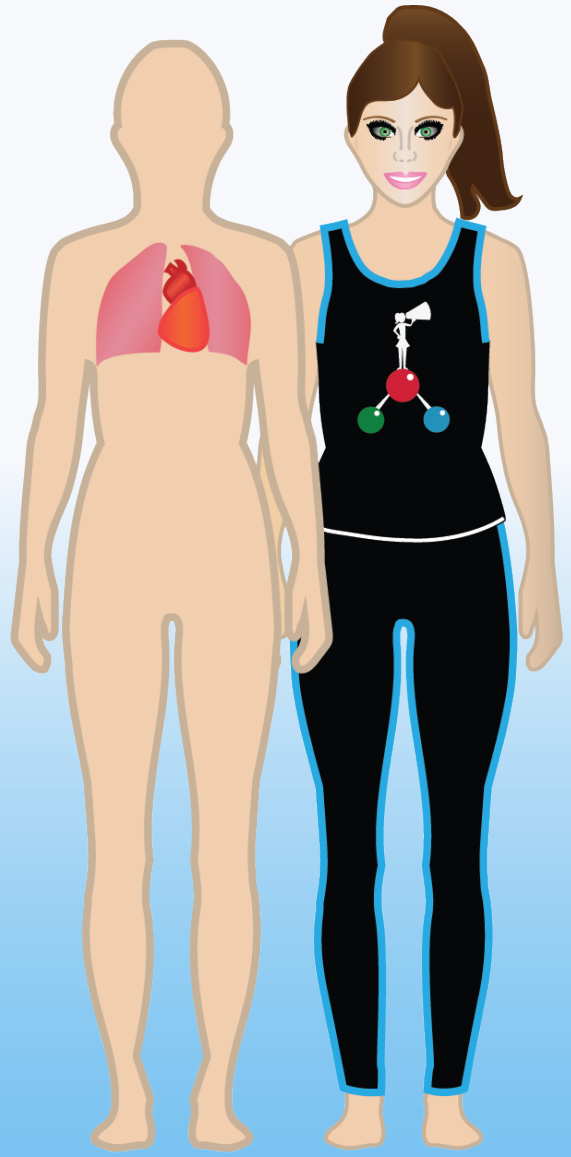
The HEART of Cheer

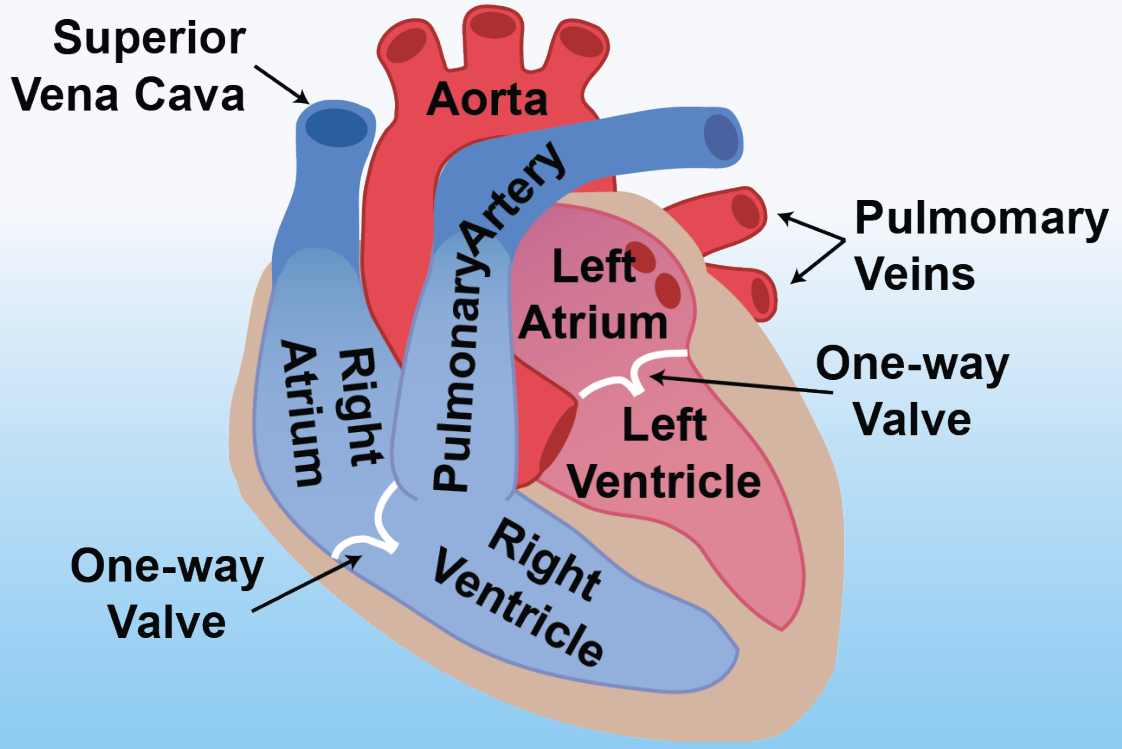
What does the heart do?

