Class Starters & Enders

Making the Most of Instructional Time
Five Minute Lessons

Class Starters and Enders help utilize the last minutes of class when a lesson ends but there is not enough time to start another, or for an interest approach at the beginning of class. Mini-lessons correlate to GPS in the programs areas below.

Chew on This—Aspirin

Program Areas: Healthcare, Horticulture, Biotechnology

Instructions: Read the narrative and make notes of important points, answer questions, and be ready to discuss this topic.

Aspirin, also known as **acetylsalicylic acid**, is often used as a painkiller to relieve minor aches and pains, as a fever reducer, and as an **anti-inflammatory** medication.

Aspirin also has an anti-clotting effect on **blood platelets**. Because of this, aspirin is also used long-term, at low doses, to help prevent heart attacks, strokes, and blood clots in people at high risk for developing blood clots. It has also been established that low doses of aspirin may be given immediately after a heart attack to reduce the risk of another heart attack and to help prevent the death of **cardiac tissue**.

The main undesirable side effects of aspirin are **gastrointestinal** (digestive system) ulcers, stomach bleeding, and **tinnitus** (a symptom which causes a ringing noise in the ears). These side effects occur especially when aspirin is taken in higher doses. In children and adolescents, aspirin is no longer used to control flu-like symptoms or the symptoms of chickenpox or other viral illnesses, because of the risk of **Reye's syndrome**, a potentially fatal disease.

Aspirin was first discovered in 200 B.C. by Hippocrates, the father of medicine. He found that chewing on the bark of the white willow tree soothed aches and pains. It was not until 1823 that chemists were able to isolate the active ingredient in willow tree bark, **salicylic acid**. But salicylic acid was unsafe in its purest form. It would burn the mouth and throat and damage the stomach lining. In 1853 Gerhart, a French chemist, improved salicylic acid by mixing it with other compounds but it still was unstable and difficult to make. The modern-day version of aspirin was produced by Felix Hoffman, a German chemist, in the late 1890s.

Review Questions

1. Who first discovered the effects of aspirin?
2. What tree is the active ingredient in aspirin from?
3. What are some of the uses of aspirin?
4. What are some negative side effects of aspirin?
5. In what year was the active ingredient isolated?
6. Who first produced the modern-day version of aspirin?

History Connection

1. Research the history of aspirin and write a paragraph about it. Look for the following key words to guide your research.

Bayer Germany Patent World War I

2. Ask an older person, perhaps a family member, born in the 1930's or 1940's if they remember when aspirin were available, and coveted, but relatively expensive. Write a paragraph about their experience.

Health Connection

Research and write a paragraph on each of the following:

1. Uses of salicylic acid, other than the production of aspirin.
2. Look up the Hippocratic Oath, where does the name for this oath come from? Write the oath in your notebook.

Horticulture Connection

Willow trees are valued for more than their salicylic acid content. Research one use for each of the following parts of the willow tree:

Bark Leaves Wood

Language Connection

Define the following:

Acetylsalicylic Acid	**Anti-Inflammatory**	**Blood Platelets**
Cardiac Tissue	**Gastrointestinal**	**Tinnitus**
Reye's Syndrome	**Salicylic Acid**	

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