



Science

Animals Including Humans



Exercise Investigation



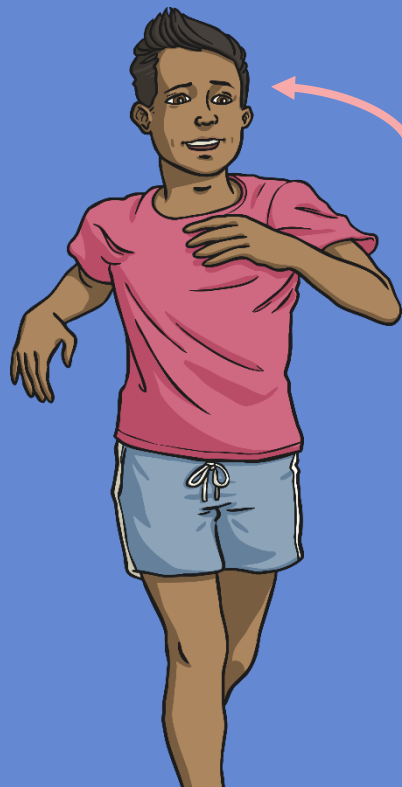
Success Criteria

- I can conduct an experiment.
- I can write a report about my findings that includes a conclusion

Exercise



For a short video about the importance of exercise



Click me!

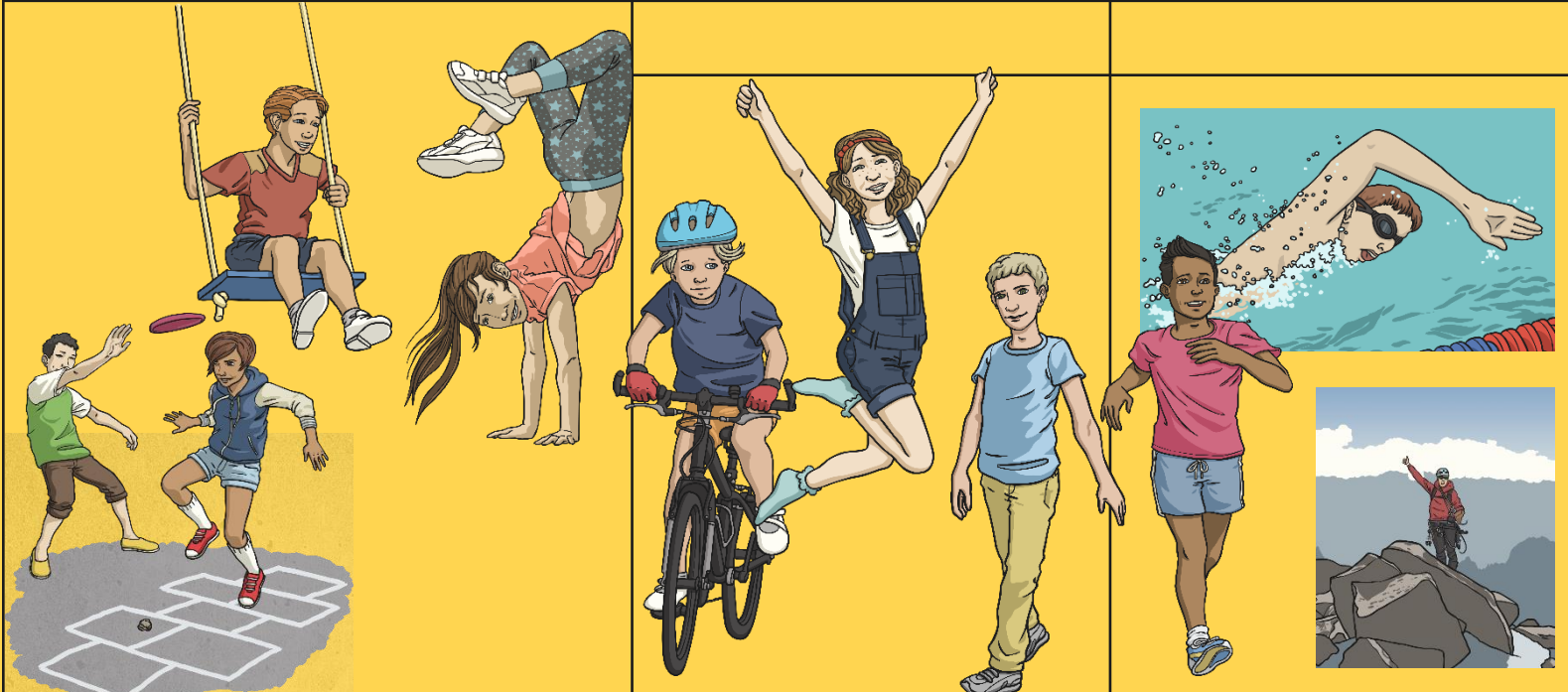
Exercise

What Counts?



