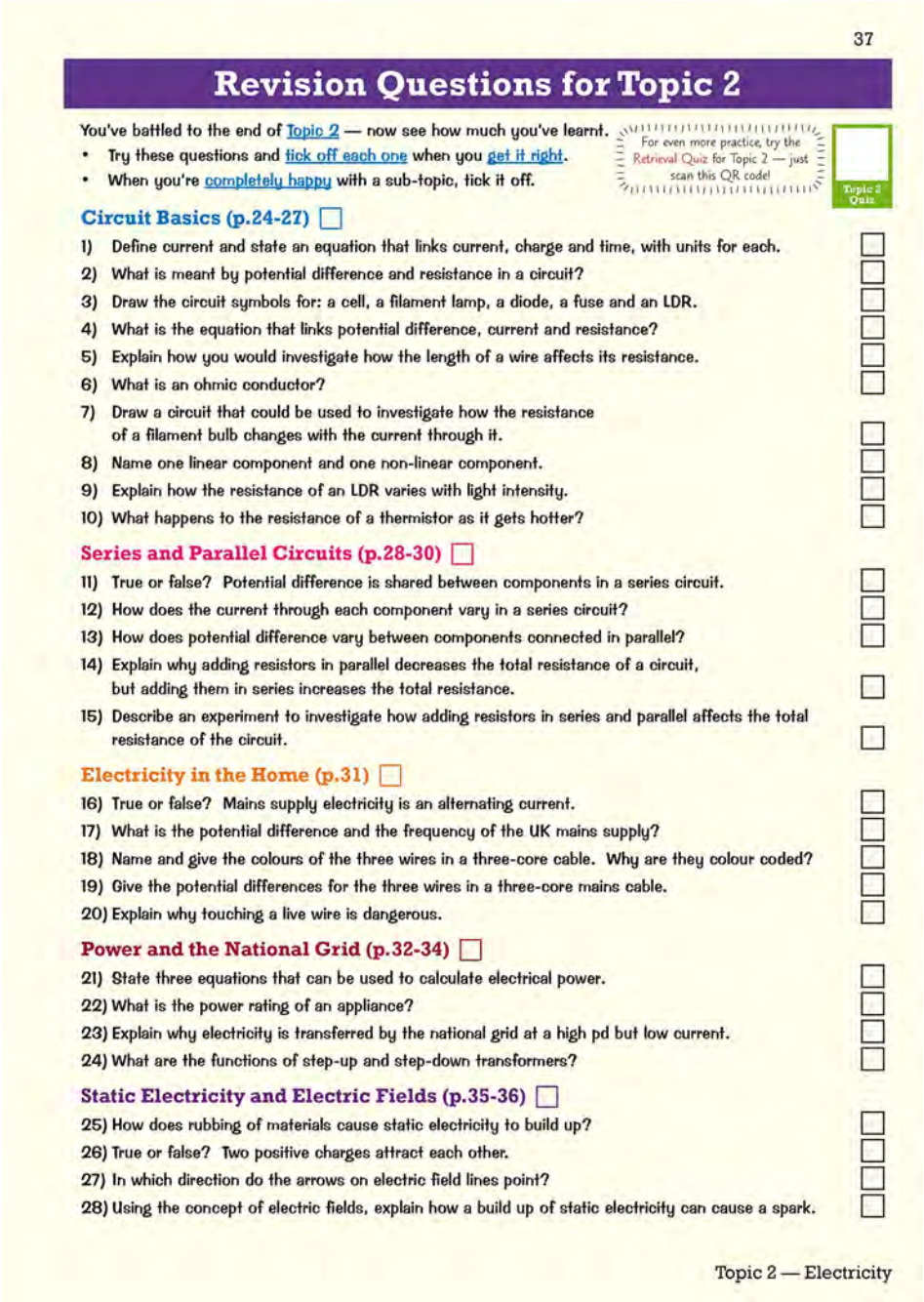
INSPIRE BELIEVE ACHIEVE

Step 2: <u>DO NOT</u> click on Log in – instead, click on **Sign in with Office 365**



The most effective revision strategies based on robust evidence and research.

Quizzing/Testing. Good old-fashioned quizzing is an ideal vehicle to get students self-testing, which is proven to be a robust revision strategy, so that students can calibrate their knowledge and remembering. There are various types of quizzes, of course, such as short answer quizzing, multiple choice or a hybrid of the two, with different question types suiting different purposes.



37

Revision Questions for Topic 2

You've battled to the end of Topic 2 — now see how much you've learnt.

- Try these questions and tick off each one when you get it right.
- When you're completely happy with a sub-topic, tick it off.

