

# Chapter 6

## Preparing for and Taking Tests

### Where Are You Now?

Assess your present knowledge and attitudes.

	Usually	Sometimes	Seldom
1. I do well on exams.			
2. Exams make me very nervous and anxious.			
3. I study for exams at the last minute.			
4. I feel confident going into tests or exams.			
5. When we get pop quizzes, I do OK.			
6. I remember what I've studied long after studying for an exam.			
7. I am overwhelmed by the amount of material I have to study for an exam.			
8. I run out of time when taking exams.			
9. I write good responses to essay questions.			
10. I "draw a blank" during an exam on material I know.			
11. I have trouble really understanding what the instructor is looking for on a test.			
12. I lose points for stupid mistakes.			

### Where Do You Want to Go?

Think about how you answered the questions above. Be honest with yourself. On a scale of 1 to 10, how would you rate your preparation for tests at this time?

Prepare for tests poorly					Prepare for tests well				
1	2	3	4	5	6	7	8	9	10

On a scale of 1 to 10, how would you rate your test-taking skills at this time?

A poor tester					An excellent tester				
1	2	3	4	5	6	7	8	9	10

In the following list, circle the three most important areas in which you think you can improve:

- Reducing test anxiety
- Cramming for exams
- Using study time more effectively
- Feeling confident for an exam

- Staying focused while studying
- Using my time effectively during an exam
- Selecting the right things to study
- Answering multiple-choice questions
- Selecting the best time and place to study
- Answering short answer questions
- Working in effective study groups
- Answering essay questions
- Studying from my notes
- Taking oral exams/giving presentations as exams
- Studying from my text
- Taking online exams

Are there other areas in which you can improve your test preparation and test taking? Write down other things you feel you need to work on.

---

---

---

## How to Get There

Here's what we'll work on in this chapter:

- Knowing what exams really are and why the right attitude about them is important for your college success
- Discovering how studying for and taking tests fit in to the learning cycle
- Dealing with test anxiety
- Learning when, where, and how to study
- Recognizing types of tests and types of test questions
- Learning tips for multiple-choice, true-or-false, fill-the-blank, matching, short answer, and essay questions
- Applying general strategies for tests and exams
- Applying strategies for math and science tests

## Tested at Every Turn

Testing is a part of life. Have you ever participated in an athletic event? Completed a crossword puzzle? Acted in a play? Cooked dinner? Answered a child's question? Prepared a cost estimate? All of these common life situations are forms of tests because they measure how much we know about a specific subject at a single point in time. They alone are not good measurements about how smart or gifted you are—they show only how much you know or can do at that moment. We can learn from how we have performed, and we can think about how to apply what we have learned to do even better next time. We can have fun measuring our progress.

Many of our daily activities are measurements of progress toward mastery of skills or knowledge. We welcome these opportunities as both work and fun. But when these opportunities are part of our academic life, we often dread them and rarely feel any sense of fun. In reality, however, academic tests are similar to real-life tests in the following ways:

- They help us measure our progress toward mastery of a particular skill.
- They are not a representation of how smart, talented, or skilled we are but rather are a measurement only of what we know about a specific subject at a specific point in time.
- They are extraordinary learning opportunities.

Academic tests in college are different from those you took in high school. College instructors expect to see much more of *you* in an exam: your thoughts, your interpretations, your thinking process, your conclusions. High school teachers usually look for your ability to repeat precisely what you read in your text or heard in your class. Success on high school tests relies much more on memorization than on understanding the material. This is why you need to modify your study habits and your strategies for taking exams in college.

Take a look at the learning cycle in [Figure 6.2 "The Learning Cycle: Review and Apply"](#). In this chapter, we cover reviewing and applying the material you learn; preparing for and taking exams is the practical application of this phase.

*Figure 6.2 The Learning Cycle: Review and Apply*



The end and the beginning of the learning cycle are both involved in test taking, as we'll see in this chapter. We will discuss the best study habits for effective review and strategies for successful application of your knowledge in tests and exams. Finally, we will cover how the review and application processes set you up for additional learning.

Let's start at the top of the cycle. You have invested your time in preparing for class, you have been an active listener in class, and you have asked questions and taken notes. You have summarized what you learned and have looked for opportunities to apply the material. You have completed your reading assignments and compared your reading notes with your class notes. And now you hear your instructor say, "Remember the exam

next week.”

