
Introduction

Quantitative Skills and the AP Science Courses

Each AP science course (biology, chemistry, environmental science, and the four physics courses) focuses on the development of quantitative skills such as using measurements, gathering and evaluating data, using quantitative evidence to support claims, and connecting empirical information to scientific theory. In each AP science course you take, you will perform several hands-on college-level investigations and other activities that are designed not only to meet the learning objectives for the course *but also to give you multiple opportunities to acquire, develop, and apply these quantitative skills*. By the end of a course, you will be able to successfully organize and work with data so that you can effectively communicate your conclusions. You will be able to think and act like a scientist!

How to Use This Guide

This guide is designed to be used as a reference as you navigate various AP science courses; you can use it to refresh your memory on how to perform calculations on the Equations and Formulas sheet for your course as you are completing classroom or at-home assignments. It is not meant to be a comprehensive guide to quantitative analysis, a substitute for your textbook and/or classroom instruction, or a review for the AP Exam.

The first two chapters, Chapter 1: Collecting and Reporting Data and Chapter 2: Data Analysis, contain general information that is relevant to all AP science courses, along with examples. These chapters are followed by additional chapters that contain course-specific quantitative-skills information for AP Biology, AP Chemistry, AP Environmental Science, AP Physics 1, AP Physics 2, AP Physics C: Mechanics, and AP Physics C: Electricity and Magnetism.

Throughout this guide, you will find hyperlinks to videos from Khan Academy that you can use for additional help when you need it. Each hyperlink is also accompanied by a QR code that you can use to access a video with a smartphone or tablet, which will be helpful if you are using a hard copy of this guide. You may use any QR reader app (many are free) to read the codes.