HEART RATE EXPLORATION

Celebrate Valentine's Day with a hands-on activity that explores the science of the human heart! This fun STEM project is perfect for elementary-aged kids and teaches them about how the circulatory system works while incorporating observation, data collection, and analysis skills.

INSTRUCTIONS:

STEP 1: Start with a quick discussion

- What does the heart do?
- Why does heart beat more after exercise?
- How does blood move through our body?

Explain that a heartbeat can be measured by counting the number of beats felt in one minute.

STEP 2: Teach kids how to locate their pulse.

They can feel it:

- On their wrist (radial pulse)
- On the side of their neck (carotid pulse)

Practice counting the beats for 15 seconds and then multiply by 4 to calculate beats per minute (BPM).

STEP 3: Measure Resting Heart Rate

- Sit quietly for one minute to ensure a resting heart rate.
- Measure and record the BPM.

STEP 4: Activity Time: Get the Heart Pumping!

- Choose a simple activity such as jumping jacks, jogging in place, or dancing for 1-2 minutes.
- Immediately after the activity, measure the heart rate again and record the BPM.

STEP 5: Cool Down

- Sit quietly for 2 minutes after the activity and measure the heart rate again. This will help kids observe how the heart slows down after exercise.
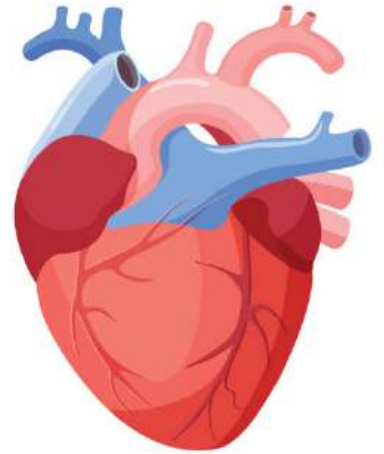
STEP 6: Repeat and Compare

- Try different activities, like walking or skipping, and compare the heart rate changes.

Materials

Stopwatch or timer
Notebook or data sheet
Pencil
A quiet space
for resting heart
rate measurement
Optional: graph paper
for charting data

Heart Rate Exploration Observations

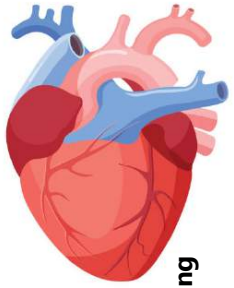Use this worksheet to process and evaluate your work.

What did you notice about your heart rate after exercise?

_____

Why do you think your heart beats faster during activity?

_____

What might happen if someone doesn't exercise their heart regularly?

_____

How long did it take for your heart to return to its resting rate?

_____

What did you learn about your heart?

_____

Heart Rate Comparison Across Activities

Shade in your heart rate results.

	Resting	Activity	Cool Down		Resting	Activity	Cool Down		Resting	Activity	Cool Down		Resting	Activity	Cool Down

140

120

100

80

60

40

Jumping Jacks　　　　**Jogging**　　　　**Dancing**

Activities