Lesson 4: In Beat – The Heartbeat

Aerobic Physical Activity

**Outcomes** (School Age)
The purpose of this lesson is to have children:

- Understand the difference between aerobic and non-aerobic activities
- Calculate their heart rate before, during, and after exercise
- Participate in warm-up, aerobic, and cool-down activities

**Discussion**

**DO** (School Age) ⊕ 15 minutes

? Ask: What activities have you done recently that were aerobic and made your heart beat faster?

Talk about the differences between exercises that make your heart beat faster for a longer period of time such as running, swimming, basketball, bicycling, and those that don’t last as long such as push-ups, sit-ups, stretching, etc. Explain that healthy people need a combination of all exercises. You may wish to use the Activity Pyramid poster to illustrate this.

Tell the children that during aerobic exercise, your heart, lungs and blood vessels work harder because your body needs more oxygen and blood for the working muscles.

Explain the importance of time, intensity, and frequency of physical activity for youth as follows. The United States Department of Health and Human Services 2008 Physical Activity Guidelines for Americans recommend that youth do moderate or vigorous intensity activity at least 60 minutes each day. They should also do muscle and bone strengthening activity at least three times a week. Exercises such as jumping rope and playing soccer can be moderate or vigorous activities that also help build muscle and bone.

You may use the Activity Pyramid to show that moderate or vigorous physical activity can mean anything from riding a bicycle to playing
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at the playground.

Activity 1 - Calculate Your Heart Rate

Demonstrate how to calculate a heart rate using either the carotid (neck) or wrist methods. Explain that your pulse is easier to find after you’ve been exercising because your heart is beating faster and harder.

- **Carotid Method** – Using the carotid artery, lightly place your index and middle fingers together on one side of your neck just below your jawbone. Press lightly with your fingers until you feel your pulse. Have youth calculate their **resting heart rate**.

**Instructor Note**: If you see any youth pressing on both sides of their neck, reiterate that they should press on one side only. This caution relates to the possibility of passing out if both sides of the neck are pressed after exercise.

- **Wrist Method** – Turn your right arm so that the palm of your hand is facing up toward the sky. Place your left index and middle fingers together on the right side of your right wrist. Press lightly until you feel a pulse. Using the second hand on a clock or watch, tell youth to begin counting their pulse when you say “start.” Tell them to stop counting at 10 seconds. Youth will take this number and multiply it by six to find their resting heart rate. Example: your measured heart rate during 10 seconds is 12. 12 X 6 = 72. 72 is your resting heart rate.

Have youth practice calculating their heart rates as they move, first walking and then jogging. Discuss how their heart rate increases as they change from walking to jogging.

Activity 2 - Warm-Up, Aerobics, Cool-Down

This is a three-part activity in which youth participate in a warm-up activity, an aerobic activity, and a cool-down activity.

**Instructor Note**: The duration and intensity of the exercises in this lesson may need to be adapted to accommodate different fitness levels of the youth. The instructor should always provide water, especially in warm weather.
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**Warm-up: A Walk in the Forest** ☀️ 5 minutes
Have group members stand facing you to mirror your movements. Each youth should have at least one arm’s length of space on all sides to move about freely.

This activity is designed to warm-up the body prior to physical activity. Feel free to use your imagination as you narrate your Walk in the Forest and to add other events or features to your adventure!

The leader begins the Walk In The Forest activity by saying: Imagine you are walking through the forest on a sunny day and you notice lots of beautiful clouds in the sky. Reach your arms up (arms go up) and stretch your fingers to touch the clouds. Keep stretching to try and feel those fluffy, beautiful clouds. Higher and higher you reach towards the clouds. Continue marching and stretching arms up overhead for 1-2 minutes.

While still marching, begin snapping your fingers and say, All of a sudden, the rain starts to come down. At first, the rain is light (keep snapping fingers). Then the rain starts to fall harder and harder. Clap your hands softly, getting louder and louder. Continue marching and clapping for 1-2 minutes.

While still moving and marching say, the forest is very overgrown in this part of the woods and you need to push tree limbs and bushes out of the way. Bend slightly and move your arms in large sweeping movements in front of you moving imaginary tree limbs out of your way.

Begin to jog in place slowly and progressively speed up while still clapping and say, all of a sudden you see a bear in the woods and it is coming toward you! Run as fast as you can to get away from the bear. Hurry, hurry! The bear is catching up! Continue running for 1 minute.

Whew! We finally lost the bear. Let’s continue on our way through these beautiful woods. Look! The sun is coming out and the rain is stopping. Slow down to a walk and quietly snap fingers. Oh, there are those beautiful clouds again. Let’s stretch our arms up again to say hello to the sun and clouds. Walk slowly and stretch arms up.

**Aerobics: Progressive Jump Rope** ⚽️ 15-20 minutes
Play fast-paced music appropriate for jumping rope. Move to an area where each youth can jump freely without interference. Give each youth a jump rope and let them experiment jumping on one foot and then on two. Ask the youth to see if they can jump continuously using any method for one minute.
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Next, challenge youth to jump for two minutes without stopping. After continuous jumping for several minutes, have youth stop and calculate their heart rates. To vary this activity, have youth come up with alternate ways to use their jump ropes. Suggest they form groups of 3-4 to develop jumping games or obstacles courses with their ropes. For more information on jumping, see Chapter 5, Lesson 3, Jump Into Fitness.

COOL-DOWN: USING THE JUMP ROPE 5 minutes
Play relaxing music for cool-down. While holding their jump ropes, have youth form a circle or stand at arm’s length from each other. Tell youth to double or triple their ropes and hold the two ends above their heads. Pulling the ends of the rope tightly, have the youth stretch their arms upwards pulling the rope taut. Hold this stretch for at least 15 seconds. Repeat. Next, with the rope still overhead, have youth lean to the right and hold for 15 seconds and then repeat on the left side. Repeat stretch on both sides.

Tell youth to sit on the floor with legs straight out in front of them. Have youth loop the rope around the bottom of their feet, holding the ends of the rope in both hands. Have them gently pull their upper bodies towards their legs using the rope to pull their bodies forward bending from the hips not the waist. Have them keep their spines and neck straight and in alignment. Hold this stretch for 15 seconds and repeat two more times.

Tell youth to lie on their backs with their left leg bent and left foot flat on the floor. The right leg is held straight up. Place the doubled jump rope around the right calf and gently pull the right leg toward the body with the rope. Hold for 15 seconds. Repeat on the left leg. Repeat this exercise several times on both legs. Youth should be able to pull their legs in closer toward the body each time, but should not force the stretch.

REFLECT (School Age)
? Ask: Did you notice other changes in your body when your heart rate increased during the jump rope activity. What were these changes?

? Ask: What are some of the different ways you can use jump ropes to exercise?

? Ask: Where does jumping rope fit into the Physical Activity Pyramid?

APPLY (School Age)
Make a list of aerobic physical activities you can do at home that
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need little or no equipment. Calculate your heart rate several times over the next few days while you are doing different activities. Write these numbers down and determine which activities make your heart beat faster.