For even more practice, try the Retrieval Quiz for Topic 2 — just scan this QR code!

Topic 2 Quiz

Circuit Basics (p.24-27)

1) Define current and state an equation that links current, charge and time, with units for each.
2) What is meant by potential difference and resistance in a circuit?
3) Draw the circuit symbols for: a cell, a filament lamp, a diode, a fuse and an LDR.
4) What is the equation that links potential difference, current and resistance?
5) Explain how you would investigate how the length of a wire affects its resistance.
6) What is an ohmic conductor?
7) Draw a circuit that could be used to investigate how the resistance of a filament bulb changes with the current through it.
8) Name one linear component and one non-linear component.
9) Explain how the resistance of an LDR varies with light intensity.
10) What happens to the resistance of a thermistor as it gets hotter?

Series and Parallel Circuits (p.28-30)

11) True or false? Potential difference is shared between components in a series circuit.
12) How does the current through each component vary in a series circuit?
13) How does potential difference vary between components connected in parallel?
14) Explain why adding resistors in parallel decreases the total resistance of a circuit, but adding them in series increases the total resistance.
15) Describe an experiment to investigate how adding resistors in series and parallel affects the total resistance of the circuit.

Electricity in the Home (p.31)

16) True or false? Mains supply electricity is an alternating current.
17) What is the potential difference and the frequency of the UK mains supply?
18) Name and give the colours of the three wires in a three-core cable. Why are they colour coded?
19) Give the potential differences for the three wires in a three-core mains cable.
20) Explain why touching a live wire is dangerous.

Power and the National Grid (p.32-34)

21) State three equations that can be used to calculate electrical power.
22) What is the power rating of an appliance?
23) Explain why electricity is transferred by the national grid at a high pd but low current.
24) What are the functions of step-up and step-down transformers?

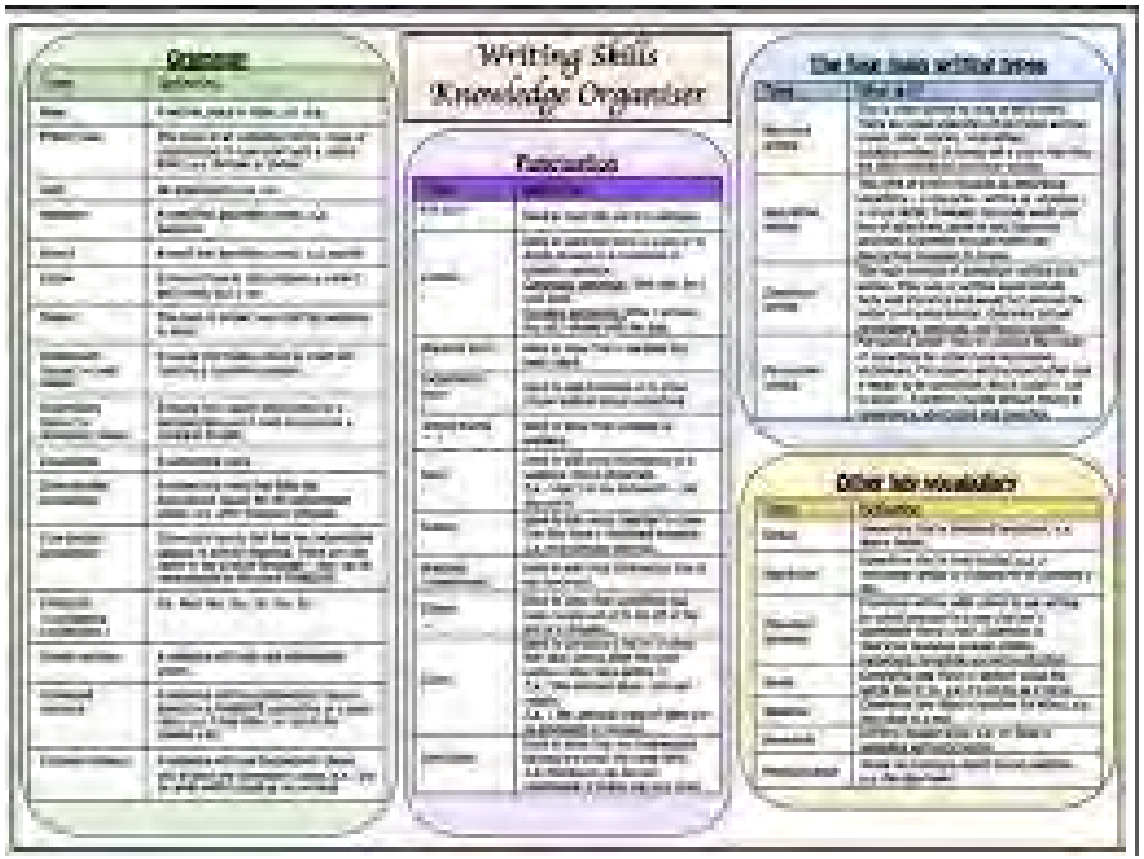
Static Electricity and Electric Fields (p.35-36)

25) How does rubbing of materials cause static electricity to build up?
26) True or false? Two positive charges attract each other.
27) In which direction do the arrows on electric field lines point?
28) Using the concept of electric fields, explain how a build up of static electricity can cause a spark.