- Your heart is a muscle – just like your bicep!
- It acts like a pump to move blood around your body
- It is located in the middle of your chest



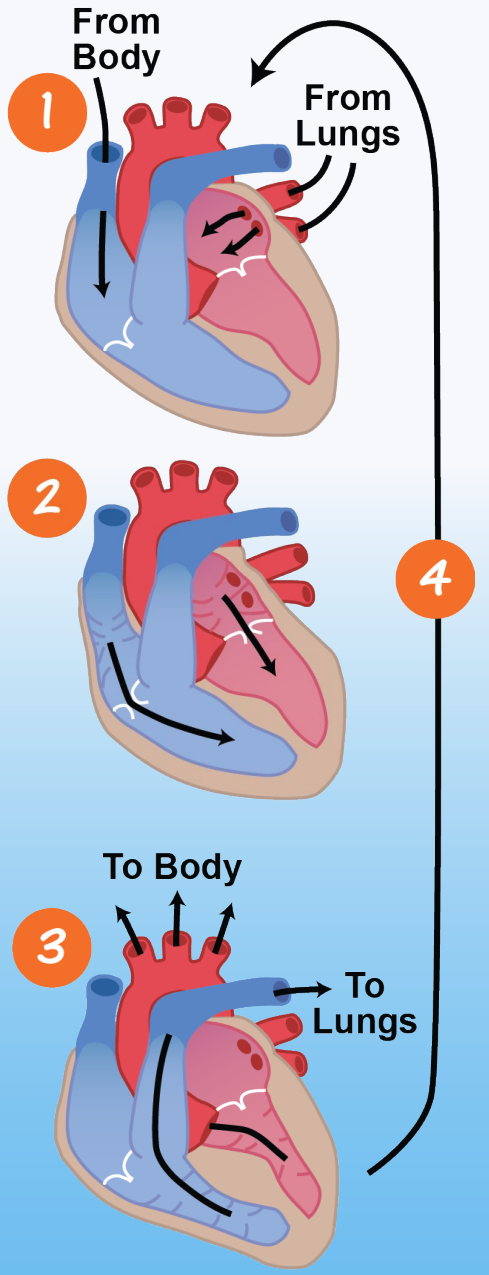
Parts of the Heart

- The heart has four chambers:
  - Two **atria** and two **ventricles**
- Chambers are separated by one-way **valves**
- **Arteries, veins, and capillaries** carry the blood throughout the body
- **Arteries** carry blood away from the heart
- **Veins** carry blood back to your heart from your body



How does the heart work?

- Step 1: blood fills the atria from your body and lungs
- Step 2: atria squeeze, and the blood enters the ventricles
- Step 3: ventricles squeeze to send blood to the body or lungs
- Step 4: blood that contains oxygen is pumped to the body and then back to your heart



