

# Get ready to experiment with energy

Get ready to explore and discover like Kailani K.! You can use the same types of electrical components to make inventions that convert energy from one form to another.

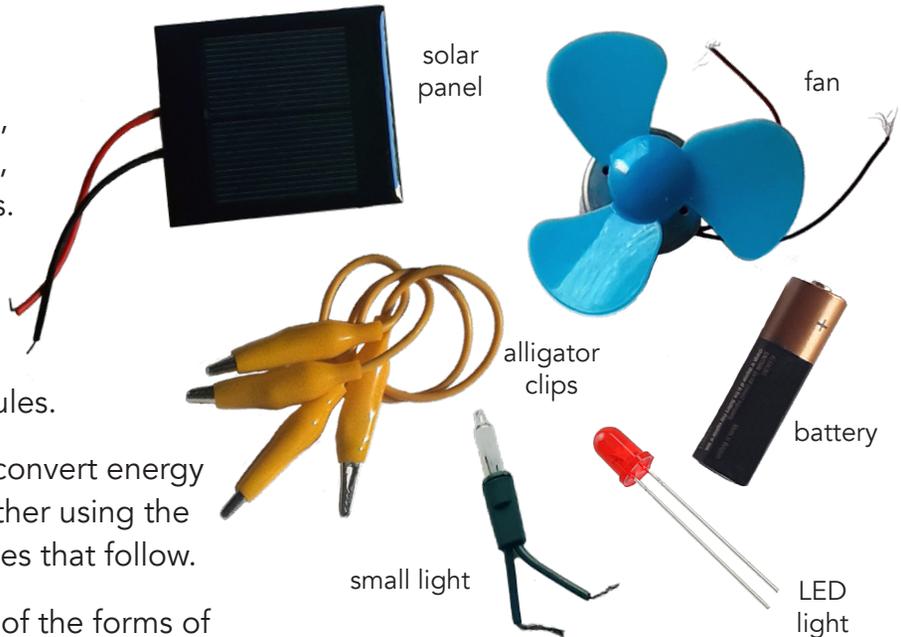
## Experiment with electronics

### What you'll need:

Small light, LED lights, a battery, solar panels, fans and alligator clips.

### What you'll do:

1. Review the safety rules.
2. Make devices that convert energy from one form to another using the guidelines on the pages that follow.
3. Make observations of the forms of energy you see as you experiment.



This stuff  
looks fun!  
\*(^o^)\*



Students at Kahuku Elementary create inventions just like Kailani.

# Safety Alert!

Follow these rules to stay safe.

## Rule 1: Stay away from outlets!

Don't put anything in an electrical outlet. The electricity from outlets is too strong and can hurt you.



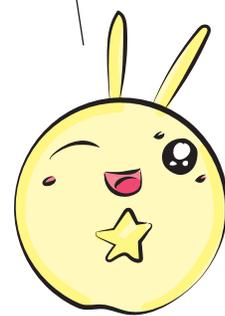
## Rule 2: If it gets hot, disconnect!

If you feel your batteries getting hot, you've created a short circuit. This ruins batteries! Please disconnect them!



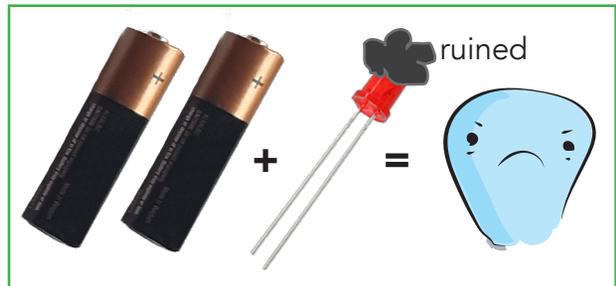
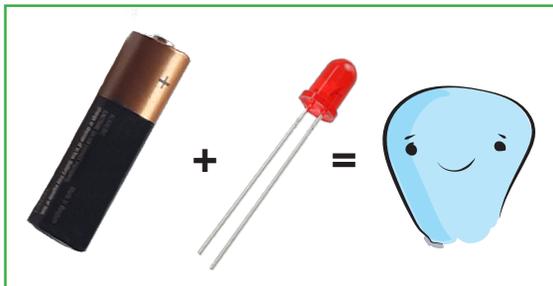
It's easy to stay safe!

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## Rule 3: Only use one battery with LEDs!

Only use one battery with an LED light. The LED lights are designed to light up with 1.5 volts. One battery is 1.5 volts. If you hook up two batteries (3 volts) to an LED light it will ruin the light.



Ask: What are the important safety considerations for this activity?

Example: Don't stick anything in an electrical outlet. If the batteries get hot, disconnect them. Don't use multiple batteries with the LED lights.



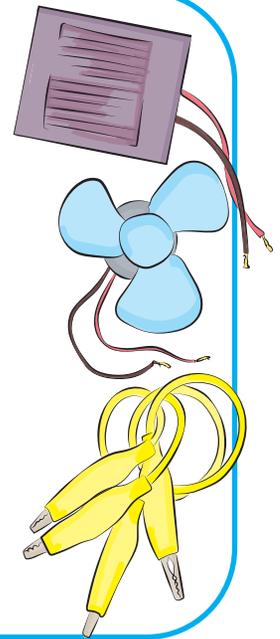
## Invent something just like Kailani!

Now that you have seen what Kailani can do with her creativity, let's see what you can do to make devices that convert energy from one form to another.

### 1. Make a fantastic flying thing-a-ma-jiggy!

Make a fan spin using a solar panel and some alligator clips.

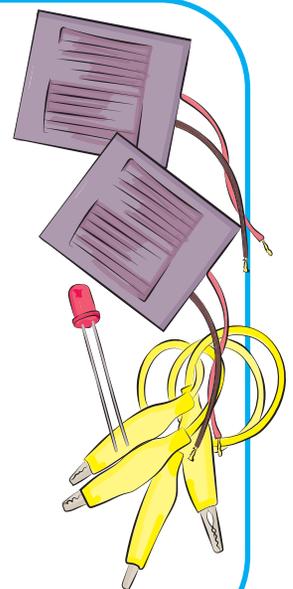
Draw your contraption here.



### 2. Make a solar powered wing light!

Make an LED light shine using two solar panels and some alligator clips.

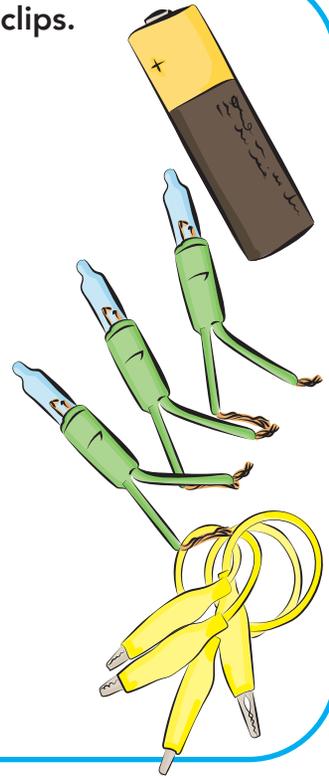
Draw your contraption here.



### 3. Make a battery-powered night light!

Make a light shine using a battery and some alligator clips.

Draw your contraption here.



### 4. Make a wind-powered LED night light!

Make an LED light shine using a fan motor and some alligator clips.

Draw your contraption here.

