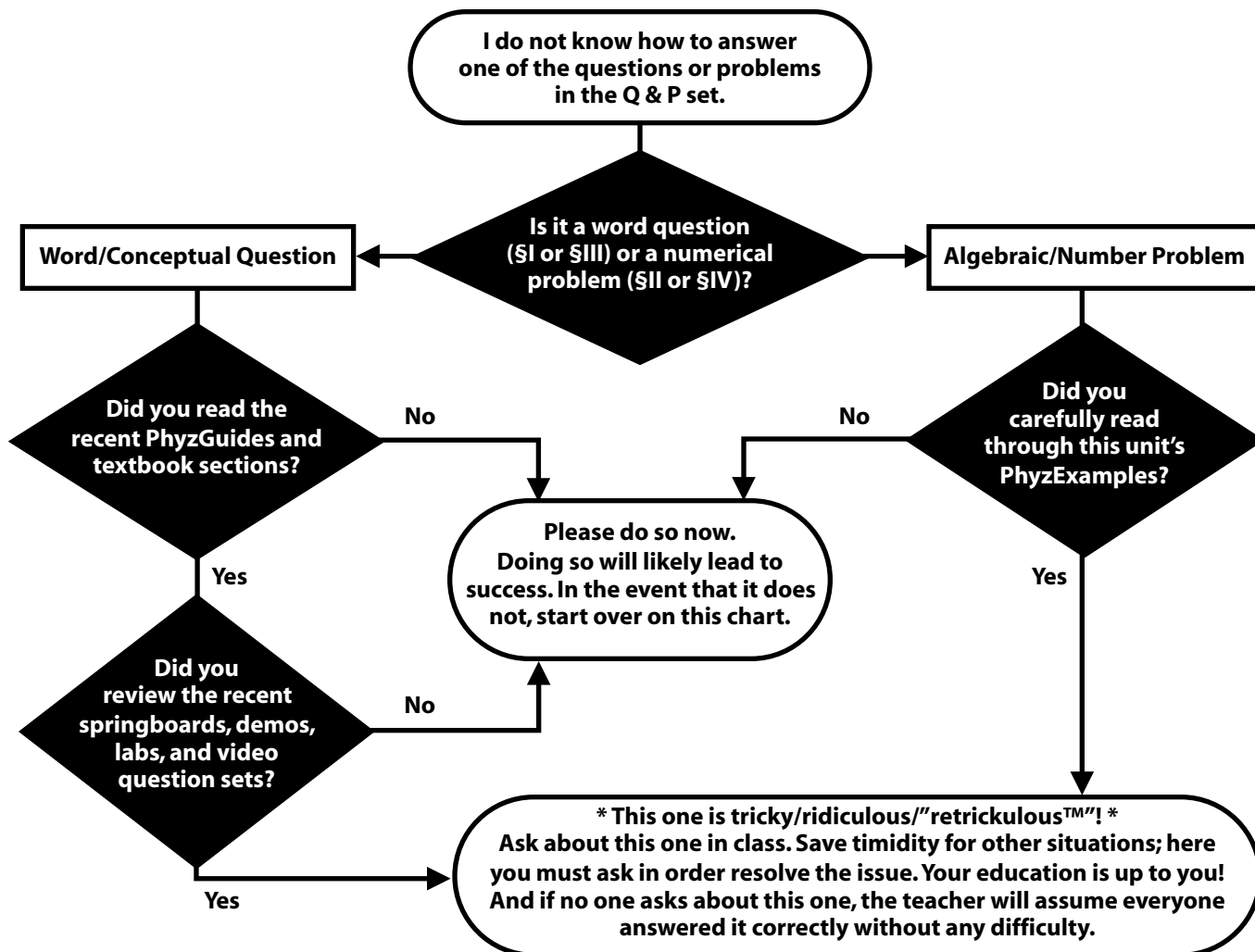


How to get unstuck on physics homework *and why you must!*



Completing homework is the process in which course material is internalized.

Material is **not** internalized via passive techniques. Watching and listening to the teacher during in-class lessons provides an essential **exposure** to course content. Reading the textbook and PhyzGuides provides important exposure, too.

But the material does not become yours until you've been faced with questions and problems and have gone through the process of determining the answers.

Copying answers from friends or the back of the unit schedule is **completely ineffective**. It's like memorizing the eye chart before seeing the optometrist: you will appear to pass the test with flying colors while completely defeating the purpose of the test.

Questions on unit tests accurately reflect those given in the homework. Students who actively engage in daily assignments do very well on unit tests. Students who do poorly on unit tests are those who do not actively engage in daily assignments.

Those who choose to actively engage will find many resources and people available to help them. A list of ways to engage is included on the back. The option not to engage is always available, but it is a bad choice. Those who chose it elect to fail alone; no one can or will undo the consequences of that choice.

ELEMENTS OF SUCCESS IN PHYSICS

The list that follows includes activities that successful physics students (and students who want to become more successful) engage in. For students hoping to improve their performance, nothing is as important as keeping up with daily assignments. Nothing. The rest of the list includes important elements, but there is no substitute for working through the material on one's own.

1. Question & Problem Set assignments - Daily assignments are completed the day they are assigned. Any item left unanswered is to be asked about in class.

2. Test Correction Journal - The test from the last unit is reviewed. Subsequent quiz allows for regaining up to half the points lost on the test.

3. Notesheet - A blank sheet is stamped the day before the test. Notes are written down for use during the test.

4. Sample test questions - Practice test questions are posted on www.phyz.org. Engaged students always take the "PracTest" (practice test) before taking the "AcTest" (actual test).

5. PhyzGuides - Content information handouts given out in class.

6. Springboards - Outlines of classroom discussions. Always started in class; sometimes completed outside of class.

7. PhyzJobs - Occasional worksheet (typically a series of questions or calculations) to be completed in class or at home.

8. Equipment - Pencil, paper, calculator, protractor + ruler, and binder.

9. Textbook - *Conceptual Physics* by Paul G. Hewitt in Physics. *Essentials of College Physics* by Serway and Vuille for AP Physics. Relevant chapters and sections are listed on each unit schedule.

10. a. Student tutoring - Students who have completed physics and some who have also completed AP Physics, available to assist with homework.

b. Mr. Baird - Available for help outside of class per the weekly schedule posted in the classroom.

11. Checking answers - Answers to Q & P Items are on the back of the unit schedule; Springboards and Jobs are posted at www.phyz.org.

12. In-class notes - Engaged students write down important information that is written on the board or spoken by the instructor.

13. Labs - Engaged students are involved in arranging apparatus, carrying out the procedure, completing calculations and answering questions.

14. Demonstrations - Engaged students write and draw thoughtful predictions, discuss them with classmates, and record outcomes with explanations.

15. Videos - Engaged students concentrate on presentations so that they can correctly answer accompanying questions during the presentation.

16. Hewitt Drew It! YouTube Screencasts - See the unit schedule to find which ones are recommended. Then direct your browser to <http://www.phyz.org/hewittdrewit> and navigate to specific screencasts, or search for "Hewitt Drew It" followed by the specific title given.

17. Physics crossword puzzles. These are low-level amusements intended to reinforce physics vocabulary. Optional, but sometimes helpful.