Science - activities you can do from home!

KS5

Describe how to draw error bars on a graph. 10 POINTS	What's the difference between a systematic and a random error? 10 POINTS	Choose a required practical and list the independent, dependent and control variables. 10 POINTS	Condense a topic onto one revision card. 10 POINTS	Choose a piece of apparatus and write a set of instructions on how to use it accurately. 10 POINTS	Design a board game using maths questions as part of the game. 10 POINTS	Choose five pieces of apparatus that measure volume and discuss the resolution of each. 10 POINTS	Write an end of topic test for someone in your class on your most recent topic. 10 POINTS	Write a 6-mark extended response question and a mark scheme. 10 POINTS	Explain the difference between significant figures and decimal places. 10 POINTS
Choose a required practical and sketch a graph of the expected results. 10 POINTS	Find a science-based news story published in the last seven days that you find interesting. Write a summary of it. 10 POINTS	Investigate 10 potential science careers which make use of your A Level choices. 10 POINTS	Pick a profession or career and try and list as many ways science might be used in that job. 10 POINTS	Choose a controversial topic in science and explain the ethical and moral issues surrounding it. 10 POINTS	Design a new enquiry investigating a question of your choice. 10 POINTS	Give definitions of the following terms: dependent, independent and control variable. 10 POINTS	What is an anomaly? How would you identify an anomalous result in a table and in a graph? 10 POINTS	Explain the difference between a control variable and an experimental control. 10 POINTS	Explain the difference between repeatability and reproducibility. 10 POINTS
Discuss how you would determine if an experiment gives valid results. 10 POINTS	Describe how to convert a number into standard form. 10 POINTS	Describe how to convert between a fraction and a percentage. Choose a fraction and show your method. 10 POINTS	Write a list of all the equations you could be expected to recall and apply. 10 POINTS	Metres are a unit of length. Choose a number and convert it from metres to millimetres, micrometres and nanometres. 10 POINTS	Why are indices important? Describe where indices are used in your specification. 10 POINTS	Choose an article from https://www.newscientist.com/section/news/ Think of 5 questions you have after reading the article. 10 POINTS	Choose a topic and condense it into Cornell notes. 10 POINTS	Write a set of rules to draw a line graph. 10 POINTS	Describe the difference between qualitative and quantitative date. Explain how both can be processed. 10 POINTS
Choose an article from http://www.sciencedaily.com Think of 5 questions you have, after reading the article. 10 POINTS	Research the question "What is science?". 10 POINTS	Write a set of rules to draw a bar graph. 10 POINTS	Metres are a unit of length. Choose a number and convert it from metres to millimetres, micrometres and nanometres. 10 POINTS	Audit you learning this year. Give each topic a mark out of 10 for your confidence and create a list of topics on which you need to improve. 10 POINTS	Write a list of revision techniques that help you learn. 10 POINTS	Describe the method for drawing a line of best fit. 10 POINTS	Choose 5 equations and learn them. 10 POINTS	Kilograms are a unit of mass. Choose a number and convert it from kilograms to grams and tonnes. 10 POINTS	Discuss how you would determine if a newspaper article on a scientific topic is a reliable source of information. 10 POINTS
Choose a required practical and prepare a results table. 10 POINTS	Evaluate your learning this year. What strategies are helpful to you. How could you improve further next year? 10 POINTS	What does the term resolution mean? Give examples of measuring instruments and their resolutions. 10 POINTS	Give definitions of the following terms: hazard, risk and control measure. 10 POINTS	What does proportional mean? Sketch a graph showing a proportional relationship. 10 POINTS	Choose an article from https://www.newscientist.com/section/news/ that interests you and summarise the key findings. 10 POINTS	Choose a topic and design an investigation to answer a question you have about the topic. 10 POINTS	Write a list of all the equations you will be given and expected to apply in an exam. 10 POINTS	Choose a required practical. Write a hypothesis and method to extend your understanding of this practical. 10 POINTS	Explain the difference between accuracy and precision. 10 POINTS