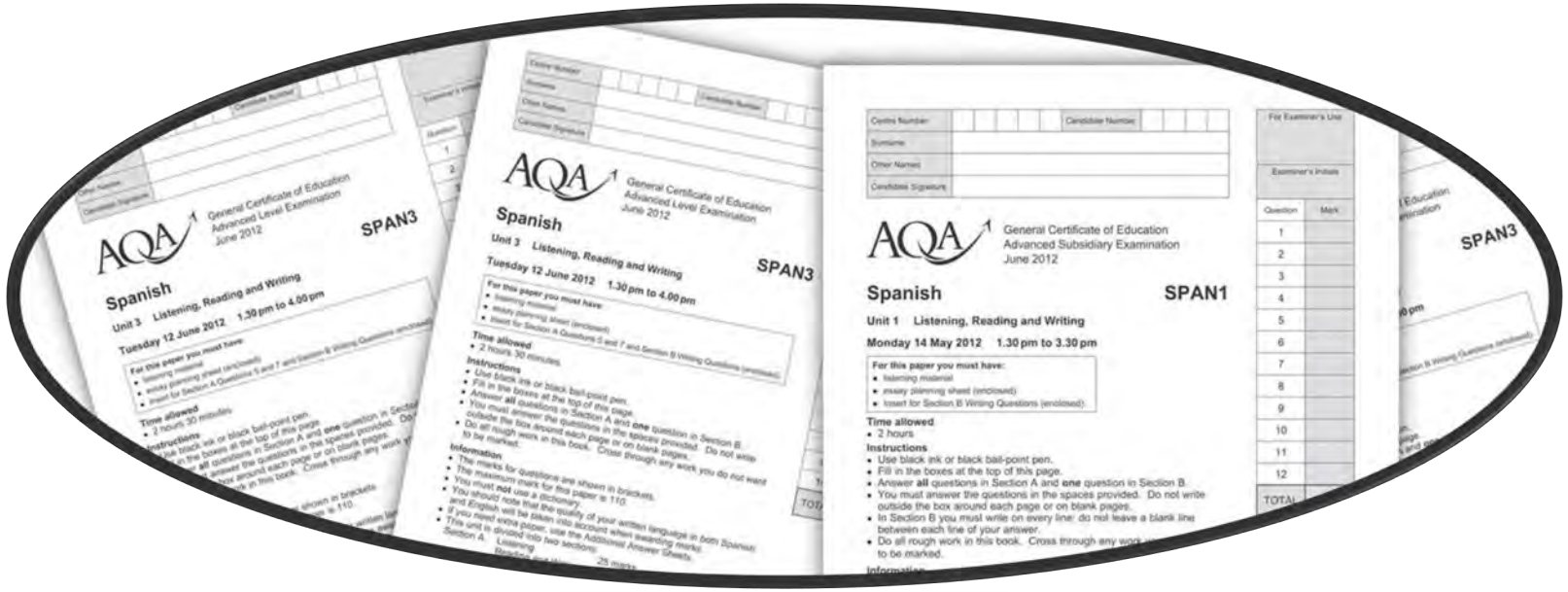
Topic 2 — Electricity

Flashcards. Flashcards are a very familiar tool used by students. Crucially, however, too many students fail to use them for effective self-testing – (only 30% in this research). Clearly, we need to train students to design, or find, effective revision flashcards, before then training them in their use. Students should also beware dropping flashcards they think they know.

Knowledge organisers. Students need to be active in revision, not just reading their notes and doing some colouring in with a rainbow of highlighters. Graphic organisers are a handy vehicle to get students reconstructing their revision topics, making meaningful links and connections (in cognitive science, this is labelled the ‘generation effect‘).



Past questions. Ok, so no rewards here for originality: students need to practice examination questions, over and over, well spaced over time. The effect of exploring worked examples or exam answers, as well as writing their own, helps students process, practice and refine their revision to meet the parameters of exam success.



Useful Website Links

BBC BITESIZE

gcsepod
education on demand