A sense of dread takes over. You worry about the exam and what might be on it. You stay up for a couple of nights trying to work through the volumes of material the course has covered. Learning or remembering it all seems hopeless. You find yourself staring at the same paragraph in your text over and over again, but you just don't seem to get it. As the exam looms closer, you feel your understanding of the material is slipping away. You show up to the exam and the first questions look familiar, but then you draw a blank—you're suffering from test anxiety.

## 6.1 Test Anxiety and How to Control It

### LEARNING OBJECTIVES

1. Learn what test anxiety really is.
2. Gain strategies for controlling anxiety.

Take the true-or-false quiz below (circle T for true or F for false). There are no wrong answers.

### ACTIVITY: TESTING YOUR TEST ANXIETY

T	F	I have a hard time starting to study for a test.
T	F	When studying for an exam, I feel desperate or lost.
T	F	When studying for an exam, I often feel bored and tired.
T	F	I don't sleep well the night before an exam.
T	F	My appetite changes the day of the exam. (I'm not hungry and skip meals or I overeat—especially high-sugar items like candy or ice cream.)
T	F	When taking an exam, I am often confused or suffer mental blocks.
T	F	When taking an exam, I feel panicky and my palms get sweaty.
T	F	I'm usually in a bad mood after taking an exam.
T	F	I usually score lower on exams than on papers, assignments, and projects.
T	F	After an exam, I can remember things I couldn't recall during the exam.

If you answered true to any of the statements in the table above, you have suffered some of the symptoms of test anxiety. Most of us have experienced this. It is normal to feel stress before an exam, and in fact, that may be a good thing. Stress motivates you to study and review, generates adrenaline to help sharpen your reflexes and focus while taking the exam, and may even help you remember some of the material you need. But suffering too many stress symptoms or suffering any of them severely will impede your ability to show what you have learned. **Test anxiety** is a psychological condition in which a person feels distress before, during, or after a test or exam to the point where stress causes poor performance. Anxiety during a test interferes with your ability to recall knowledge from memory as well as your ability to use higher-level thinking skills effectively. To learn more about critical thinking and study skills, see [Chapter 3 "Thinking about Thought"](#) and [Chapter 4 "Listening, Taking Notes, and Remembering"](#), respectively.

There are steps you should take if you find that stress is getting in your way:

- **Be prepared.** A primary cause of test anxiety is not knowing the material. If you take good class and reading notes and review them regularly, this stressor should be greatly reduced if not eliminated. You should be confident going into your exam (but not overconfident).
- **Bounce bad vibes.** Your own negative thoughts—“I’ll never pass this exam” or “I can’t figure this out, I must be really stupid!”—may move you into spiraling stress cycle that in itself causes enough anxiety to block your best efforts. When you feel you are brewing a storm of negative thoughts, stop what you are doing and clear your mind. Allow yourself to daydream a little; visualize yourself in pleasant surroundings with good friends. Don’t go back to work until you feel the tension release. Sometimes it helps to take a deep breath and shout “STOP!” and then proceed with clearing your mind. Once your mind is clear, repeat a reasonable affirmation to yourself—“I know this stuff”—before continuing your work.
- **Visualize success.** Picture what it will feel like to get that A. Translate that vision into specific, reasonable goals and work toward each individual goal. Take one step at a time and reward yourself for each goal you complete.
- **It’s all about you!** Don’t waste your time comparing yourself to other students in the class, especially during the exam. Keep focused on your own work and your own plan. Exams are not a race, so it doesn’t matter who turns in their paper first. Certainly you have no idea how they did on their exam, so a thought like “Kristen is already done, she must have aced it, I wish I had her skills” is counterproductive and will only cause additional anxiety.
- **Have a plan and follow it.** As soon as you know that an exam is coming, you can develop a plan for studying. As soon as you get your exam paper, you should develop a plan for the exam itself. We’ll discuss this more later in this chapter. Don’t wait to cram for an exam at the last minute; the pressure you put on yourself and the late night will cause more anxiety, and you won’t learn or retain much.
- **Make sure you eat well and get a good night’s sleep before the exam.** Hunger, poor eating habits, energy drinks, and lack of sleep all contribute to test anxiety.
- **Chill!** You perform best when you are relaxed, so learn some relaxation exercises you can use during an exam. Before you begin your work, take a moment to listen to your body. Which muscles are tense? Move them slowly to relax them. Tense them and relax them. Exhale, then continue to exhale for a few more seconds until you feel that your lungs are empty. Inhale slowly through your nose and feel your rib cage expand as you do. This will help oxygenate your blood and reenergize your mind. [Chapter 10 "Taking Control of Your Health"](#) has more tips for dealing with stress.

