QUIZ / Current Flow

NAME DATE CLASS PERIOD

Put a check ✔ in the □ next to the correct answer.

1. **What is current?**
   □ Movement of volts □ Flow of electrons □ Splitting of electrons.
2. **What will happen if a 12 volt battery is used on a 6 volt motor?**
   □ Destroy the motor □ Make the motor run very slow □ The motor will not run
3. **What will happen to the current draw on the motor if the incline was increased from 5° to 30 ° ?**
   □ Remain the same □ Decrease □ Increase.
4. **What symbol setting should the multimeter be on to measure current?**
   □ Ã □ ĩ □ Ã
5. **How should the multimeter be connected to the robot battery?**
   □ Parallel □ At an angle □ Series
6. **The amount of work performed is directly related to.**
   □ Voltage □ Current □ Friction
7. **1.26 amps = how many milliamps?**
   □ 126 mA □ .126 mA □ 1,260 mA
8. **What will happen to the battery when the robot starts climbing a steeper incline?**
   □ Current reading will stay the same
   □ Current reading will increase
   □ Current reading will decrease
9. **What will happen to the current reading when the drive gear is much larger than the driven gear?**
   □ Current reading will stay the same
   □ Current reading will increase
   □ Current reading will decrease
10. **What will happen to the current reading when the wheels are much larger?**
    □ Current reading will stay the same
    □ Current reading will increase
    □ Current reading will decrease

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Quiz Part 2 example problem:

If 25 nano-Coulombs flow through a wire in 5 microseconds, determine I, the current flow.

Solution:

Using Equation 3 from the notes, we have:

I = q/T = $25x10^{-9}/5x10^{-6}$ amperes = 5 x10-3 amperes = 5 ma

11. How long does it take for 40 u-Coulombs to flow through a wire if the current flow, I, is 100 u-amps?

12. How much charge does it take for 800 ma of current to flow through a wire if the charge flows in 200 u-seconds?

13. An electron has a charge of 1.602 x10-19 coulombs. If 200 billion electrons flow through a wire in 50 nano-seconds, determine I, the current flow.

14. An electron has a charge of 1.602 x10-19 coulombs. How many electrons will flow through a wire in 100 nano-seconds to generate 250 ma of current?