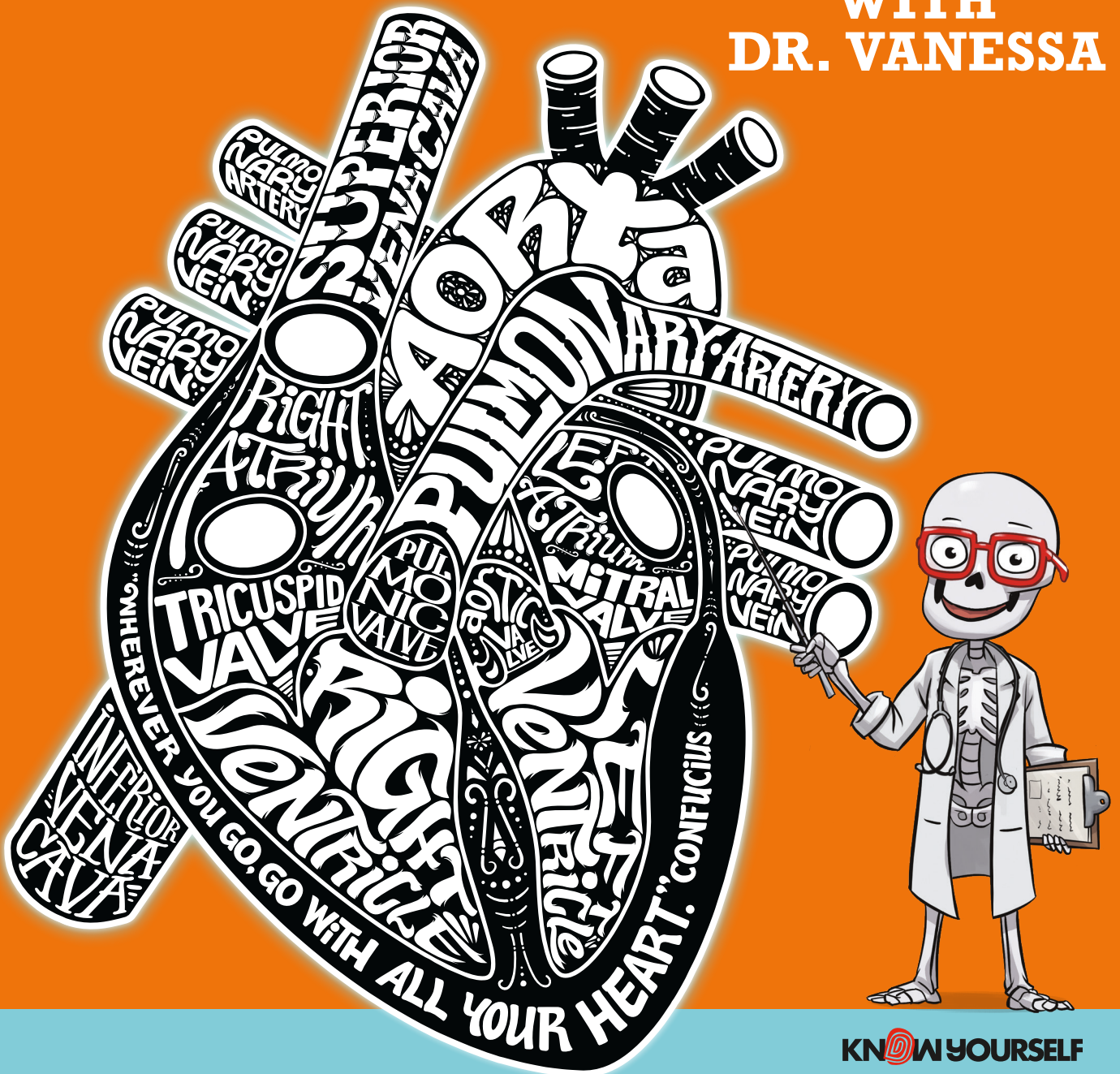


# KNOW YOUR CIRCULATORY SYSTEM

WITH  
DR. VANESSA

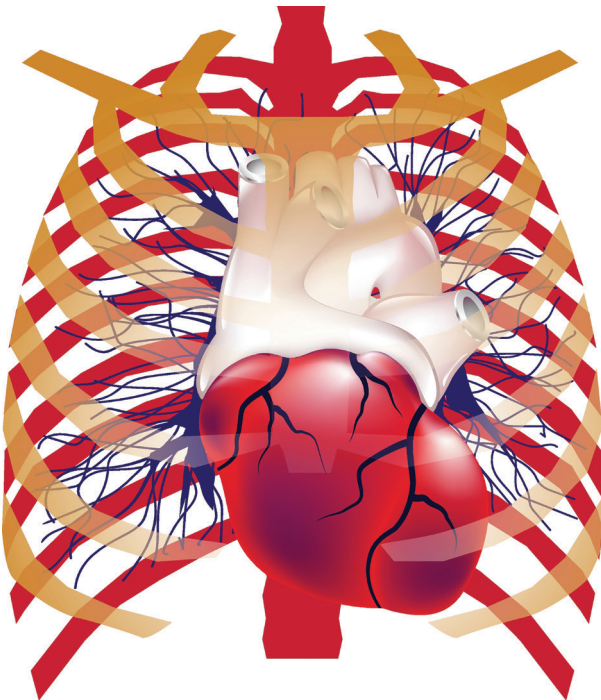
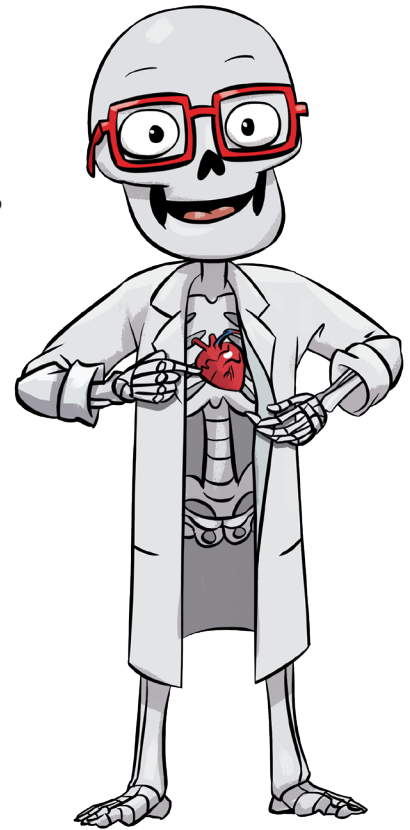


# The Heart of the Matter

Put your hand on your sternum and feel your heart at work in your chest. It's beating constantly. Your heart is the hardest working muscle in your body, but what is it doing exactly?

Its job is to pump blood throughout your body.

The movement of blood through your heart and around your body is called **circulation**. That is why this system is called the **circulatory system**.



## Why is blood so important?

Blood is responsible for providing your body with oxygen and nutrients (from the food you eat), as well as for removing waste and carbon dioxide. Your blood contains plasma and three types of blood cells: red blood cells, white blood cells, and platelets. You can learn more about each part on the next page.