## EXERCISE: TALKING BACK TO BOOGIE TALK

You’ve learned how negative thoughts contribute to test anxiety and keep you from doing as well as you can. Take some time to disarm your most frequent offenders. From the following list, select three negative thoughts that you have experienced (or write your own). Then fill in the second and third columns for each statement, as shown in the example.

- I don’t know anything....What’s the matter with me?
- If I fail this test, I’ll flunk the course.
- I should have studied more....I’ll never make it through.
- I just can’t think....Why did I ever take this course?
- I know everyone’s doing better than I am.
- If I fail this test, my dad (or husband/wife, boyfriend/girlfriend, teacher) will be mad. I don’t know how I can face them again.

- I'm going to be the last one done again....I must really be stupid.
- I'm getting really tense again; my hands are shaking....I can't even hold the pen.
- I can't remember a thing....This always happens to me....I never do well on anything.

My boogie statement	How rational is this thought? Do you have any evidence that it is true?	Reasonable reinforcing or affirmation statements you can use to replace it.
<b>Example:</b> I'm drawing a blank....I'll never get the answer...I must really be stupid.	I've missed questions on things that I studied and knew before.	I studied this and know it. I'll visualize where it's written in my notes to help me trigger my memory.

## KEY TAKEAWAYS

- Some stress before a test or exam is common and beneficial.
- Test anxiety is stress that gets in the way of performing effectively.
- The most common causes of test anxiety are lack of preparation and negative attitudes.
- The key to combating test anxiety is to try to reduce stressors to a manageable level rather than try to eliminate them totally.

## CHECKPOINT EXERCISES

1. List three things you should do before a test or exam to combat test anxiety.

---



---



---

2. List three things you can do during an exam to reduce stress.



## 6.2 Studying to Learn (Not Just for Tests)

### LEARNING OBJECTIVES

1. Face tests with confidence, not anxiety.
2. Learn how to use your class and reading notes to learn the material, not just to pass the test.
3. Gain key strategies for effective studying.
4. Form and participate in study groups.

You have truly learned material when you can readily recall it and actually use it—on tests or in real-life situations. Effective studying is your most important tool to combat test anxiety, but more important, effective studying helps you truly master the material and be able to apply it as you need to, in school and beyond.

In [Chapter 4 "Listening, Taking Notes, and Remembering"](#) and [Chapter 5 "Reading to Learn"](#), we set the foundation for effective learning. You learned how to listen and how to take notes. You learned some tricks for improving your memory. You learned how to read actively and how to capture information from written sources. Now we'll follow up on some of those key ideas and take the learning cycle to its conclusion and a new beginning.

The reviewing and applying stage of the learning cycle involves studying and using the material you have been exposed to in your course. Recall that in [Chapter 4 "Listening, Taking Notes, and Remembering"](#) and [Chapter 5 "Reading to Learn"](#) we emphasized the importance of reviewing your notes soon after the class or assignment. This review is largely what studying is all about.

Effective studying is an ongoing process of reviewing course material. The first and most important thing you should know is that studying is not something you do a few days before an exam. To be effective, studying is something you do as part of an ongoing learning process, throughout the duration of the term.

### Studying Every Day

Studying begins after each class or assignment when you review your notes. Each study session should involve three steps:

1. **Gather your learning materials.** Take time to merge your class notes with your reading notes. How do they complement each other? Stop and think. What do the notes tell you about your material? What aspects of the material are you unsure about? Do you need to reread a part of your text? Write down any questions you have for your instructor and pay a visit during office hours. It is better to clear up any misconceptions and get your questions answered soon after you are exposed to the

material, rather than to wait, for two reasons: (1) the question or doubt is fresh in your mind and you won't forget about it and (2) instructors usually build their lessons on material already presented. If you don't take these steps now, you are setting yourself up for problems later in the course.

