

6. Laura wondered about how the amount of time a battery is charged affects the time a flashlight gives off light. She did the following investigation.

**Question:**

How does the amount of time a battery is charged affect the time the flashlight gives off light?

**Prediction:**

A flashlight should give off light for about the same amount of time as the batteries were charged because the energy put into the battery should be about the same as the energy out.

**Materials:**

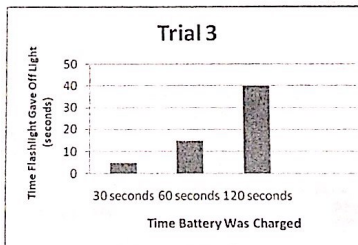
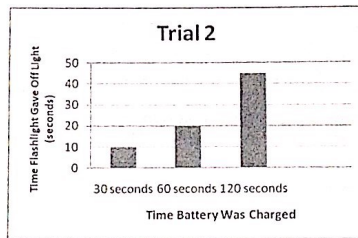
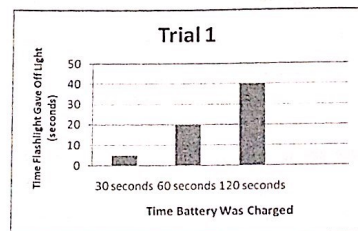
uncharged batteries  
battery charger  
flashlight  
timer

**Procedure:**

- Place 2 uncharged batteries in the charger. Turn on the charger for 30 seconds.
- Put the 2 charged batteries into the flashlight.
- Turn the flashlight on. Measure and record in the table the time the flashlight is giving off light as trial 1 for the amount of time the batteries were charged.
- Repeat steps 1-3 increasing the charging time from 30 seconds to 60 seconds, and to 120 seconds. Record the data in the table for each test.
- Repeat the entire investigation two more times as Trials 2 and 3.

Laura put her results in the data table below and created 3 bar graphs to display the data for each trial. Using the bar graphs, fill in the missing information in the data table below.

Time Battery was Charged (seconds)	Time Flashlight Gave Off Light (seconds)		
	Trial 1	Trial 2	Trial 3
30	#2	#3	#4
#1	#5	#6	#7
120	#8	#9	#10



#11 Do the results shown in the table and graphs support Laura's prediction? Explain why or why not.