**Heartthrob:** Laughing is good for your heart. It reduces stress and gives a boost to your immune system.



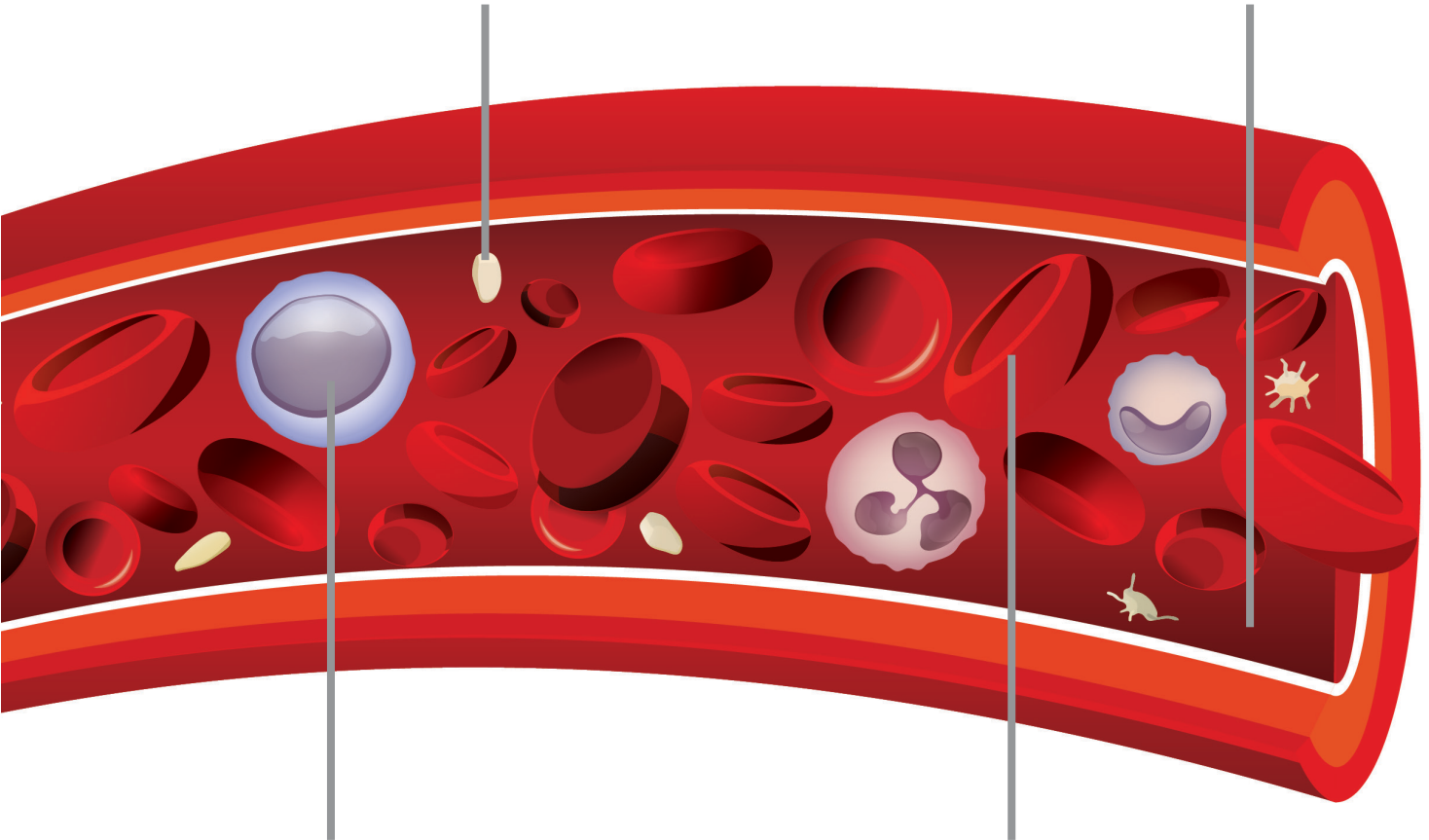
# A Rush of Blood

## Platelets

are tiny blood cells involved in clotting. If you get scratched, platelets migrate to the cut, clot the blood, and stop the bleeding.

## Plasma

is the yellow, watery part of your blood. It carries cells, nutrients, salts, and proteins. It is more than 90% water.



## White Blood Cells

are part of the immune system. They help your body fight infection from bacteria, viruses, and fungi.

## Red Blood Cells

have hemoglobin, a protein that carries oxygen from your lungs to other parts of your body.

