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Electromagnets

This project is the result of which metal (steel, zinc-plated steel, and aluminum) will make the strongest electromagnet. The researchers hypothesis was the strongest electromagnet will be made using a steel rod (then zinc-plated steel and aluminum) will make the strongest electromagnet. The experiment could possibly affect the decision of what metal people will make their electromagnet with. First, each metal rod should be held in a straight position by the wooden shelf which is already made. The thirty gauge magnet wire should be wrapped tightly around each rod. On each end of each rod about thirteen centimeters of wire should be left over. A toggle switch should be directly in front of each rod, held by a bracket. A nine volt battery is to be placed directly under each top structure by a nine volt battery holder. Connect a battery connector to each battery. Wire each rod to its toggle switch and battery. Each electromagnet should be able to be tested by holding paperclips towards the bottom of the metal rod. The strength of the magnet was measured by first weighing a small paperclip. Taking that amount, multiply it by how many paperclips the electromagnet picked up. The steel electromagnet picked up an average of 14.5 grams. The zinc-plated steel elctromagnet picked up an average of 13.4 grams. The aluminum electromagnet picked up an average of 0 grams. The aluminum electromagnet was unsuccessful because aluminum is not attracted to a permanent magnet. Therefore it cannot be magnetized.