

Circulatory System



What You'll Need:

- A timer or a watch with a second hand
- A pen or pencil

What You'll Do:

1. Your pulse is a way you can feel your heartbeat. A pulse is the rhythmic beat of blood passing through blood vessels. Start the experiment by finding your pulse. Typically, your pulse is best felt in either the side of your neck or in your wrist below your thumb.
 - *Note: Sometimes it can be challenging to find your pulse. If you are having a hard time finding your pulse, ask a parent, friend, or family member to help you.*
2. Once you've found your pulse, take your heartrate. To do so, set the timer for one minute or watch the second hand on a watch for one minute and count the number of pulse beats that happen in that minute. Write this number as the answer to question 1 on your "What You've Discovered" worksheet.
 - *Note: Heart rate is an important number used by doctors as they work to keep you healthy. Your heartrate is written in terms of beats per minute (bpm).*
3. Write down your prediction of what your pulse will be after exercising for question 2 on your "What You've Discovered" worksheet.
4. Exercise for 10 minutes. You can run, do jumping jacks, dance, or any other exercise you like to do.
5. After exercising for 10 minutes, track your heartrate. Write the number down for question 3 on your "What You've Discovered" worksheet.
6. Consider both heartrates that you wrote down on your worksheet and compare the two. Use the information to answer questions 4 and 5 on your "What You've Discovered" worksheet.
7. With your previous answers in mind, write down a prediction for what your pulse will be 10 minutes after you finish exercising for question 6 on your "What You've Discovered" worksheet.
8. Take your heartrate after 10 minutes of resting following exercising for 10 minutes. Write down your heartrate for question 7 on your "What You've Discovered" worksheet.
9. Keeping your previous answers in mind, finish your "What You've Discovered" worksheet and answer questions 8–10.



What Does It Mean?

Your circulatory system is responsible for getting oxygen to your entire body. This is done by your heart pumping blood first to the lungs to get oxygen and then to the rest of your body to share the oxygen with all of your cells. This is why your heart is always pumping and working. When you exercise, your body needs more oxygen so your heart has to pump faster to get oxygen to your body fast enough. This is why your heartrate increases when you exercise and then decreases after you stop exercising. Your heart is an amazing muscle that works constantly to keep your body moving and functioning. As one of your hardest working muscles, your heart will pump your entire life, keeping your circulatory system moving and working.



What to Do Next:

- Repeat the experiment with a different exercise. If you ran last time, maybe try dancing this time.
- Complete the experiment another time, but do the same exercise for 20 minutes instead of 10. See how this impacts your heartrate.
- Print and color the circulatory system coloring page found on the dōTERRA® Science for Kids section on the dōTERRA Science Blog.



What You Discovered:

As part of your circulatory system experiment, answer the questions below.

1. Write down your pulse as you sit reading this worksheet.

2. What do you think your pulse will be after exercising for 10 minutes?

3. Write down your pulse after exercising for 10 minutes.

4. How did your pulse after exercising compare to your resting pulse?

5. How did your pulse after exercising compare to your prediction?

6. What do you think your pulse will be after resting for 10 minutes?

7. Write down your pulse after resting for 10 minutes.

8. How did your pulse after resting compare with your prediction?

9. How did you pulse after resting compare with your pulse before exercising?

10. What does the change in your pulse show? Why is it significant?