**Heartthrob:** Blood is the only liquid tissue in the body! It is made up of 55% fluid (plasma) and 45% cells.





# Try This at Home

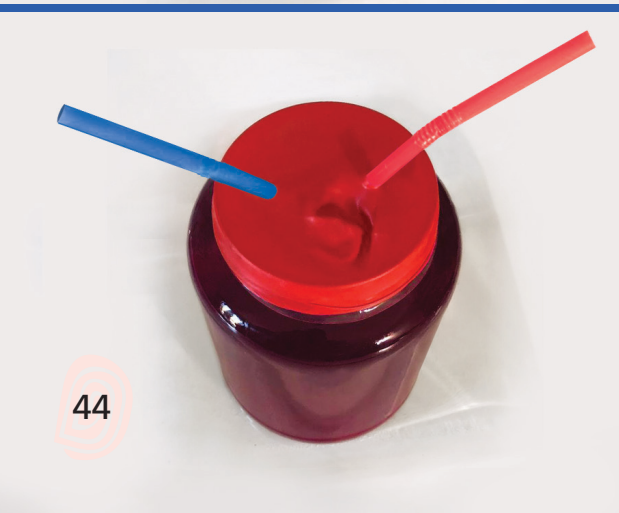
## Make a Heart Pump

### Materials

Toothpick or scissors  
Large pan (or a sink)  
Wide-mouthed jar  
Water  
2 straws (one red, one blue)  
Tape  
Balloon  
Red food coloring (optional)

### Pour Your Heart Out

Use the red straw to represent an aorta and the blue straw to represent a vein in this heart pumping activity. The jar acts like your heart and the extra piece of balloon acts like a valve, making sure that blood pumps from one chamber to another without flowing backwards!



KNOW YOUR BODY



# Directions

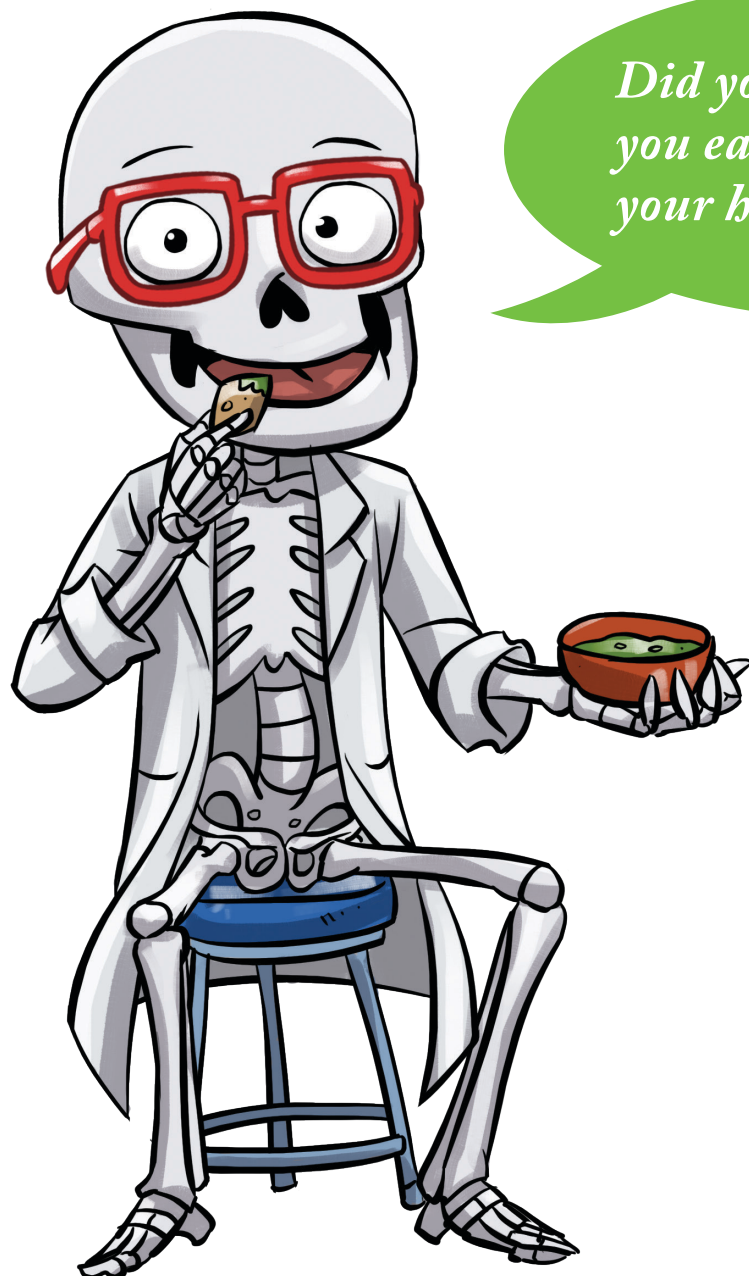
- 1 Fill your jar halfway with water (add red food coloring to resemble blood).
- 2 Cut the neck off the balloon and set aside to use in Step 6.
- 3 Stretch the balloon over the rim of the jar. Pull it down until the balloon fits snugly as a flat surface over the top of the jar. **(Grab a friend or parent to help with this step!)**
- 4 Using a toothpick (or scissors), make two very small holes in the balloon, approximately one inch apart. The holes should only be large enough to fit the straws through, tightly sealed by the balloon.
- 5 Push the straws through the holes. If the hole is too large, use tape to seal it.
- 6 Take the discarded balloon neck from Step 3, fold it in half, and tape it to the end of the blue straw. Make sure that the seal is airtight.
- 7 Set the jar in the pan or sink and gently start pressing two fingers on the balloon to start “pumping.”

