Mechanisms of Hormone Action

To complete this worksheet, select:

Module: Regulation
Activity: Animations
Title: Mechanisms of Hormone Action

1. Most physiological systems are located in specific locations in the body. The endocrine system does not fit this description. Explain why not.

2. Hormone molecules are produced by endocrine cells and released into the bloodstream. Describe what must happen for hormone molecules to affect target cells.

3. Hormones are classified as either lipid soluble or lipid insoluble. Name examples of each.

4. Where are the lipid soluble hormone receptors located? How do lipid soluble hormone molecules get there?

5. Describe the function of the hormone-receptor complex.

6. What is the function of the mRNA?
7. How do proteins affect cellular activity?

8. *Lipid insoluble hormone* molecules cannot penetrate cellular plasma membranes like lipid soluble hormones can. How then, do they affect cellular activity?

9. A series of events occurs following hormone binding to the receptor on the plasma membrane. Describe the role of the following in this sequence of events.
   
   a. *G-protein*
   
   b. *Amplifier enzyme, adenylate cyclase*
   
   c. *cAMP (second messenger)*

   d. *kinase proteins*

   e. *phosphorylated enzymes*