

Raising the Flag Demonstration Worksheet

Discussion Questions

- Describe the contents of the three 600-mL beakers. Also note the solutions added to each beaker and the color changes each underwent.

- Write a balanced chemical equation for each of the following reactions.
 - Bisulfite ions reacting with water. *Hint:* This reaction is reversible.

 - Sulfite ions reacting with water. *Hint:* This reaction is reversible.

 - Formaldehyde reacting with sulfite to form hydroxymethyl sulfonate ions and hydroxide ions.

- The third reaction listed above consumes sulfite ions and produces hydroxide ions. What does this do to the first two equations?

- The sulfite/bisulfite solution acts as a buffer. What happens when the bisulfite ions are used up? How are the color changes produced?