2. **Apply or visualize.** What does this material mean to *you*? How will *you* use this new knowledge? Try to find a way to apply it in your own life or thoughts. If you can't use the knowledge right away, visualize yourself using the knowledge to solve a problem or visualize yourself teaching the material to other students.
3. **Cement your knowledge.** If you use the two-column note-taking method, cover up the right side of your notes with a piece of paper, leaving the questions in the left column exposed. Test yourself by trying to answer your questions without referring to your notes. How did you do? If you are unsure about anything, look up the answer and write it down right away. Don't let a wrong answer be the last thing you wrote on a subject, because you will most likely continue to remember the wrong answer.

## Studying in Course Units

At the end of each unit, or at least every two weeks or so, use your notes and textbook to write an outline or summary of the material in your own words. (Remember the paragraphs you wrote to summarize each class or reading? They'll be very helpful to you here.) After you have written the summary or outline, go back and reread your outline from the prior unit followed by the one you just wrote. Does the new one build on the earlier one? Do you feel confident you understand the material?

## Studying before the Exam

At least a week before a major exam, ask yourself these questions: What has the instructor said about what is included on the exam? Has the instructor said anything about what types of questions will be included? If you were the instructor, what questions would you ask on an exam? Challenge yourself to come up with some really tough open-ended questions. Think about how you might answer them. Be sure to go to any review sessions the instructor or your section leader holds.

Now go back and review your outlines. Do they cover what the instructor has suggested might be on the exam? After reviewing your outlines, reread the sections of your notes that are most closely associated with expected exam questions. Pay special attention to those items the instructor emphasized during class. Read key points aloud and write them down on index cards. Make flash cards to review in downtimes, such as when you're waiting for a bus or for a class to start.

## More Tips for Success

- **Schedule a consistent study-review time for each course at least once a week,** in addition to your class and assignment time. Keep to that schedule as rigorously as you do your class schedule. Use your study time to go through the steps outlined earlier; this is not meant to be a substitute for your assignment time.
- **Get yourself in the right space.** Choose to study in a quiet, well-lit space. Your chair should be comfortable but provide good support. Remember that libraries were designed for reading and should be your first option.
- **Minimize distractions.** Turn off your cell phone and get away from Facebook, television, other nearby activities, and chatty friends or roommates. All of these can cut into the effectiveness of your study efforts. Multitasking and studying don't mix.



- **If you will be studying for a long time, take short breaks at least once an hour.** Get up, stretch, breathe deeply, and then get back to work. (If you keep up with your daily assignments and schedule weekly review sessions for yourself—and keep them—there should be almost no need for long study sessions.)

## Studying in Groups

Study groups are a great idea—as long as they are thoughtfully managed. A study group can give you new perspectives on course material and help you fill in gaps in your notes. Discussing course content will sharpen your critical thinking related to the subject, and being part of a group to which you are accountable will help you study consistently. In a study group, you will end up “teaching” each other the material, which is the strongest way to retain new material. But remember, being in a group working together doesn’t mean there will be less work for you as an individual; your work will just be much more effective.

Here are some tips for creating and managing effective study groups:

- **Think small.** Limit your study group to no more than three or four people. A larger group would limit each student’s participation and make scheduling of regular study sessions a real problem.
- **Go for quality.** Look for students who are doing well in the course, who ask questions, and who participate in class discussions. Don’t make friendship the primary consideration for who should be in your group. Meet up with your friends instead during “social time”—study time is all about learning.
- **Look for complementary skills and learning styles.** Complementary skills make for a good study group because your weaknesses will be countered by another student’s strengths. When a subject requires a combination of various skills, strengths in each of those skills is helpful (e.g., a group with one student who is really good at physics and another at math would be perfect for an engineering course). Finally, a variety of learning styles is helpful because each of you pick up differing signals and emphases from the instructor that you can share with each other, so you will not likely miss important points.
- **Meet regularly.** When you first set up a study group, agree to a regular meeting schedule and stick to it. Moving study session times around can result in nonparticipation, lack of preparation, and eventually the collapse of the study group. Equally important is keeping your sessions to the allotted times. If you waste time and regularly meet much longer than you agreed to, participants will not feel they are getting study value for their time invested.
- **Define an agenda and objectives.** Give your study sessions focus so that you don’t get sidetracked. Based on requests and comments from the group, the moderator should develop the agenda and start each session by summarizing what the group expects to cover and then keep the group to task.
- **Include some of the following items on your agenda:**
  - Review and discuss class and assignment notes since your last meeting.
  - Discuss assigned readings.
  - Quiz each other on class material.
  - “Reteach” aspects of the material team participants are unsure of.
  - Brainstorm possible test questions and responses.
  - Review quiz and test results and correct misunderstandings.
  - Critique each other’s ideas for paper themes and approaches.
  - Define questions to ask the instructor.

