

Improving your GCSE coursework: science

Did you know?

- Your science coursework is worth 20% of your final marks. Doing well could make the difference between a grade C and a grade D.
- There are four skill areas: planning, obtaining evidence and analysis, each of which has maximum marks of 8; evaluation has a maximum mark of 6.
- You can get marks for whole investigations or shorter pieces of work that concentrate on one or two skills.
- You must have at least one whole investigation in your coursework.

Don't waste your effort!

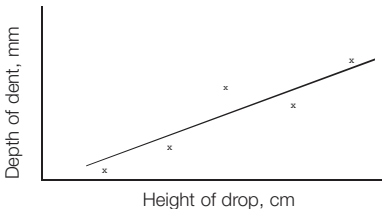
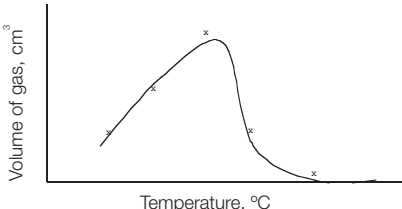
- Finish your writing up as soon as possible. The longer you leave it, the harder it is to remember what happened.
- Hand it in straight away - lost coursework doesn't get any marks.

Hints and tips

- Look at the marks you have gained so far.
- Talk to your teachers. Show them what you have written; they will help you. Remember, though, the work must be entirely your own.
- Make sure you know what you need to do in each skill area to improve your mark. Use the checklists below. Ask a friend or parent to read through your work to see if you have covered each point as well as you can. They may spot mistakes that you have not seen.

Planning	
Have you:	For example:
Made a prediction and used scientific ideas to explain it?	<i>I think the reaction will go faster with the stronger acid because there are more acid particles to react with the limestone.</i>
Explained how your investigation will be fair?	<i>I will keep the current the same for each different number of turns on the coil.</i>
Planned to collect enough results?	<i>I will drop the masses onto the modelling clay from five different heights between 20 and 200 cm.</i>
Used the most suitable equipment to collect accurate results?	<i>I will use a digital ammeter to measure the current to the nearest 0.1 of an amp.</i>
Tried out the experiment before starting, to check that the apparatus and method will work?	<i>I will try out the experiment with the strongest acid to help decide what size of measuring cylinder I will need.</i>
Checked the reliability of the results by repeating the experiment?	<i>I will repeat my measurements at each temperature three times so that I can take an average.</i>

Obtaining evidence	
Have you:	For example:
Got at least five sets of results and repeated your readings or sampling so you can take an average?	<p><i>I collected volumes of gas at at least five different temperatures and I did each experiment three times. I recorded my experiment in my results table and worked out an average for each temperature.</i></p> <p><i>I sampled dandelions at five different places on the field and at each place I sampled three times. I recorded each sample in a results table and worked out the average for each place.</i></p>

Analysis, explanation and conclusions		
Have you:	For example:	
Plotted a line graph with a line of best fit (if this is appropriate)?		
Described the pattern in your results?	<i>As the height increased the depth of the dent in the modelling clay increased.</i>	<i>As the temperature increased, to start with more gas was produced until around 55 °C when the amount of gas suddenly dropped.</i>
Written a conclusion (what your results show) that explains the pattern of your results and includes your science knowledge?	<i>Greater heights cause deeper dents because as the mass falls it accelerates so it is going faster and has more energy when it hits the clay.</i>	<i>This enzyme worked quickest at around 55 °C. This is because, to start with, like all chemical reactions, the enzyme reaction goes faster as the temperature increases because the particles move faster.</i>
Explained how well your results match your prediction?	<i>This is what I predicted would happen.</i>	<i>I predicted that the reaction would get faster as the temperature rose but this did not happen because above 55 °C the enzyme was denatured and stopped working.</i>

Evaluation	
Have you:	For example:
Identified any unusual (anomalous) results and offered a scientific explanation for why this may have happened (if you can)?	<i>The result at 60 cm was higher than I expected. This may have happened because the modelling clay had warmed up and become softer.</i>
Explained whether your results are accurate or not, and why?	<i>My results for the depth of the dent were not very accurate because it was difficult to get my ruler into the dent.</i>
Explained whether your results are reliable or not, and why?	<i>Looking at my results table I can tell that my results are quite reliable because when I took the readings three times the measurements were all quite close together.</i>
Made some suggestions about how you could improve your experiment if you did it again?	<i>If I did the experiment again I would use a new block of modelling clay each time so that the clay doesn't need to be handled between experiments and the temperature will be the same each time.</i>