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Resource: The Torch or the Firehose
Arthur Mattuck

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Summary

Preparing for Class 18–19

- Study lecture notes; earmark possible difficulties, prepare explanations. If students had to do problems, look at them, be sure you can do them. For work to be handed in later, think about what help you could legally offer: analogous problems, partial explanations.
- What will interest your students? Look in other books for material, ask teachers. Look for connections to the real world and their lives.
- Prepare some good thought- or discussion-provoking questions to ask; choose one or two easy things to get the class started off.
- Divide up the class time; plan varied activities.
- Set priorities: what to be sure to do, what to do if there is time.

In Class 22–27

- Arrive early, stay late, but hold class only within the allotted times.
- If there is work to hand back, start this early, reading names aloud. Outline goals for the period: orally, or write them on the board.
- Get them thinking from the beginning, with questions, problems, or seatwork; if seatwork, walk around observing and helping.
- If you wish, experiment with group work; you choose the presenter.
- Try asking them at the end to write down (anonymously) what they learned that period and what is still unclear.
- Tell them what you will do next time; encourage them to prepare.

Pedagogical points 20–21

- Start with the problem, not the solution.
- Outline the overall strategy; keep reminding students of where each part of the solution fits in; review the whole at the end.
- Introspect to see where the ideas came from; how did you choose where to start, how should they know? How should they choose among the methods?
- Tell students what sort of things you expect them to be able to do.
- Go from easy to harder; start with simplified models and methods.
- Use the sandwich method to explain general principles; be generous with examples.

Your questions 12–15

- Small questions can be spontaneous; bigger ones should be prepared.
- Repeat and discuss questions to make sure they are understood; allow time for thinking and discussion.
- Make sure the questions are pointed and clear; if in doubt, ask the students.
- Be supportive of student answers, even (or especially) if wrong.
- Cold-call on them as needed, or to get the silent ones to talk, but be kind. Use judgment and tact in tailoring the question to the student.

Their questions 10–12	<ul style="list-style-type: none"> • Repeat them yourself and make sure everyone has heard and understood; refuse to have private conversations during class. • Listen carefully; make sure you yourself understand what is being asked. Enlist the help of other students in deciphering a vague question. Don't bluff; if stuck, ask for help from others; promise the answer for next time. • Be supportive of the question, even if you think it is poor or silly.
Communication skills 30–37	<ul style="list-style-type: none"> • Maintain eye contact while talking and listening. • Voice: use audiotape or videotape, check inflection, pace, volume, mannerisms, emotionality, accent. • Speaking: avoid sarcasm, use of "obvious" or "trivial" language that reflects stereotypes. • Blackboard: first of all, use it; write just enough so it is intelligible by itself. Use the panels in order, don't erase too soon; see other advice. Learn to use it: see suggestions on how to do this (p. 35) • Overheads and slides: use occasionally as an adjunct; watch for pitfalls.
Promoting interaction 5–9	<ul style="list-style-type: none"> • Start with exercises (seatwork, simple questions) to get thinking started. • Prepare questions in advance; cold-call if needed to get participation. • Acknowledge if they are behind and deal with it somehow (find out first where they have gotten to). Get them to prepare by announcing what you will do next time. • Check your communication skills, via audiotape or videotape. • Avoid steamrolling your students: less is more. • Ask for feedback, oral or anonymously written, if things aren't going well, or even if they are. • Know who your students are: learn and use names.
Early in the term 27–29	<ul style="list-style-type: none"> • If comfortable, talk about yourself; if ill-at-ease, go quickly to the material of the course after giving them the essentials. • Find out their background, via diagnostic questions, short quizzes, class discussion. • Learn names (see the various techniques for doing this); give seating expectations, if any. • Circulate list of names and addresses; set up office hour appointments.
Assignments, Exams 38–41	<ul style="list-style-type: none"> • Grade them promptly, giving partial credit. • If relevant, give out answer sheets to avoid spending a lot of grading time writing extensive comments and a lot of class time going over the work. • Make expectations about working together clear and enforce them.
Special students 47–48, 52–55	<ul style="list-style-type: none"> • For a variety of reasons, under certain circumstances, some students deserve special attention, while others demand or require it. See the chapters on "invisible" students and "problem" students.