

Exceptional Electromagnets Part 1

Grade 9 Applied – Electrical Applications

Jumbled Instructions

Assessment Cross-curricular AFL

Electromagnet Jumbled Instructions

Cut up the following instructions then arrange them in order with your partner. When you think that you've got the right order, tell your teacher.

| L Continue this pattern until your electromagnet cannot hold up the paperclips. | K Attach the second alligator clip to the positive terminal of your battery. Quickly, touch one paperclip to the head of the nail. See if it holds. Detach the second alligator clip to break the circuit. |
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| J Make sure to leave at least 10 cm of wire unwrapped at either end | D (Put this one last) *SAFETY WARNING* DISCONNECT YOUR BATTERY BETWEEN EACH TRIAL. NEVER LEAVE YOUR ELECTROMAGNET ON FOR LONGER THAN A FEW SECONDS OR IT MAY GET VERY HOT! |
| F Attach one alligator clip to one end of the coiled wire and the other clip to the other end of the coiled wire | C Record your results |
| G Wrap the wire around the nail 85 times, moving down the nail as you go so no LOOPS overlap. | I STOP HERE AND CHECK IN WITH YOUR TEACHER TO MAKE SURE THAT YOU SETUP IS CORRECT. |
| E Collect materials from your teacher | B Hook another paperclip to the first one so it is hanging. Repeat the step above. |
| A Lay your wire wrapped nail so that the head of the nail) sticks over the edge of your desk. | M Continue adding paperclips hanging from the original, one at a time. |
| H Attach one of your alligator clips to the negative terminal of the battery. (DO NOT ATTACH THE OTHER CLIP TO THE BATTERY YET!) | |

Jumbled Instructions – Teacher Solutions

Solutions are also included on Slide 19 of the visual presentation in Additional Resources.

E, G, J, F, A, H, I, K, B, M, L, C, D

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| I STOP HERE AND CHECK IN WITH YOUR TEACHER TO MAKE SURE THAT YOU SETUP IS CORRECT. | K Attach the second alligator clip to the positive terminal of your battery. Quickly, touch one paperclip to the head of the nail. See if it holds. Detach the second alligator clip to break the circuit. |
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