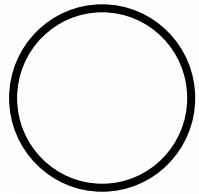


Coronary heart disease: Atherosclerosis

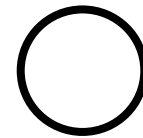
Healthy
artery

Narrowed
artery

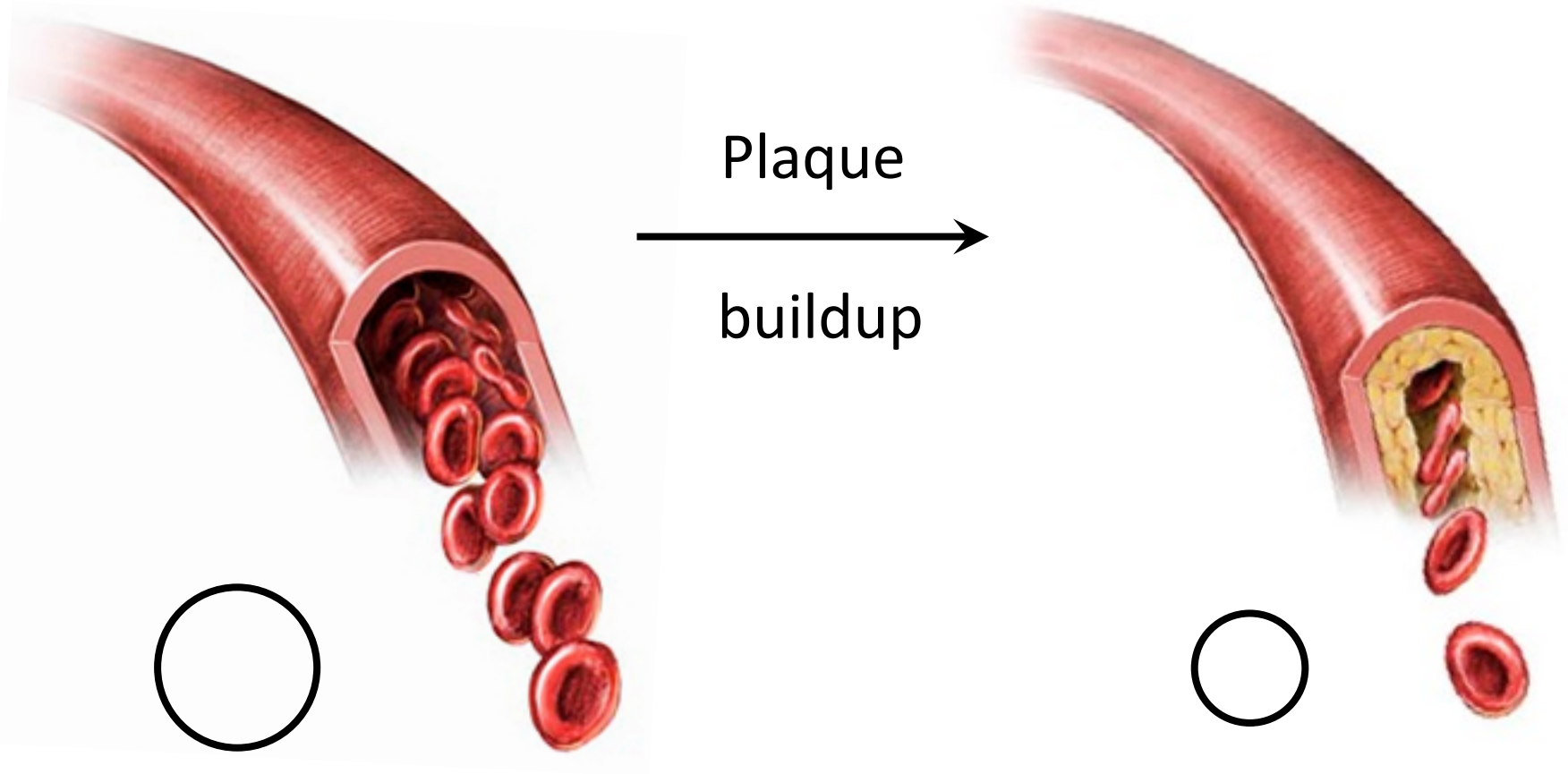
Plaque
→
buildup



Big diameter



Small diameter