**Now, watch what happens to the water in the jar!**

# Know Your Appetite

## Heart Healthy Foods

You have learned about your circulatory system and how the heart works to keep the rest of the body healthy.



*Did you know that what you eat can also help keep your heart healthy?*

When choosing a snack, pick something that will help keep your heart, and you, healthy, such as fresh fruit, raw vegetables, or a handful of nuts. Here are some recipes you can try that are good for you and delicious. Always make sure you have an adult with you when cooking.

# Recipes

## Ants on a Log

Preparation time: 5 minutes

### Ingredients:

Celery sticks (cut into 3-4 inch lengths)

Peanut butter (can be substituted with hummus in case of allergy)

Raisins

### Directions:

1. Wash the celery sticks.
2. Ask an adult to help you cut the celery to 3-4 inch lengths.
3. Using a butter knife, or a spoon, spread peanut butter (or hummus) across the crevice of the celery.
4. Add raisins to the top of the peanut butter (or hummus) in a line.
5. Enjoy!





# Learn all about the systems of your body in the **Know Your Body** series with Dr. Vanessa!

Know Your Circulatory System takes you through the circulatory system while focusing on fun activities to help reinforce the information you are learning.



## THIS BOOK INCLUDES:

- Kid-Friendly Learning
- Fun-Filled Anatomy Lessons
- Engaging Activities to Reinforce Learning
- Check for Understanding Pages Incorporated Throughout to Improve and Enhance Learning
- An AHA Moment - Where Anatomy, Physiology and Psychology All Come Together!
- Fun Introduction to a New Vocabulary Word
- Try This at Home Projects
- Recipes that Encourage Healthy Eating
- Plus Much More!

## Knowledge Guaranteed to Last a Lifetime

You only get one body, and it needs to last a lifetime. Learning about the body at a young age sets the foundation for honoring one's physical form while developing self-esteem and self-confidence. Equipped with a general knowledge of the human body, young children will have the confidence to participate in their own health and well-being for years to come. Through activity books, workbooks, comics and games, we make education engaging and fun, and spark a lifelong love of learning and health literacy.



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