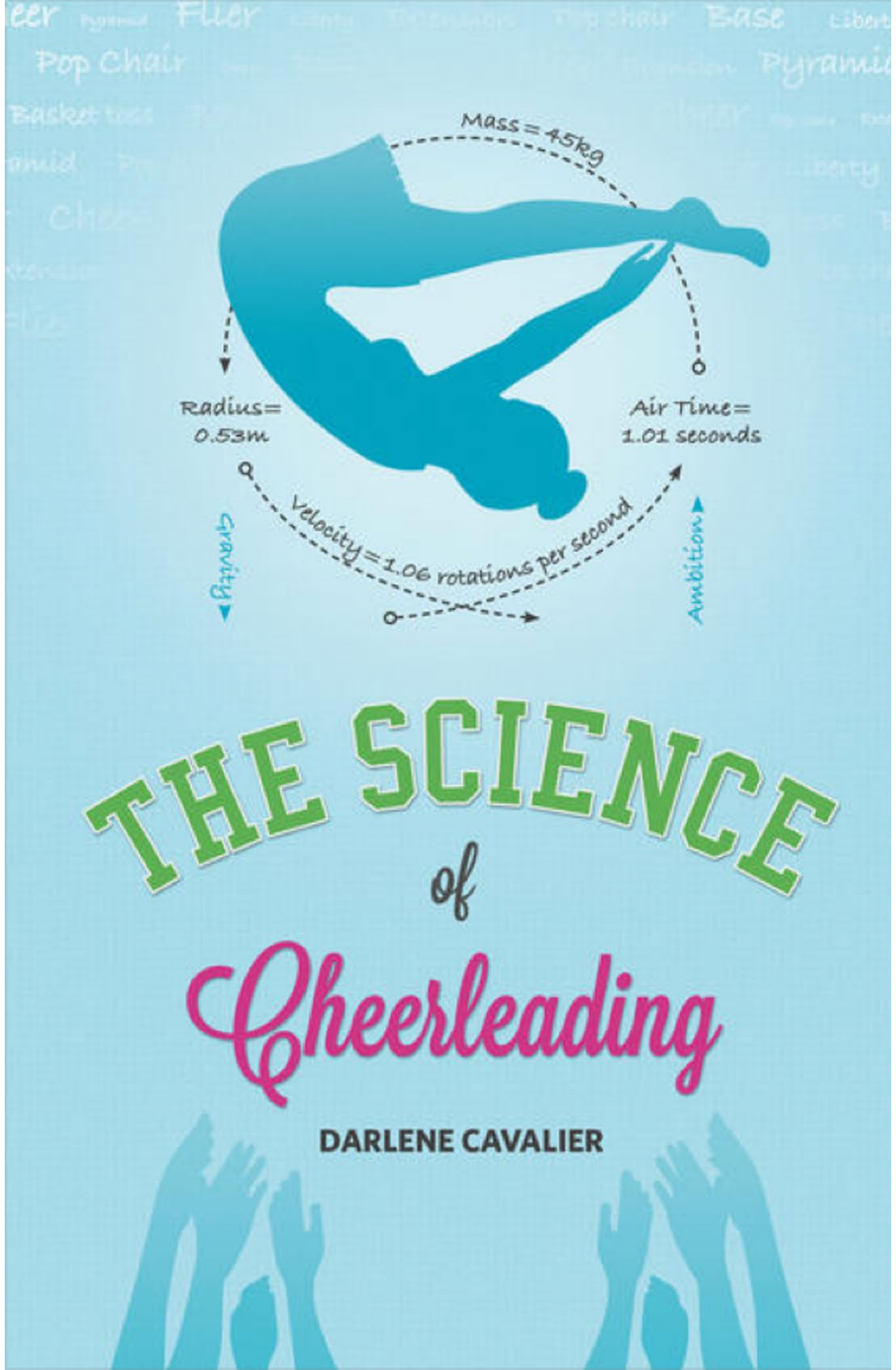
Measuring Heart Beats

- During a heartbeat, you heart closes off its different chambers to push blood through it and to the body
- Your heart beats 50-100 times per minute
- Use the activity worksheet to help measure your heart beats

Measuring Heart Beats

- Let's measure our resting heart rate!
  - Sit or lie down and relax
  - Gently press 2 fingers on your neck, just under the corner of your jaw
  - Wait a few seconds and feel for a pulse
  - If you don't feel your pulse, move your fingers slightly up, down, left, or right
  - When you feel it, count how many pulse beats happen in 30 seconds
  - Multiply by 2, and that number is your resting heart rate, or how many times your heart beats in 1 minute when your body is at rest

Let's do a cheer and measure our active heart rates!



Clap, stomp your feet, or waive your hands in the air while you do this cheer!

Bigger, better, faster, longer

Gotta make the heart beat stronger

Bigger, better, faster, longer

Move the blood around your body

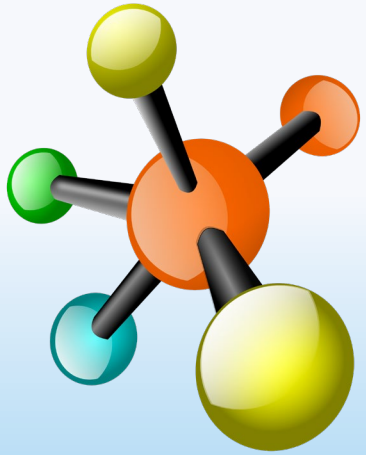
x3

Gooooo science!

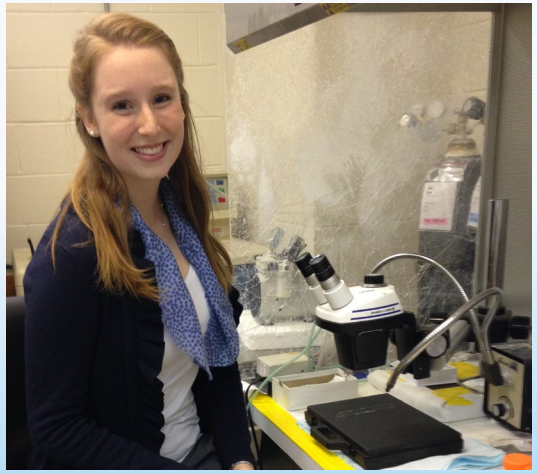
Pump it up!

- As soon as you're done with the cheer, measure your heartbeat again – this is your active heart rate
- Did your heart rate go up or down? Why do you think so?
- Your brain controls your heart by sending it signals telling it how fast to beat
- When your body is more active, your muscles need more oxygen
- Your heart also beats faster, more than 100 times each minute, to pump more oxygen around your body for your muscles to use

Why care about the heart?



Scientists and researchers, like Science Cheerleader Hilary, create ways to make people healthier. They use creative thinking and problem-solving to invent and test new technologies to help people. Technologies like medicines or pacemakers make sure people's hearts keep beating and their blood keeps flowing like it should.



Why care about the heart?

Nurses and doctors, like Science Cheerleader Regina, care about hearts to make sure their patients stay healthy. Regina checks her patients to make sure their hearts are pumping, and blood is flowing correctly. If not, it could lead to a serious problem like a heart attack.