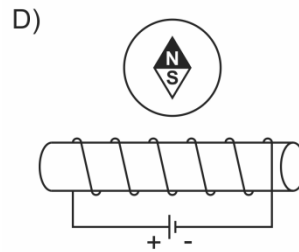
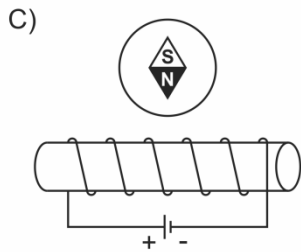
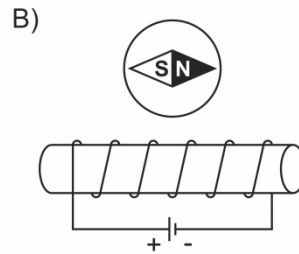
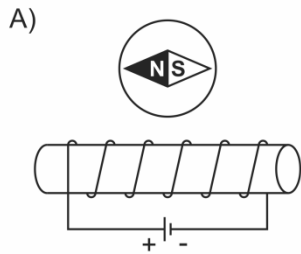


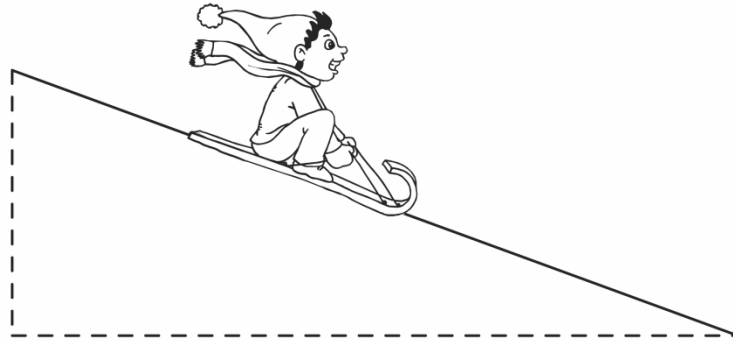
STE Flashbacks for test 3.4

1. A compass is placed within a magnetic field as seen in the diagram below.

Which of the diagrams below shows the compass needle pointing in the correct direction?

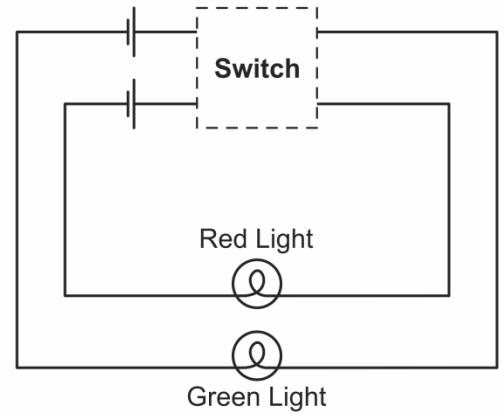


2. Nathan is sitting on his sled, sliding down a snowy hill. The hill is angled at 20° from the ground. Nathan and the sled weigh 350 N.
- Find his acceleration sliding down the hill. (Assume no friction, as usual.)
 - How much work is done on the sled as he slides down from a maximum height of 5.0 m?



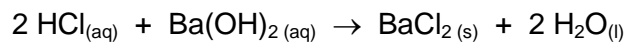
3. Catyra is designing a circuit for a go-cart track. She must use a switch that will turn on either the green or red light. She has constructed the circuit shown below.

Which of the 4 switches must Catyra use?



- | | |
|----|--|
| A) | |
| B) | |
| C) | |
| D) | |

4. Barium chloride, BaCl_2 , is used in fireworks to produce a bright green color. Gary tried to produce BaCl_2 by reacting hydrochloric acid, HCl , with barium hydroxide, $\text{Ba}(\text{OH})_2$, according to the chemical reaction below.



Gary used 100.0 mL of a HCl solution and obtained 7.8 g of BaCl_2 .

What was the molar concentration of the HCl solution used in this reaction?

Note: Significant figures will be evaluated in this question.