Use the idea of throwing darts at a dartboard to explain the difference between accuracy and precision. 10 POINTS	Describe how to calculate a percentage uncertainty. 10 POINTS	Watch the following video: https://www.youtube.com/watch?v=5Eg_Gzz3hXY Summarise how to read a scientific paper. 10 POINTS	Write a cover letter for a job in science. Explain which skills you have that would make you perfect for the job. 10 POINTS	Choose a required practical, list the potential sources of inaccuracy and describe how to make the results more accurate. 10 POINTS	What's the difference between a random uncertainty and a systemic uncertainty. 10 POINTS	Describe how to convert a number with many decimal places into standard form. 10 POINTS	Choose an article from https://www.newscientist.com/section/news/ Design an investigation to further your understanding of the topics involved. 10 POINTS	Find an app that is useful for your course. Download it and spend 20 minutes using it. 10 POINTS	Download a past paper, answer and self-assess the first 3 questions. 10 POINTS
Choose a topic and write 10 multiple choice questions on it. 10 POINTS	Write as much as you can on a chosen topic. Review your notes, then add to your writing. 10 POINTS	Choose an article from http://www.sciencedaily.com Choose three scientific concepts in the story that you are unfamiliar with. Find out what they mean. 10 POINTS	Give definitions of the following terms: range, resolution and anomaly. 10 POINTS	What does the term repeatable mean? 10 POINTS	Chose a topic and design a crossword, including the clues for it. 10 POINTS	Describe how to convert between a ratio and a percentage. Choose a ratio and show your method. 10 POINTS	Choose an article from https://www.newscientist.com/section/news Find three pieces of additional information on a key word mentioned in the article. 10 POINTS	Chose an equation and practise changing the subject. 10 POINTS	Give definitions of the following terms: true value and uncertainty. 10 POINTS
Write a multiple choice quiz that tests a student's understanding of mathematical skills. 10 POINTS	Explain why standard form is useful. 10 POINTS	Create an A4 poster explaining a topic of your choice. 10 POINTS	Research how a scientific paper is written. 10 POINTS	Choose an article from http://www.sciencedaily.com that interests you and summarise the key findings. 10 POINTS	What does the expression "validity of experimental design" mean? 10 POINTS	What does directly proportional mean? Sketch a graph showing a directly proportional relationship. 10 POINTS	Create a Kahoot quiz for a topic you have studied in science this year. 10 POINTS	Discuss how you would determine if an experiment gives reliable results. 10 POINTS	Write a multiple choice quiz that tests a student's understanding of practical skills. 10 POINTS
Evaluate the need for a scientist to have good communication skills. 10 POINTS	Explain the meaning of the terms parallax error and zero error using examples. 10 POINTS	Describe how to convert between a percentage and a fraction. Chose a percentage and show your method. 10 POINTS	Explain why it is important for scientists to share their data. 10 POINTS	What does the term reproducible mean? 10 POINTS	Choose a required practical and carry out a risk assessment identifying the hazards, risks and control measures. 10 POINTS	Describe how to convert a large number into standard form. 10 POINTS	Evaluate the need for a scientist to have good mathematical understanding and skills. 10 POINTS	Research how a scientific poster is presented. 10 POINTS	Explain the difference between a hazard and a risk. 10 POINTS
What does inversely proportional mean? Sketch a graph showing an inversely proportional relationship. 10 POINTS	Create a board game based on a topic from this term. It should test skills and knowledge. 10 POINTS	Write a multiple choice quiz that tests a student's understanding of a required practical. 10 POINTS	Choose a required practical. Evaluate and suggest improvements to the method. 10 POINTS	Choose an article from http://www.sciencedaily.com Design an investigation to further your understanding of the topics involved. 10 POINTS	Explain the difference between a measurement error and a systematic error. 10 POINTS	Research a career that you are interested in. What scientific skills or qualifications are required? 10 POINTS	Identify an example of a 'redacted' journal paper. Explain why it was redacted. 10 POINTS	Choose any topic and make a spider diagram to summarise your knowledge. 10 POINTS	Choose an article from http://www.sciencedaily.com Choose a keyword you find the most interesting. From one or more other websites, find three pieces of additional. 10 POINTS