

- (h) Both the procedure and materials appear to be adequate to obtain the kind of information required by the problem. An improvement in the procedure would be to find a more efficient method of cleaning the iron before the experiment. A better way of assessing the extent of corrosion would also be useful. Perhaps the iron wire could be examined under a microscope to look for evidence of corrosion. Also, evidence for the presence of iron ions could be obtained.
- (i) The main sources of experimental error or uncertainty include the purity and cleanliness of the iron wire, how well water or air was eliminated in # 1 and # 2, and the qualitative judgment of any corrosion.
- (j) Overall, the evidence seems to be reasonably good for an initial laboratory study of corrosion and I am fairly confident of the results obtained.
- (k) Most of the prediction appears to be qualitatively verified. However, the results obtained were much more specific than predicted, with a few unexpected results; e.g., with acidic and basic solutions. No prediction was made for the effect of an external power supply. Experimenting with a battery provided a starting point but is unacceptable for detailed predictions.
- (l) Personal experience and the table of relative strengths of oxidizing and reducing agents appear somewhat useful but other factors also play an unexpected role. To make better predictions of all factors, especially electrical factors, requires more empirical and theoretical knowledge about electrochemistry and corrosion.

CHAPTER 9 SUMMARY

MAKE A SUMMARY

(Page 724)

