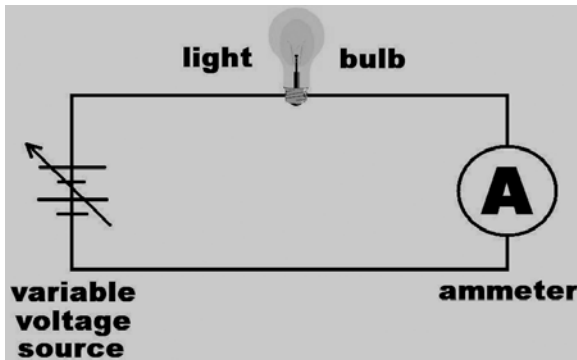
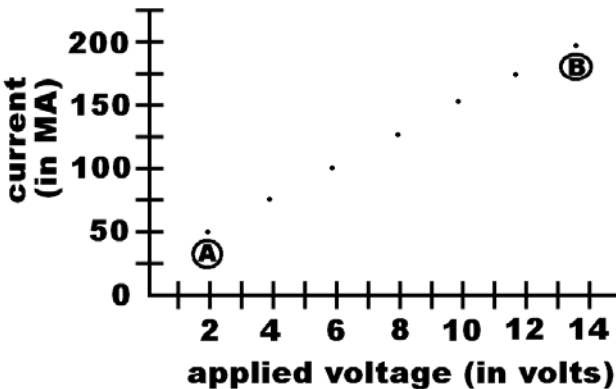


You performed an electric circuit experiment in science lab to discover how voltage and current are related. The drawing below shows your experimental setup.



You increased the voltage in steps, reading the current after each voltage increase and recorded the result. You plotted your results on the graph shown below. Use the graph to answer the next three questions.

**The Relationship Between Voltage and Current**



8-1.3

**3** How are voltage and current related, over the range from (A) to (B) ?

- A The current varies directly with the voltage.
- B The current varies inversely with the voltage.
- C The current is somewhat related to the voltage, but not directly.
- D The voltage and the current are not related.

You have conducted an experiment to see the effect of age on people's ability to do sit-ups. Everyone has 20 seconds to do their sit-ups. You hypothesize that the number of sit-ups people are able to do will decrease with increasing age (as they get older). The data you collected is presented in the table below.

Use this table in answering the next three questions.

8-1.3

14 Which of the following entries would correctly complete the two right end columns of the table labeled "Median" and "Range"?

F

<i>Median</i>	<i>Range</i>
8 - 9	8.5
9 - 12	10.5
7 - 9	7.5
3 - 9	6.5

G

<i>Median</i>	<i>Range</i>
34	9 - 34
30	7 - 30
43	9 - 43
26	4 - 26

H

<i>Median</i>	<i>Range</i>
8.5	8 - 9
7.5	6 - 9
10.5	10 - 12
6.5	4 - 9

I

<i>Median</i>	<i>Range</i>
8.5	2
10	4
10.75	3
6	3

The Effect of Age on the Ability to do Sit-ups						
Age Group	Number of Sit-ups				Median	Range
	Person #					
	1	2	3	4		
4-6	8	8	9	9		
10-12	9	6	8	7		
22-24	1	1	1	1		
38-42	2	1	0	0		
38-42	9	4	6	7		



8-1.3

15 Which age group shows the greatest variability in the numbers of sit-ups that they can do?

- A 4 - 6
- B 10 - 12
- C 22 - 24
- D 38 - 42

8-6.3

**52 Which of the following qualities are *always* related to each other for all waves?**

- F** refraction and transmission
- G** velocity and amplitude
- H** reflection and defraction
- I** wavelength and frequency

8-6.4

**53 Which diagrams correctly shows how light from a flashlight passes through a lens?**

