
Exercise
Investigation
twinkl

Aim

- I can plan a scientific enquiry.
- I can record, report and present results appropriately.

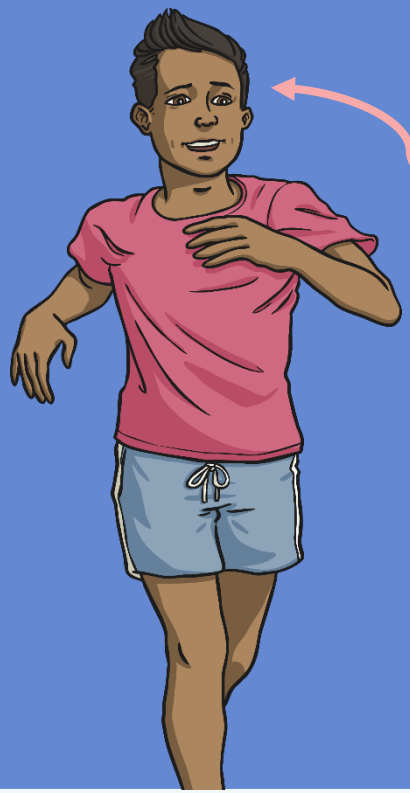
Success Criteria

- I can decide on the most appropriate type of investigation.
- I can explain which variables will be controlled.

Exercise

Whole Class

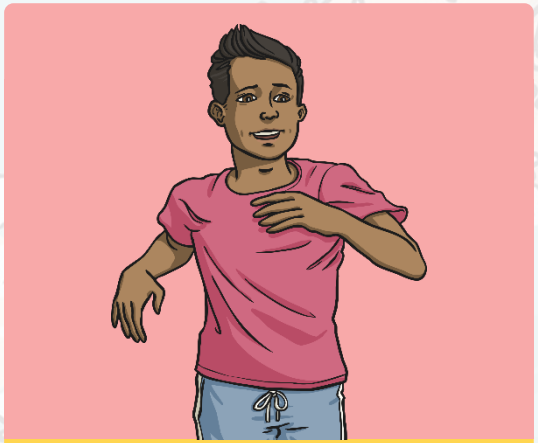
For a short video about the importance of exercise



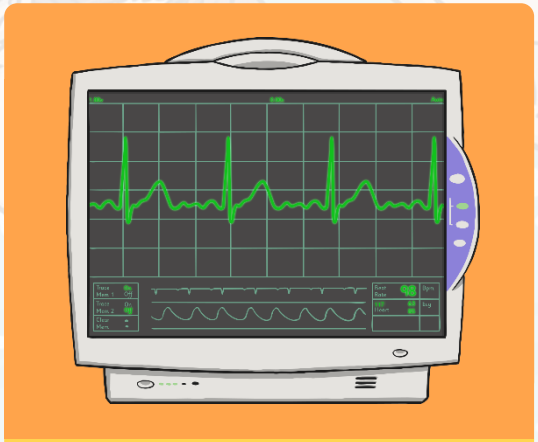
Click me!

Exercise Investigation

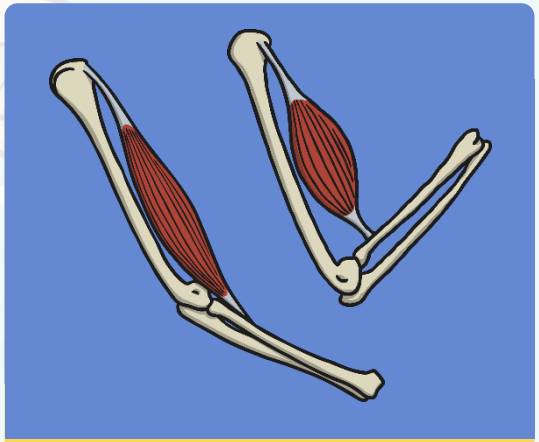
You will be creating an investigation about exercise. Before you start - look at the definition of exercise:



Requires effort



Raises your heart rate



Works your muscles

Of these three, only one, the heart rate, can be measured accurately.