Materials you need

Teacher

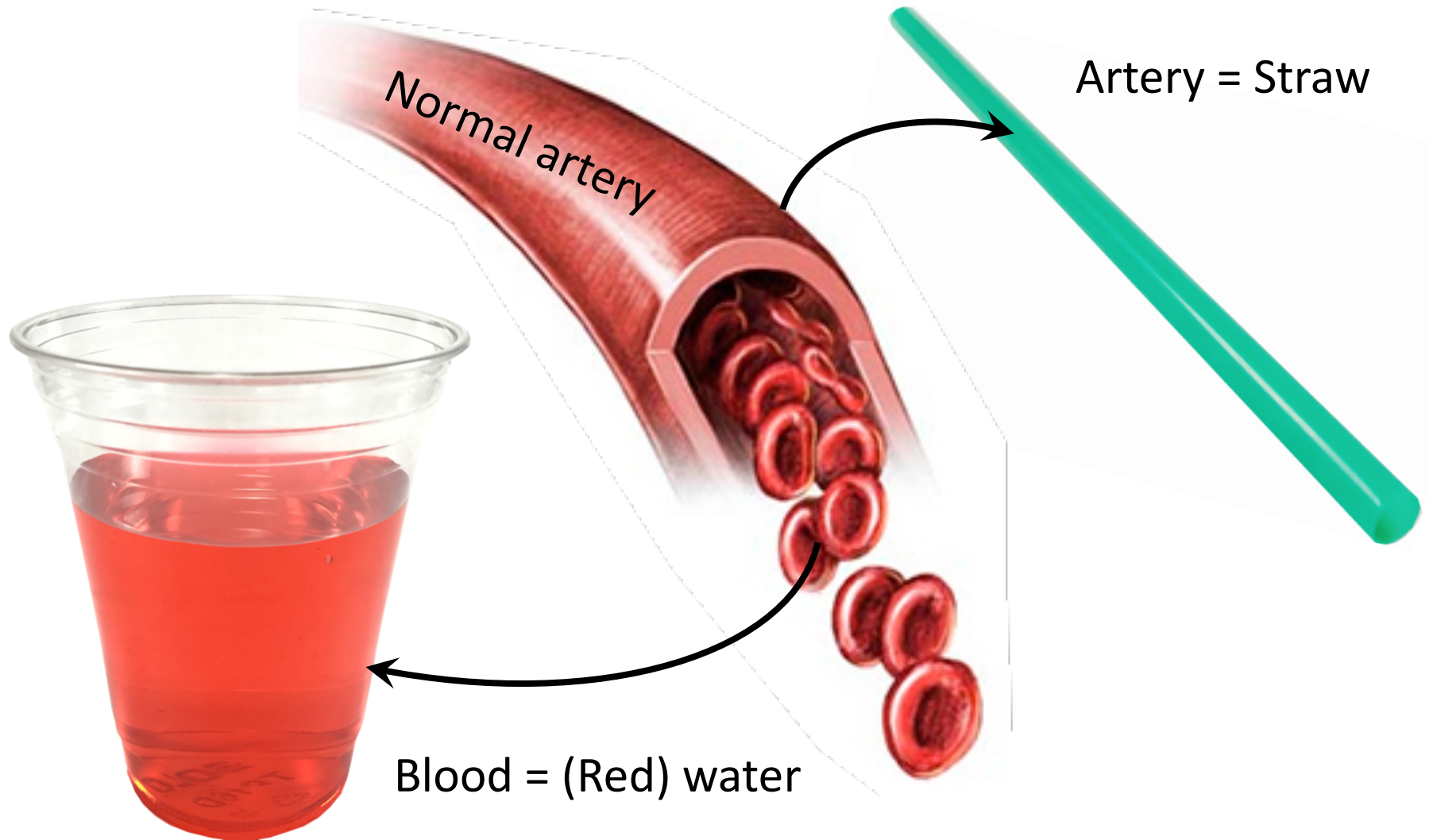
- Scissors
- Water
- Red food coloring
- Measuring cup
- Permanent marker

Students

- Modeling clay
- Stopwatch
- Two cups (16 oz.)
- Aluminum tray
- Two straws (different diameter)



