Answer Key—The Heart

The Heart—Activity 1

Evaluation
1. Describe how your hands and forearms felt during the activity. My hands and forearms felt tired.
2. What happened to your own heart rate or breathing during the activity? I was breathing harder and my heart was beating faster.

The Heart—Activity 2

Evaluation
1. Explain how you think your heart and lungs work together. The heart is the pump that carries blood, oxygen, and carbon dioxide. The lungs is where the transfer of oxygen and carbon dioxide take place. This is how they rely on each other.
2. What happens when you breathe in and out? You eliminate carbon dioxide and pick up oxygen.
3. What does blood deliver? Nutrients, oxygen, and other chemicals.
4. Why is oxygen important to your body? Oxygen burns nutrients to make energy.
5. Describe the sequence of oxygen, carbon dioxide, and blood flow in your own words. Possible answer provided: Blood with carbon dioxide enters the right atrium, then the right ventricle, then the lungs. The lungs then get rid of carbon dioxide and pick up oxygen. Oxygen then enters back into the left atrium, and then to the left ventricle. Then oxygen-rich blood is pumped to all parts of body.

The Heart—Activity 3

Evaluation
1. vena cava the vein that enters right side of heart carrying carbon dioxide
2. right atrium the receiving chamber on the right side of heart that has carbon dioxide
3. tricuspid valve the valve between the right atrium and right ventricle
4. right ventricle the pumping chamber that sends blood with carbon dioxide toward the lungs
5. pulmonary artery the artery that goes from right ventricle to lungs
6. lungs location where body gets rid of carbon dioxide and picks up oxygen
7. pulmonary vein the vein that carries blood with oxygen into left atrium
8. left atrium the receiving station for oxygen rich blood
9. mitral valve the valve between left atrium and left ventricle
10. left ventricle the pumping chamber that sends blood with oxygen toward all parts of the body
11. **aortic arch** the large arch leading away from heart carrying oxygen rich blood

12. **arteries** the arteries carry blood away from heart

13. **capillaries** the connection between arteries and veins

14. **veins** the veins carry blood toward the heart

15. Why must the heart contract very strongly to pump blood from the left ventricle into the aorta? the left ventricle must pump blood to all parts of body—it must pump harder since blood has to go further

**The Heart—Activity 4**

**Evaluation**

1. What does pulse mean? Pulse is the rhythmic pulsation that you can feel and count to get your heart beat per minute.

2. Why does your pulse fluctuate during the day? Because you move around working or exercising, your heart must work harder.

3. What does stroke volume mean? It means how much blood is pumped through the heart with one stroke.

**The Heart—Activity 5**

**Evaluation**

1. In which activity did you have the highest pulse? Why? Running fast and jumping jacks—harder and more work

2. Was it easier or harder to find your pulse after exercise? Why? It was beating harder

3. What methods or strategies did you use to get an accurate pulse? I found the groove on my neck beside my windpipe. I could see the artery in my wrist. I stopped immediately.

**The Heart—Activity 6**

**Evaluation**

1. Why is a heart rate monitor more accurate than measuring your pulse manually? It monitors your actual heart rate during the entire activity—you do not have to stop and find pulse—that gives heart time to slow down so you don’t get an accurate pulse.

**The Heart—Activity 7**

**Evaluation**

1. In which activity did you have the highest pulse? Why? Jogging, lifting knees high and jumping as high as I could—more muscles used and harder work.

2. Do you feel you recovered from the exercise as you compare your first heart rate while you sit quietly with your last heart rate while you relax? Explain your answer. My heart rate did slow down so I did recover some—heart rate never returned to be as low as I started due to all the work demand placed on the body.
3. What conclusions can you make about exercise and using a heart rate monitor? Heart rate monitors are easy to use and you can get an accurate reading without stopping your exercise.

The Heart—Activity 8

Evaluation

1. Describe what happened to your heart rate from the 6-minute exercise period as shown on your exercise chart. Descriptive information from what they recorded while exercising.

2. Describe any patterns you observed or predictions you might make about future physical activity. Sample answer: I started off slow and heart rate was at the lowest—as I increased work, my heart rate went higher—I would predict that if I was to perform any activity slow then speed up—so would my heart rate.

3. How often does your heart rate monitor take a reading? This depends on watch setting but usually every 15 seconds.