Lesson Plan- Atherosclerosis and Coronary Heart Disease

**Anticipatory Set**: Think of a time when you got food stuck in your throat. What happened? You swallowed too big of a piece and it was hard to breathe until you got it out. Well the systems in our bodies can get blocked too, but these blockages can lead to various diseases or even death.

**Objective**: The learner will create a magazine article explaining Coronary Heart Disease and the lifestyle choices that lead up to it or don’t. Enthusiastically tell students, “You are going to create a magazine article about clogged heart arteries after our lesson.”

**Input**: Explain that the heart receives its own supply of blood from the coronary arteries and that these arteries and their branches supply all parts of the heart muscle with blood. So, when these arteries get blocked, the blood flow to your heart decreases, which can kill heart cells. This can result in chest pains or even death by a heart attack.

**Modeling**: So let’s talk about how these blockages can happen. (Show a pre-made model of a healthy artery, using a half-cut and painted red pipe) As you can see, this coronary artery has a very open pathway for blood to pump to the heart. This artery is what our arteries look like when we are born. Now as we start consuming foods and grow older, our arteries start to build up slowly with fat deposition. This build up causes narrowing of the artery, thus resulting in hindered blood flow. (Show a pre-made model of an artery with some fat build up using yellow...
As you can see, this artery has some fat build up but not too much to cause any health problems just yet. To keep the buildup under control, we need to make healthy life choices. (Ask- What are some healthy activities you do?) Playing outside, going swimming, and being a part of a sport are all healthy activities. Not only do we have to be active, we need to make sure we are consuming healthy foods. Some healthy foods would be carrots, broccoli, apples, peaches, avocados, grapes, and fish. Some unhealthy foods we eat are cake, donuts, French fries, bacon, pasta, cheese, sodas, and buttered popcorn which are high in trans-fats and sugar, which contribute to the buildup in your arteries. Now I know we are all guilty of eating these not so healthy foods, but the main key is moderation. If you have small amounts of fatty foods and don’t overdo it your arteries will look very different than this person’s artery, who eats large amounts of fatty foods and lacks exercise. (Show a pre-made model of an unhealthy artery with heavy fat deposition using a half-cut pipe and yellow tissue paper as the fat) (Ask- Do you notice what is happening here?) Yes, all this build up in the artery makes it so narrow that the normal circulation of the blood is lessened. This build up is actually called atherosclerosis. This particular build up in the heart is what causes Coronary Heart Disease, which has heart cells die and can have the affected person feeling chest pains or even a heart attack. Discuss: Now what would you say a young person who suffers from atherosclerosis has done differently than an older person who does not?-should arrive to the conclusion that the differences in the two’s life styles was a major contributor.

Show: https://www.youtube.com/watch?v=_FrxFnLiTG8&t=85s cue up to 1:26
Checking for understanding -

1. What causes the death of heart cells? (narrow arteries reducing circulation of blood)
2. What is the buildup in these arteries made up of? (fat)
3. You can’t control how much fat you consume. True or False. (false)
4. Which arteries pump blood to the heart? (coronary)
5. What is atherosclerosis? (blocking of the arteries)
6. What can be the result of atherosclerosis in the coronary arteries? (chest pains and/or heart attack)
7. What is the official term for atherosclerosis in the coronary arteries? (coronary heart disease)

Guided-Monitored Practice- Give each group of students a symptom to act out in a scene they create. Symptoms include chest pains, shortened breath, fast heart rate, lightheadedness or sweating. As each group performs, students will guess at the end of each scene which symptom the group that performed had.

Questions-

1. How did you recognize that that person had chest pains? (grabbing of chest)
2. What can we do to minimize the amount of buildup in our arteries? (make healthy choices)
3. Why would this person have shortened breath? (less blood flow)

Explain- Now remember, we do not have to cut out all the yummy unhealthy foods from our diets to stay clear from atherosclerosis. By moderating our intakes of unhealthy foods and
participating in daily active activities, such as playing outside or just walking to the park, we can live a healthy life.

Independent Practice- Each student will create a magazine article about Coronary Heart Disease and the life choices that lead up to it or don’t.