



## **ENERGY SUPER HERO**

Energy causes change and makes things happen. So do super heroes! You will demonstrate what you have learned about energy by completing the following project.

### **Part 1: Create a Super Hero**

Focus first on the unique talents or super powers your hero will have. Then decide what special look your hero will have. For example, Spiderman can create webs to move from place to place. That's why his costume is decorated with spider web designs.

You will create a drawing showing your super hero. It will include a short description of him/her. Materials for this will be provided in class.

### **Part 2: Create a comic strip showing your super hero in action.**

Your comic strip must have at least 3 frames. You can have more, but 6 is the absolute limit! The comic must be drawn and colored by you. The comic strip should show your super hero causing change and making things happen. When considering the story you tell in your comic strip, make sure you look ahead to part 3.

### **Part 3: Make an energy connection.**

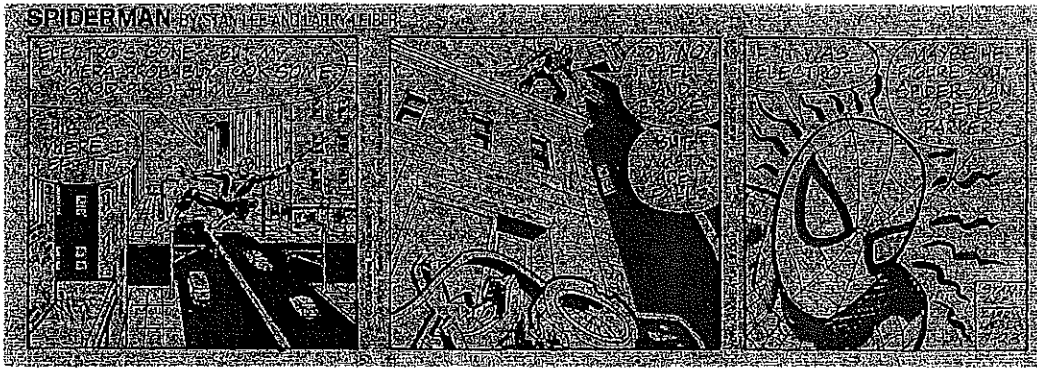
You are required to write two paragraphs. First, write a paragraph describing what your super hero accomplishes in the frames of your comic strip. Make sure to follow the rules of grammar, capitalization, punctuation and spelling.

Next, you will write a second paragraph applying what you have learned about energy to the activities of your super hero. Your paragraph must include detailed descriptions of the following energy terms. Your descriptions should make it clear that you understand these key concepts. Underline the terms in your final copy!

- Something that has potential energy
- Something in your comic strip that has kinetic energy
- At least one type of energy transfer (conduction, convection, or radiation)
- At least one energy transformation (example: mechanical to thermal)
- At least three forms of energy must exist in your comic strip (look at the "Energy and Work" article descriptions of the nine forms of energy)

Wonder what your final paragraphs should look like? See the example on the back...

Comic strip:



Spiderman is chasing after one of his many arch-enemies, Electro, but he lost him in traffic. Electro has just stolen an armored car full of money. He knows that Electro is the culprit, but needs to be able to prove it. Then he remembers that he left his automatic camera on the ledge pointed right at the armored car. It was set to take pictures at the sign of any movement near the armored car. It is one of the tools that he uses as Peter Parker, reporter. When Spiderman arrives at the window ledge, he sees the camera smashed on the ground below. He is then very concerned. His blood is boiling! What if Electro figures out the connection between Spiderman and Peter Parker? That would ruin everything!

Spiderman comics demonstrate energy in many ways. Spiderman uses kinetic energy because he is always moving. The chemical energy in his web-making compounds allows him to travel between the buildings. Light energy lets his camera lens take pictures. Light energy in the form of radiation is transferred from the sun and the street lights to the lens of Peter's camera so that the image can be seen. Inside the camera there are moving parts that use mechanical energy to push down the button on the camera. That moves the parts inside the camera so that the image is saved on the disc. When the camera was sitting on the window ledge, it had potential energy because it was raised high above the ground. That stored the energy that was released when it fell. At the end of the comic strip you can see a good example of an energy transformation. The chemical energy that was released when Spiderman's body digested his food is transformed to the heat energy you see released around his head when he is so upset at the end.

Let's look at how these paragraphs met the grading requirements:

- Something that has potential energy. (the camera)
- Something in your comic strip that has kinetic energy. (Spiderman)
- At least one type of energy transfer (radiation)
- At least one energy transformation (chemical energy to heat energy)
- At least 3 forms of energy must exist in your comic strip  
(There are actually 4: chemical, light, mechanical and heat)