

Microbe Magic Experiments

<http://microbemagic.ucc.ie>

Explore your body – See your heart beat!

What you will need

A friend(s)

Drinking straw

Sellotape

Paper

Pencil

Watch (or a timer) that can measure seconds

What to do:

- Stand up straight and still on a level surface.
- Find your pulse with your fingers. Place two fingers side-by-side flat on the side of your neck and press down just a little bit. Move your fingers until you feel your pulse, a regular kind of thumping under your skin.
- Ask a friend to stick the straw onto your neck where you show you're your pulse feels the strongest.
 - Make sure that the straw is sticking straight out from your neck!
- Count the number of times the straw moves in a minute (60 seconds). This is your pulse rate!
 - You can save time by counting the number of times the straw moves in 15 seconds and simply multiplying your answer by 4.
 - Your pulse rate is measured in beats per minute (beats / minute).
- Write down your pulse rate – if you can, print and use the form below, if you can't, copy the form onto a new piece of paper.
- Calculate your pulse rate when you are doing different things like, sitting, lying down, singing, walking, running on the spot, climbing stairs (remember to hold onto the banister with your other hand!)...whatever you think might change your pulse rate. See if your pulse rate changes as you do different things.
- Enter all of your pulse rates onto the form.
- When you have taken all of your measurements, repeat the experiment on your friend(s)!
- Look at the difference in the pulse rates between you and your friend(s) when you do different things or nothing at all!

What's happening?

When you feel your pulse, you are feeling your blood as it moves around your body by your heart. The easiest place to find your pulse is on your neck but you can also find it on the inside of your wrist, your temples and at other locations around your body (try it for yourself!).

You have a 'resting pulse' - the rate of your pulse when you are at rest. This is best measured in the morning, when you have just woken up. Your pulse rate changes during the day, depending on what you are doing. Running, exercising and vigorous activity will speed up your pulse as your muscles and cells need more oxygen which

is supplied by your heart pumping blood (oxygen is carried by your red blood cells) more quickly. When you are resting or inactive, your blood rate slows right down as your muscles don't need that much blood and your heart doesn't pump it as fast!

Pulse rate (beats / minute):	Name:	Name:	Name:
First thing in the morning (resting pulse rate)			
Standing			
Sitting			

Walking			
Running on the spot			
Singing			