

FIRST LEGO LEAGUE - Ontario

Record

Fill out energy transformations that happen going from the battery, to the wire, and then to each load.

Chemical, Electrical, Heat or Kinetic

Questions

Question 1 Science	In our example, we were following one mythical electron around a circuit, in reality there are trillions. Knowing this, do you think both the resistor and the motor would both get consistent electricity?
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Yes, some electrons would go one way, and some the other way, but it would even out because there are so many.

Question 2 Science	Temperature is define as the average kinetic energy (motion) of the particles in a substance. Also, resistors are usually made of materials with messy atomic arrangements (plastics for example). Knowing this, what do you think is causing the increased heat inside a resistor?
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Because they are hitting the atoms that get in the way causing them to move (and heat up).

Question 2 Science	If the motor was not present, how do you think that would affect the amount of electrical energy available to the resistor, everything else being the same?
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It would get more energy because none is being use on the motor, and they would not be sharing electrons.

Question 3 Science	If our robot analogy still holds up, and a switches gap was too small, would the current (robot) still be able to make it across?
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Yes. If the gap is tiny the robot wouldn't sense it and it could keep going.