

Summary Table - Turn On a Light

GROUP 31 -

Phenomenon: Soccket Ball

Guiding question: How does playing soccer cause the ball to light?

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Supporting phenomenon	Link to work	What we did	What we figured out	How does this connect to the phenomenon
Wondertube	Link	Observed the WonderTube Phen T-chart of observations and generated Questions	How it works - there was 2 magnets with eye hooks inside the tube that allowed the pom pom movement to move other pom pom	There appears to be a mechanism inside the Soccket ball that generates a series of pushes and pulls. It is possible that this is due to a series of magnets.
Solar cat	Link	<ul style="list-style-type: none"> • pen light • Pen light with 3 different tubes (clear and 2 metal tubes) • 	<p>The Solar Cat incorporates an electromagnet and copper wire connected to a solar panel and circuit board, enabling the cat's movement.</p> <p>Light → solar cat → causing electromagnet to create energy and start the repulsion of magnets and move the pendulum that is inside the cat → we see the result of the cat head and tail move back and forth (pendulum) (motion in cat (mechanical)</p>	Based on this supporting phenomenon, we know believe the Soccket Ball probably uses magnet and electromagnets inside

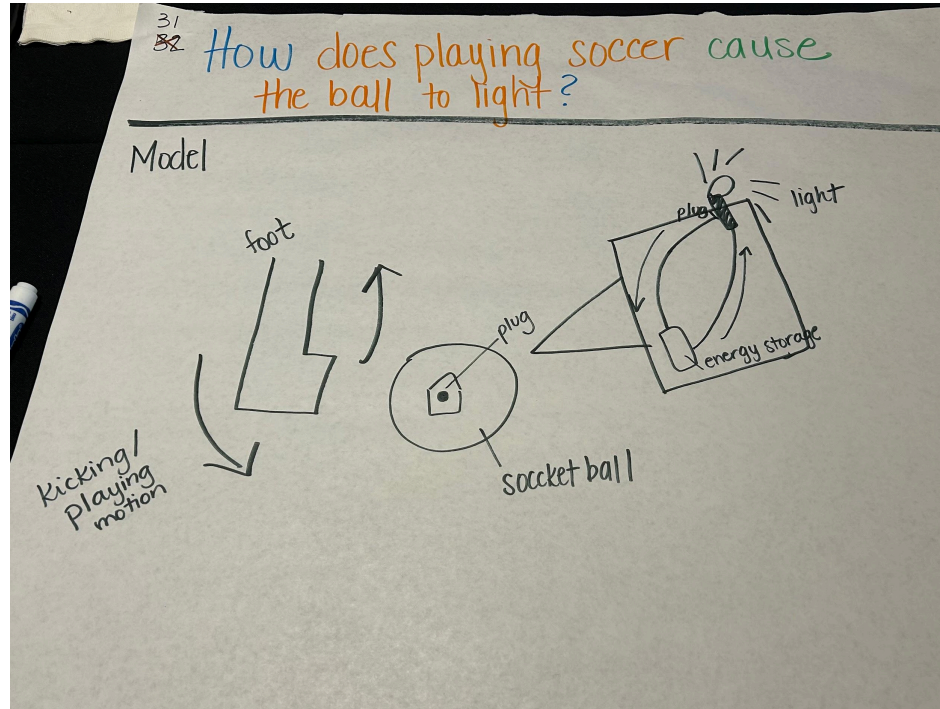
Magnet drop	Link	<ul style="list-style-type: none"> • Cause (independent variable) (Only change 1 thing -- other possible causes becomes a control) • Effect (Dependent variable) <p>Speed through the tube is dependent on diameter of the pipe and which metal best allows electrical conductivity. It is best in copper.</p>	<p>1) Plastic Fastest: Dropping the 5 magnets through the clear plastic tube did not slow down the magnet when dropped inside. 1 sec</p> <p>2) Brass: the magnets moved / dropped through the tube in 2 sec.</p> <p>3) Copper: the magnets moved / dropped through the tube in 4 sec.</p> <p>So the copper tube slowed down the magnet drop because of the repulsion of the magnets. More repulsive forces when more magnets are added.</p>	Moving magnets can cause/induce magnetic fields, which in turn generate electrical energy. This energy can then be stored within a battery or capacitor.
Battery train	Link	Btrain.netlify.app - simulation	As the magnet touching the copper it is creating a circuit. Electricity pushing through the copper wire allows us to	
Motor spin	Link	Spin DC motor attached to voltmeter--can see energy can be created when it turns		
Turn on a light	Link			

Draw a model of the soccket ball that answers the following question

How does playing soccer cause the ball to light?



Initial Model



Final Model

Wonder Tube - [Back to summary table](#)

Show your work below (i.e. text, model images, questions, data etc.)

Solar cat - [Back to summary table](#)

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