Blood flow model



Put the straws into the cup

smaller hole

=

narrow straw



bigger hole

=

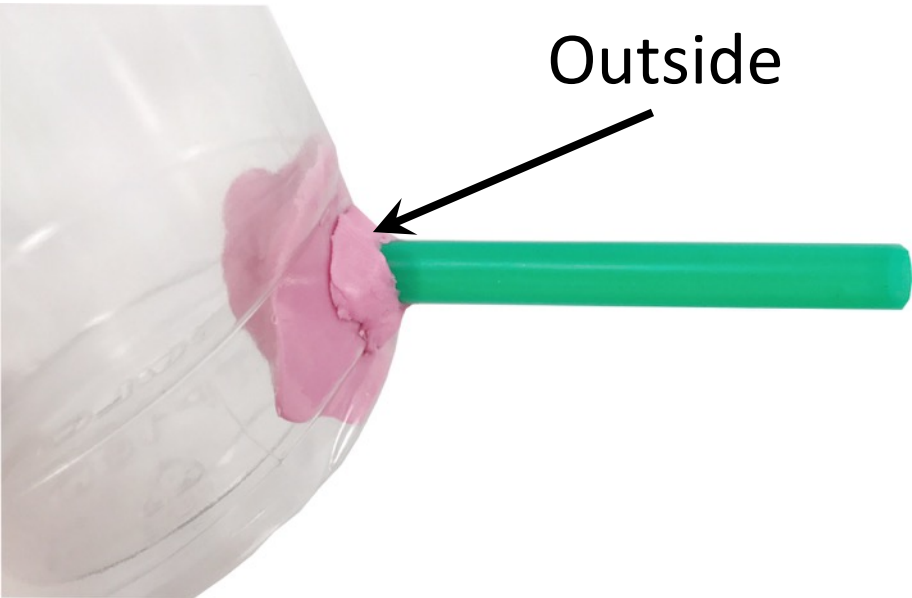
wide straw



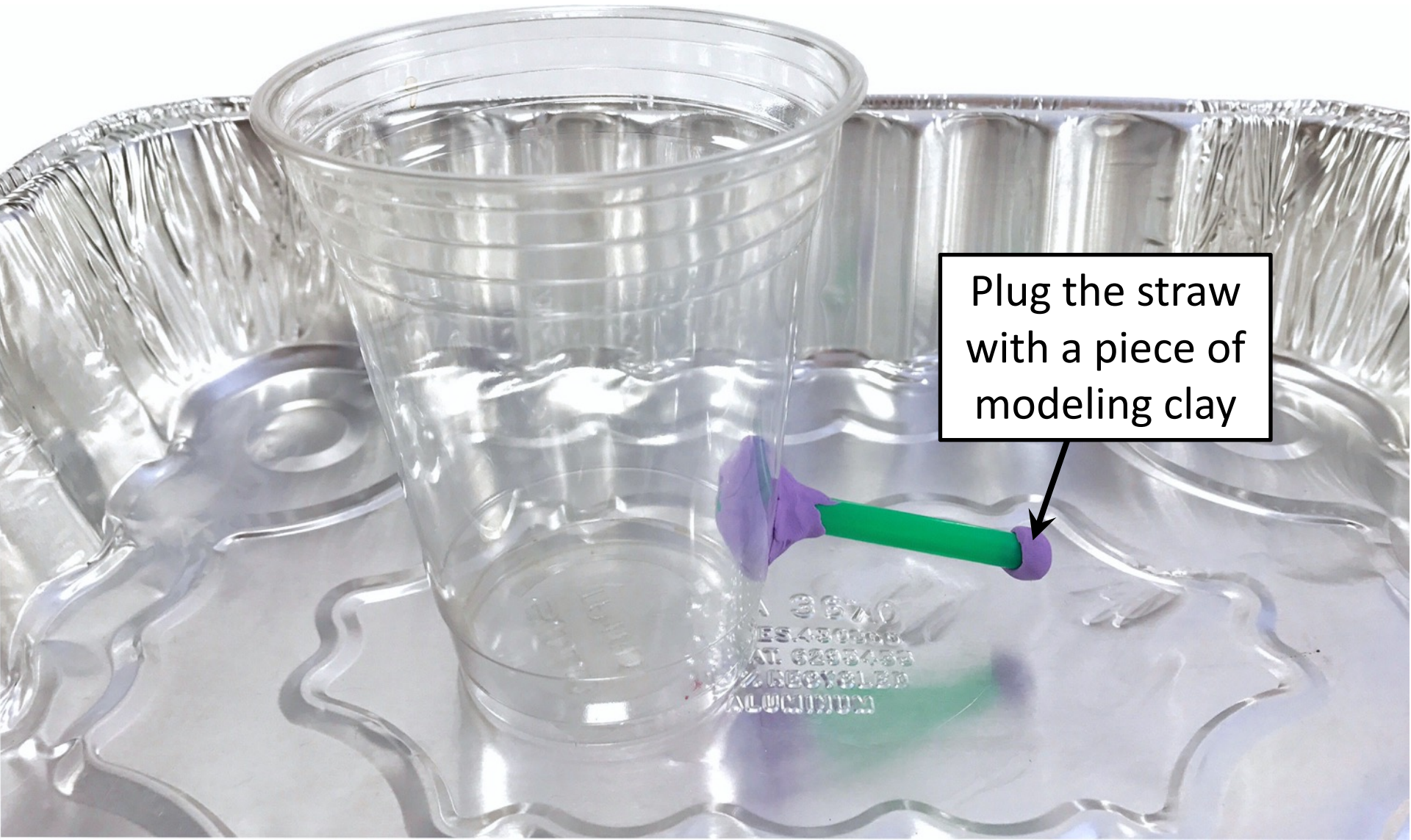
Seal the hole around
the straw with
modeling clay