- **Assign follow-up work.** If there is any work that needs to be done between meetings, make sure that all team members know specifically what is expected of them and agree to do the work.
- **Rotate the role of moderator or discussion leader.** This helps ensure “ownership” of the group is spread equally across all members and ensures active participation and careful preparation.

### KEY TAKEAWAYS

- Effective studying happens over time, not just a few days before an exam. Consistent and regular review time helps you learn the material better and saves you time and anguish as exam time approaches.
- The following are three steps to follow in each study session:
  - Gather your knowledge.
  - Apply or visualize your knowledge.
  - Cement your knowledge.
- Study groups are a great idea—provided they are thoughtfully managed.

### CHECKPOINT EXERCISES

1. What do we mean by “gathering your knowledge”?

---

---

2. What study habits recommended in this section do you want to develop or improve? What specific steps will you take to start working on them?

---

---

---

---

3. Think of your toughest course. Which students in that class would you want to include in a study group? Why?

---

---

---

---

## 6.3 Taking Tests

## LEARNING OBJECTIVES

1. Understand the kinds of tests you will take in college and how you can learn from them.
2. Learn general strategies to apply when taking tests and quizzes.

### Types of Tests

All tests are designed to determine how much you know about a particular subject at a particular point in time. But you should be aware of differences in types of tests because this will help guide how you prepare for them. Two general types of tests are based on their objectives, or how they are intended to be used: **formative assessments** and **summative assessments**.

Formative assessments include quizzes, unit tests, pop quizzes, and review quizzes from a textbook or its Web site. Their main objective is to make sure you know the fundamental material before moving on to more challenging topics. Because these quizzes usually don't count much toward your final grade, many students think they are not very important. In fact, these quizzes are very important, particularly to you; they can help you to identify what you know and what you still need to learn to be successful in the course and in applying the material. A poor result on a quiz may not negatively affect your final grade much—but learning from its results and correcting your mistakes *will* affect your final grade, on the positive side, when you take midterms and finals! More on this in [Chapter 6 "Preparing for and Taking Tests"](#), [Section 6.6 "Using Test Results"](#).

Summative assessments include midterms and finals. They are used by the instructor to determine if you are mastering a large portion of the material, and as such, they usually carry a heavy weight toward your final grade for the course. Because of this, they often result in high levels of test anxiety and long study periods.

In addition to this classification by objective, tests can also be grouped into various categories based on how they are delivered. Each type has its own peculiar strategies.

- **Paper tests** are still the most common type of test, requiring students to write answers on the test pages or in a separate test booklet. They are typically used for in-class tests. Neatness and good grammar count, even if it's not an English exam. Remember that the instructor will be reading dozens of test papers and will not likely spend much time trying to figure out your hieroglyphics, arrows, and cross-outs.
- **Open-book tests** allow the student to consult their notes, textbook, or both while taking the exam. Instructors often give this type of test when they are more interested in seeing your thoughts and critical thinking than your memory power. Be prepared to expose and defend your own viewpoints. When preparing, know where key material is present in your book and notes; create an index for your notes and use sticky notes to flag key pages of your textbook before the exam. Be careful when copying information or formulas to your test answers, because nothing looks worse in an open-book exam than misusing the material at your disposal.
- **Take-home tests** are like open-book tests except you have the luxury of time on your side. Make sure you submit the exam on time. Know what the instructor's expectations are about the content of your answers. The instructor will likely expect more detail and more complete work because you are not under a strict time limit and because you have access to reference materials. Be clear about when the test is due.

(Some instructors will ask you to e-mail your exam to them by a specific time.) Also find out if the instructor allows or expects you to collaborate with classmates. Be sure to type your exam and don't forget to spell-check!