The amount of effort spent on an activity will depend on the activity and will differ from person to person so we cannot measure that.

While we can use specialist equipment to identify which muscles are being worked during exercise, we can not easily measure how well the muscles are working.

Heart rate, on the other hand, can be easily measured by taking our pulse.

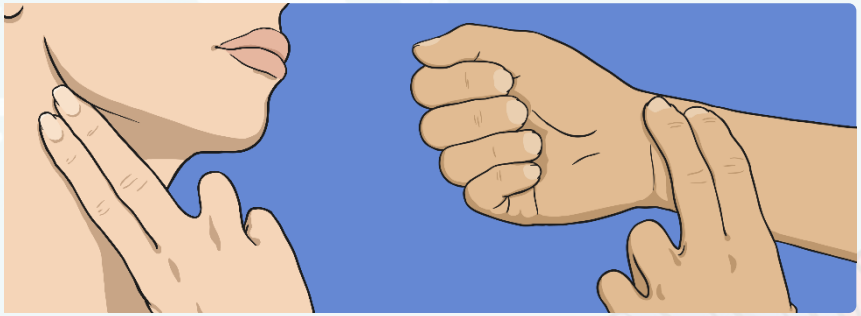
Can you remember how to take your pulse?

You can measure your heartbeat by measuring your pulse. Your pulse is also known as your heart rate. It is the number of times your heart beats in a minute. You can measure it by taking your pulse for a minute, or count for 30 seconds and multiply by 2.

Tips for finding your pulse:

- Use your index and middle fingers to find your pulse.
- Press gently and lightly. If you press too lightly or too firm you will not be able to detect your pulse.
- Do not use your thumb. Your thumb has it's own pulse that you may feel which would affect your results.

1. Find your pulse in your neck by pressing your fingers on the side of your neck. This should be the soft hollow next to your windpipe.
2. Find your pulse in your wrist by holding out one of your hands with your palm facing upwards and your elbow slightly bent. Put your fingers on the inside of the wrist at the base of the thumb of the hand facing outwards.



Planning An Investigation

You have two options for your investigation.

OPTION 1:

You could test different exercises and see which one has the greatest affect on you heartrate.

This would involve taking your resting heartrate so that you know what your pulse is without any exercise.

Then do one type of exercise and measure your pulse again. Then do a different form of exercise and measure your pulse again.

It is up to you how many different exercises you test. Just make sure you write down all of your results.

Things to think about:

1. One of the problems with comparing exercises is that, if you do it too soon after the previous activity, the heart rate will already have been increased. This will affect your results. Be sure to leave enough time between exercises for your subject to return to their resting heartbeat.
2. To make this a fair test, you must do each form of exercise for the same amount of time and with the same amount of effort.

Planning An Investigation

OPTION 2:

You could focus on just one form of exercise and see how long it takes your heartrate to return to normal afterwards.

This will involve exercising for a set amount fo time to raise your pulse and then measuring your pulse every minute or every two minutes until your heartrate returns to normal.

Things to think about:

1. You will need to know your normal resting heartrate so that you know when it has returned to normal during the investigation.
2. You will need to time accurately.
3. You will need to be able to find your pulse quickly and be ready to count.

Conducting Your Investigation

Think about how you will record your results.

What is the best way to do this?

What categories do you need?

While you conduct your investigation you may need to make changes and adjustments. Make a note of these.

Make sure you take a resting heartbeat! This is one before any exercise has been taken. If you are conducting a fair test this will be your control.

One of the problems with comparing exercises is that, if you do it too soon after the previous activity, the heart rate will already have been increased. This will affect your results. Be sure to leave enough time between exercises for your subject to return to their resting heartbeat.

Repeating the results: Repeating results ensures that your results are more precise. By repeating the investigation you can check if the results were precise the first time around. If the results are very different then it would indicate a problem with how you conducted your investigation.

If you repeat your results you will need to decide how to record this.

Your task

After you have decided what you are going to investigate, your task is to carry out the investigation and record your data.

For now, you don't need to do anything with the data – we will use it in next week's lesson.