 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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 Investigate ways of varying the strength of an electromagnet.



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| Know | |  | Apply  2  1 | |
| Ideas | |  |  |  |
| K1 | An electromagnet uses the principle that a current through a wire causes a magnetic field. Its strength depends on the current, the core and the number of coils in the solenoid. |  | A1 | Use a diagram to explain how an electromagnet can be made and how to change its strength. |
| A2 | Explain the choice of electromagnets or permanent magnets for a device in terms of their properties. |
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| Facts | |
| K2 | The magnetic force of an electromagnet decreases with distance. |  |  |  |
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|  | |  |  |  |
| Key words | |
| K3 | **Electromagnet:** A non-permanent magnet turned on and off by controlling the current through it. |  |  |  |
| K4 | **Solenoid:** Wire wound into a tight coil, part of an electromagnet. |  |  |  |
| K5 | **Core:** Soft iron metal which the solenoid is wrapped around. |  |  |  |
| 3 | Extend |  |  |  |
| E1 | Critique the design of a device using an electromagnet and suggest improvements. |  |  |  |
| E2 | Suggest how bells, circuit breakers and loudspeakers work, from diagrams. |  |  |  |
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| E3 |  |  |  |  |
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| E4 |  |  |  |  |
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