Inside

Outside



Place the cup inside the aluminum tray



Plug the straw
with a piece of
modeling clay

Let your teacher fill the cup



Teacher will
provide water

Get your stopwatch ready



Remove the plug and start stopwatch



Stop stopwatch when flow stops



Flow
stopped

Remaining
water

Stop stopwatch
and
record time

Repeat the experiment with the second straw



Second
straw

Analyze your data & Make a graph

Measured time
narrow straw

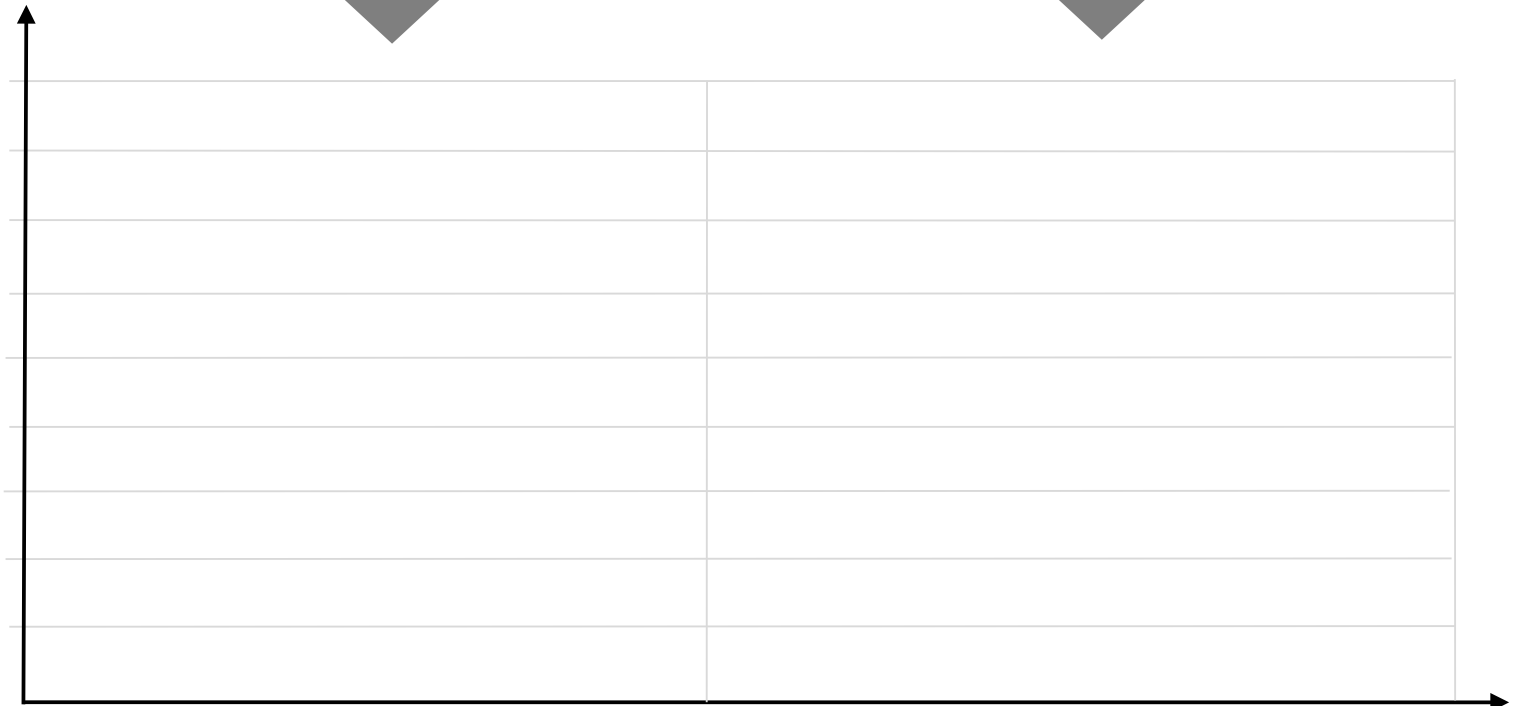
Measured time
wide straw

_____ seconds

_____ seconds



Measured time [seconds], or
calculated flow rate [mL/s]



Narrow Straw
(smaller diameter)

Wide Straw
(larger diameter)