

Participants learn how to take their pulse and how different running speeds affect their heart rates.



Setup

Introduce the Activity

- Name the activity, and tell the participants that it is all about their heartbeats.
- Say something like, “Your heart is a muscle just like the muscles in your arms and legs. Your heart pumps blood and oxygen all around your body, which helps all of your muscles work, so it’s really important to keep it in good working order. When you run, your muscles need more blood and oxygen to keep going, so your heart has to work harder. You can feel your heart working—sometimes you can feel it beating in your chest, or you can feel your pulse in different places, like at your wrist or on your neck. That pulse happens as your heart pumps blood through your body. Your heartbeat, or pulse, will go faster or slower, depending on how hard you are working your body. When you walk, it beats slower. When you run, it beats faster.”
- Explain that they will be taking their pulse four times: at rest, after walking briskly, after jogging, and after running hard.
- Using two fingers demonstrate two different places to find your pulse. One place to find it is on the artery at the top of your neck and just under your jaw. Another is on the inside of your wrist, just below your thumb.

- While participants are standing at rest, have them find their pulse. Once they all have their pulse,

tell them to start counting. Time them for 15 seconds, have them give you their totals, and multiply them by four to get their heart rates. Record their heart rates, and read them aloud. (If you want to make it easier, count for 6 seconds and add a zero to the count—so, if a participant counted eight beats, their pulse would be 80. Or have them count for 30 seconds, and multiply their total by two.)

- Then have them walk briskly for 100 meters, and take their pulse again (immediately after they finish walking). Calculate and record the rates, and read them aloud.
- Then have them jog 100 meters and record their heart rates immediately after. Again, record the rates and read them aloud.
- Have them run 100 meters at a hard pace. Record their heart rates immediately after and read the rates aloud.

Assess the participants

What to watch for:

- Participants using different levels of effort. (Jogging should take more effort than walking and running should be at a significantly increased level of effort)
- Participants checking for their pulse in the right place. Help participants who are having trouble finding it.

Direction cues to share with participants:

- “Flex your wrist back.” (For participants who are having trouble finding their pulse. Flexing the wrist helps to better expose the radial artery.)
- “Keep your body still and feel for the beat!” (To help participants focus on finding their pulses)
- “Let’s pick it up!” (Directed at participants who are going too slowly on their jog)
- “Slow it down!” (For participants whose jog is closer to a run)
- “Run as hard as you can!” (For participants who are not expending maximum effort during the run)

Note: Only give a participant one direction at a time.

 Discussion

When you've completed In a Heartbeat, talk to your participants about their experience with the activity. Here are some sample questions to get you started:

- Why do you think your pulse was slowest when you were just standing still? (Because your muscles are not working as hard as when you are active, and they don't need as much energy so the heart doesn't have to pump as hard or as fast)
- Did your heartbeat get faster and faster as you went faster? Why do you think it did? (Because your leg muscles use more energy to go fast. That energy comes from the blood and oxygen that the heart supplies. So when your leg muscles work harder, your heart has to work harder to supply blood faster.)
- Can you tell how hard you are running based on your heart rate? (Yes. The faster it is, the harder you are exercising. You can also use your heart rate to tell if you have recovered because it should be slow again.)
- Is it good or bad to make your heart beat fast? (It's good! Exercise is good for your body! You also need rest, but it is good to get your heart beating fast a few times every day!)

Modifications

- Split the participants into four-person teams before the final event, the hard run. Have each student guess his or her pulse for that event. Record their guesses. Then record their pulses, and have the winning team—the team whose guesses were closest to their aggregate pulse count—take a “victory lap.” (Or you could do this individually, without breaking the participants into teams.)
- About 1-2 minutes after the hard run, have the participants take their pulse again. It should have slowed down considerably.
- Younger participants may have a hard time finding their pulse, have them put their hand over their heart and count.
- If you don't have enough space to set up a 100m course, time the runs, varying the amount of time and effort to see what happens to their pulse.
- With larger class sizes break down the participants into smaller groups, while one group is running the other is resting or stretching to get prepared for their run.

Inclusion Strategies

Classrooms are filled with learners who demonstrate a variety of needs and abilities, including ESL participants, those with disabilities, and gifted/talented participants. Consider these adaptations as you work to modify the lesson for participant success.

- Once you find your own pulse on your wrist have the *participants* count your beats if they cannot find their own.
- Have graphs and charts on where to place their fingers.
- Have the *participants* pair up and try to find each other's pulse.
- Show them different areas where they can check their pulse; some places are easier than others.
- Use a balloon to demonstrate how the heart pumps and that each pump is a beat. Allow *participants* to feel the balloon so they know what they are looking for.
- Find the participants' pulses and physically place their hands there and count with them.