Activity Introduction:
All of us know someone who has diabetes; it is a disease on the rise! This activity will help you understand the history of diabetes research and how we came to know what we do about this disease. Many students enjoy seeing the “big picture” (global) before dealing with the details and are fascinated with mysteries. You will be given information in a table and by using your problem-solving skills, will place events in the correct sequence. Prepare to think!

Activity Background:
What do black ants, honey, dogs, and thirst have in common? Each one has played a role in the history of diabetes. Although modern medicine has assisted diabetics to lead healthier lives, it has not been able to stop the increase of this disease. It is estimated that 20.8 million children and adults in the United States have diabetes. While 14.6 million of these people know that they have diabetes, up to 6.2 million may have diabetes and not know it. Close to 1.5 million people age 20 or older will be diagnosed with diabetes this year (2005). Dr. Lee Sanders, Chief of Podiatry, Veteran’s Administration Medical Center in Pennsylvania, captured everyone’s attention at a national scientific session in 2002: “The incidence of diabetes has increased dramatically, from an uncommon ailment during the period of antiquity to a worldwide epidemic expected to affect 300 million people by the year 2025.”

The better informed each person is, the less likely diabetes will threaten his or her quality of life. In the human body, food is converted into glucose for energy. The blood carries glucose to all the cells of the body, but glucose cannot enter the cells without the help of insulin. Insulin is a chemical made and released by the pancreas. If not enough insulin is released or if the insulin doesn’t work the way it should, glucose can’t get into the cells. It stays in the blood, raising blood glucose levels and causing damage to many parts of the body.

People can get diabetes at any age. There are two basic types of diabetes, Type I and Type II. In Type I diabetes, the pancreas fails to produce any insulin. With Type II diabetes, insulin is produced, but not in large enough quantities or it does not function properly to help glucose get into the cells. Several symptoms may serve as diabetes warning signs. These warning signs include:

- great thirst and frequent urination
- loss of weight with increased hunger
- feeling tired and irritable
- skin and mouth develop infections and wounds heal slowly
- blurry vision
Some people are at greater risk for developing diabetes. Individual characteristics include being 45 or older, overweight, and physically inactive. A person’s background may increase the likelihood of developing diabetes; one is at risk if he or she belongs to a family with diabetes or ethnic groups including Hispanic American, Native American, African-American, or Asian American.

Obviously, diagnosis and treatment of diabetes are critical, for this illness affects every organ of the body. Diabetics are four times more likely to develop heart disease or have a stroke than other Americans. Also, it is the leading cause of new blindness and kidney disease in U.S adults. Diabetics account for more than 60 percent of body part amputations in the U.S., and many more have moderate to severe nerve damage. Money spent on medical treatment and missed workdays, due to diabetes and its complications, total an estimated $132 billion annually in the United States. If Americans want to decrease this costly disease, they need to make informed health choices and support diabetes education initiatives.

**Activity Materials:** (per student)
- Student Information Page
- Student Data Page
- 1 set of cards (per group)

**Activity Instructions:** For each of the historical time periods, see how many events that occurred in the history of diabetes research you can place in the proper time slot. As you make your choices, contemplate the historical background of each era.

- Cut out cards. Working with your group, organize the cards into correct sequence based upon clues in the cards. You may need to look up general information about each time period.

- Analyze the headings in *Table 1 Milestones of Diabetes* (following page) for each time period.
  - Ask yourself what you already know about each time period
  - Make predictions as to what types of events might have occurred in each time period.

- Using your thinking skills, place events concerning diabetes research in chronological order by completing *Table 1* on your *Student Data Page*.

- Defend placement of events by writing specific evidence into *Table 1* on your *Student Data Page*.

- Draw conclusions as to the “big” picture of diabetes research.