**Wake Up Call: A Cardiovascular Case Study**

**Part 1:**

1. How likely is this to be a heart problem? Asthma? Panic attack?
2. Why do you say this? What are the symptoms that are consistent with your diagnosis? Is there anything unusual?

**Part 2:**

1. Draw a sketch of the heart and show where the coronary blood vessels lie
2. List in order the blood vessels that a drop of blood would follow in a complete journey starting in the right atrium and ending in the right atrium
3. What are some characteristics of Denise’s lifestyle that might lead to a heart problem?
4. Has Denise suffered a heart attack?
5. Define these terms: cholesterol, hypercholesterolemia, cardiac ischemia, collateral vessels, angina pectoris, plaque

**Part 4:**

1. Why is the first hour of a heart attach the most critical?
2. What do fibrinogen, C-reactive protein (CRP), and interleukin-18 (IL-18) indicate?
3. What is the cause of Denise’s breathlessness, fatigue, and nausea?
4. What are platelets and what do they have to do with Denise’s heart problem?
5. What is an embolism and what is its connection to thrombosis?
6. What does LDL have to do with heart attacks?
7. How does hypertension develop and what does it have to do with high risk of heart attacks?

**Assignment:**

Denise is back home and on cholesterol-lowering medication and is learning how to better handle stress. Your assignment is to help Denise and her family research the key measures in preventing heart disease, or in Denise's case, another heart attack. Answer the following questions briefly and directly. You may include a table if desired.

1. Heart-Healthy Diet

a. What foods/nutrients should be limited and specifically what foods/nutrients are beneficial and why? (Example: what are the benefits of folic acid, monounsaturated fats, omega 3 fats, etc? Why are saturated fats bad?)

2. Lifestyle Changes

a. What activities are hazardous to heart health and what are some solutions? (Example: handle stress with stress management, not overeating.)

b. What are the benefits of exercise concerning heart health?

3. Aspirin

a. How can aspirin help in preventing heart disease?

4. Draw a diagram of the changes in blood enzyme and troponin levels that occur before, during and after a heart attack.