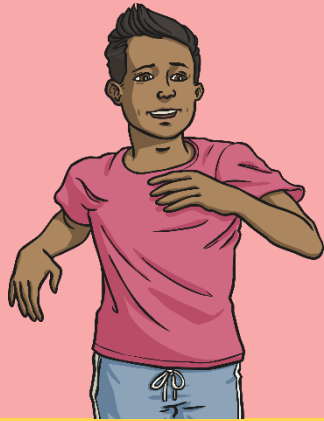
How much can you recall about what exercise is and the different types of exercises?
Exercise is physical activity that

There are two main types of exercise:



Exercise Investigation

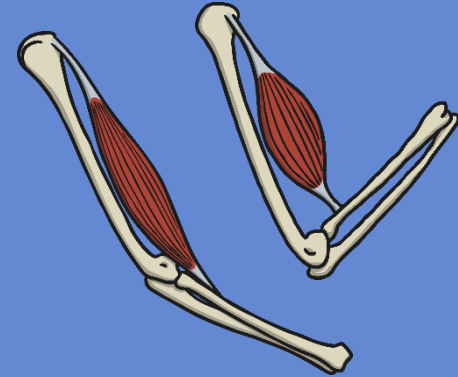
You will be creating an investigation about exercise. Before you start - look at the definition of exercise:



Requires effort



Raises your heart rate



Works your muscles

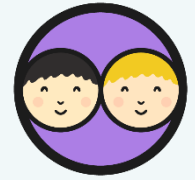
Of these three, only one, the heart rate, can be measured accurately.

The amount of effort spent on an activity is subjective; it will depend on the activity and will differ from person to person.

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.

Pulse

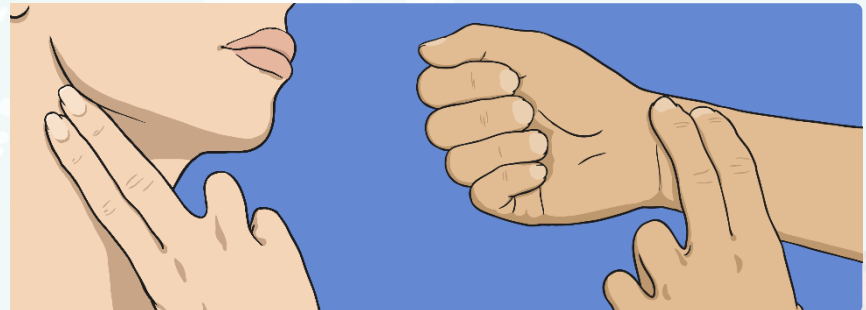


You can measure your heartbeat by measuring your pulse. Your pulse is also known as your heart rate. It is the number of times your heart beats in a minute. You can measure it by taking your pulse for a minute, or count for 30 seconds and multiply by 2.

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 its 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 Your Investigation



You are going to investigate the effect of exercise on your pulse rate.

- You will need to decide on the type of exercise you are going to do.
- You will need to take your resting pulse rate before beginning your exercise, make sure you record it on the sheet!
- You will then need to take it again after you have completed the exercise and again, record it on the sheet.

You can ask your family members to get involved and record their pulse rate before and after exercising.

You then need to use your findings to write a conclusion to the question: 'What effect does exercise have on the pulse rate?'

Extension – Can you think of why exercise may have this effect on a person's pulse?

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.



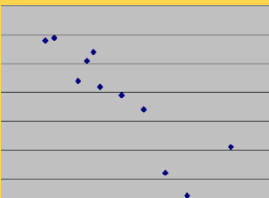

One of the problems with comparing exercises is that, if you do it too soon after the previous activity, the heart rate will already have been increased. This will affect your results. Be sure to leave enough time between exercises for your subject to return to their resting heartbeat.

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.

Present Findings

Now that you have your results you need to decide how to present them. There are a number of different ways to show your data using graphs and charts.

Type of graph or chart	Illustration	Uses of the graph or chart
Bar Graph		Uses bars to show how many. Allows for easy comparison between two categories.
Line Graph		Shows changes over time
Scatter Graph		Compares data to see if there is a relationship between the independent and a dependent variable – i.e. a positive or negative correlation.
Pie Chart		Shows both the parts and the whole picture of the data. Used to represent percentages.

Go back to your data and decide which graph is most appropriate for your data.

