



Equipment	Pencil, paper, chosen equipment for various physical activities (optional)
Learning Outcome	Demonstrate an understanding of how to identify, and measure heart rate as an indicator of cardiovascular effort during endurance activities.
COVID-19 Safety Precautions	Remind students to keep a safe physical distance from each while participating in the activity.

Flipped Classroom Strategy (Optional)

A flipped classroom is an instructional model where direct instruction is delivered to students *outside of and before* instructional time. Students are introduced to content that supports the introduction, comprehension, and recall of content and then instructional time is utilized to apply, analyze, synthesize, or evaluate content.

Before implementing this activity during instructional time, create a video or written instructions to share with students introducing or reviewing how to identify and measure their heart rate during different activities. Explain to students that they can use their heart rate as a unit of measurement for cardiovascular effort. Visually demonstrate to students how to find their heart rates by pressing their index and middle finger on their wrist or neck. Explain that once they find their heart rate, they should count how many beats occur within 10 seconds and then multiply that by 6 in order to calculate their heart rate within a one-minute time span (alternatively they can measure for 30 seconds and multiply by two).



Activity Description

If utilizing a flipped classroom approach, remind students to apply the technique they learned or reviewed to identifying and measuring their heart rates from the video or document. Ask students to share what they noticed about their heart rate for the various activities they tried. If not utilizing a flipped classroom approach, introduce or review with students how to identify and measure their heart rate during different activities. Explain to students that they can use their heart rate as a unit of measurement for cardiovascular effort. Visually demonstrate to students how to find their heart rates by pressing their index and middle finger on their wrist or neck and ask them to try it. Explain that once they find their heart rate, they should count how many beats occur within 10 seconds and then multiply that by 6 in order to calculate their heart rate within a one-minute time span (alternatively they can measure for 30 seconds and multiply by two).

At rest, ask students to locate their heart rate. This will provide the students with their resting heart rate. Then, invite students to calculate their maximum heart rate (HR max) by subtracting their age from 220 (e.g. if they are 10 years old, their maximum heart rate is 210). Explain to students that their HR max represents the maximum number of times their heart should beat per minute during exercise. Share that it is not recommended to maintain physical activity intensity within their HR max as it works the heart quite intensely. Ideally, students should aim to maintain their heart rate during moderate to vigorous physical activity within their target heart rate zone. The [Cardiac Health Foundation of Canada](#) recommends a target heart rate of 45% for moderate exercise intensity, and 70% of your maximum heart rate for vigorous exercise intensity.

Once students are able to identify and measure their heart rate, invite them to measure their cardiovascular endurance by participating in various physical activities. Students can use a paper and a pencil and begin by measuring their resting heart rate. They can then participate in various moderate and vigorous physical activities such as passing a soccer ball back and forth, going for a run, or a vigorous exercise sequence (e.g., skipping, jumping jacks, and running in place). Immediately after each activity, students measure their heart rate and compare their target heart rate, with their resting heart rate, and their HR max compared to the different activities they completed. As students complete the activities, ensure they understand the difference between moderate to vigorous physical activities.



Physical Education Competencies



MOVE

Develop psychomotor skills, tactics, and strategies that facilitate a variety of physical activities across diverse environments.



THINK

Develop cognitive skills and strategies for a variety of movement contexts that facilitate critical thinking, decision-making, and problem solving.



FEEL

Develop affective skills and strategies that facilitate healthy and safe relationships with themselves, with others, and with their environment.



ACT

Practice behaviour skills and strategies that facilitate movement competence and confidence.



Reflection Questions

Reflection is important to support learning during physical education. Consider asking students the reflection questions below and discuss the answers together.

- *What surprised you most when identifying and measuring your heart rate?*
- *What changes in your body and your heart rate did you observe while moving from a resting state to moderate and/or vigorous physical activity?*



Inclusion Considerations

Modifications can be made to a variety of activity components to ensure inclusion. As you plan activities, consider how everyone can be involved and how to modify or adapt the activities to ensure the full inclusion of all. The STEP framework provides modifications to the following activity components — space, task, equipment, and people.

S Space	T Task	E Equipment	P People
Complete the activity in a space with minimal distractions.	Provide groups with physical activities that are an appropriate ability for each student.	Students use the required equipment to complete the activity successfully.	Encourage students to work in pairs or small groups to support each other with calculating their heart rates.



Observing Learning Outcomes

Sample questions to observe learning outcomes include:

- Does the student demonstrate an understanding of how to calculate their heart rate?
- Does the student demonstrate an understanding of their resting, target, and HR max heart rates?
- Does the student actively participate in various physical activities to raise their heart rate?

Connecting to PHE At Home Learning

The following PHE At Home Learning activity can be utilized by students at home or modified for use during instructional time in order to extend learning.

[Track Your PA Every Day](#)