- **Online tests** are most commonly used for formative assessments, although they are starting to find their way into high-stakes exams, particularly in large lecture classes that fulfill a graduation requirement (like introductory psychology or history survey courses). The main advantage of online tests is that they can be computer graded, providing fast feedback to the student (with formative tests) and allowing the instructor to grade hundreds of exams easily (with summative assessments). Since these tests are computer graded, be aware that the instructor's judgment is not involved in the grading. Your answers will be either right or wrong; there is no room for partially correct responses. With online tests, be sure you understand the testing software. Are there practice questions? If so, make sure you use them. Find out if you will be allowed to move freely between test sections to go back and check your work or to complete questions you might have skipped. Some testing software does not allow you to return to sections once they are "submitted." Unless your exam needs to be taken at a specific time, don't wait until the last minute to take the test. Should you have technical problems, you want to have time to resolve the issues. To avoid any conflicts with the testing software, close all other software applications before beginning the testing software.
- **Electronic tests in the classroom** are becoming more common as colleges install "smart classrooms" with technology such as wireless "clicker" technology that instructors may use to get a quick read of students' understanding of a lecture. This testing method allows for only true-or-false and multiple-choice questions, so it is rarely used for summative assessments. When taking this kind of quick quiz, take notes on questions you miss so that you can focus on them when you do your own review.
- **Presentations and oral tests** are the most complete means for instructors to evaluate students' mastery of material, because the evaluation is highly interactive. The instructor can (and likely will) probe you on certain points, question your assumptions, or ask you to defend your point of view. Make sure you practice your presentation many times with and without an audience (your study group is good for this). Have a clear and concise point of view and keep to the allotted time. (You don't want to miss delivering a killer close if your instructor cuts you off because you weren't aware of the time!) [Chapter 7 "Interacting with Instructors and Classes"](#) covers public speaking and class presentations in more detail. Use the same strategies in oral exams.

## Tips for Taking Tests

You've reviewed the material for a test and feel confident that you will do well. You have brought your test anxiety into control. What else can you do to ensure success on a test? Learn and apply these top ten test-taking strategies:

1. **Learn as much as you can about the test.** What has the instructor told you about the test? Will it be open book? What types of questions will be on it? Are there parts of the test that will be worth more points than others? Will it be cumulative or just cover the most recent material? Will you have choices about which questions to answer?
2. **Try to foresee the questions likely to be on the test.** What kinds of questions would you include if you were the instructor? Brainstorm possible questions with your study group. Look for possible questions in your notes. Review past quizzes and tests

to see what kinds of questions the instructor likes to ask. Above all, take it seriously whenever your instructor warns, “This will be on the test.”

3. **Don't be tempted to stay up late cramming. Get some exercise and watch what you eat.** Cramming is not a substitute for doing your assignments and studying consistently over time. It is far more important to get a good night's sleep and face your test fresh and well rested. A good workout the day before an exam will help you be fresh and stay focused during the exam (provided you already like to work out; if not, find time to take a long walk). A healthy diet the night before and the day of the exam will give you energy and concentration to do well on the exam. Include “brain foods,” such as those rich in omega-3 oils, and avoid “heavy” foods that are rich in fat and sugar. (After the exam, you can celebrate with a cheeseburger, fries, and milkshake—but not before the exam!)
4. **Get to the test site early.** Take out all your allowable tools (pencils, pens, calculator, etc.). Turn off your cell phone (yes, all the way off, not on vibrate) as a way of disconnecting from your everyday world. Do some of the relaxation exercises described earlier for controlling test anxiety.
5. **Create a test plan.** Listen carefully to the directions given by the instructor. When you receive your test, scan the entire test first. Evaluate the importance of each section. Then create a time allocation plan. Decide how much time you should dedicate to each section. You don't want to spend 80 percent of your time on a question worth 10 percent of the grade.
6. **Write it down.** Take a couple minutes to write down key facts, dates, principles, statistics, and formulas on a piece of scratch paper or in the margin of the exam paper. Do this while you are still fresh and aren't yet feeling time pressure (when it will be harder to remember them). Then you can refer to these notes as you take the exam.
7. **Read the directions carefully.** Then reread them. Do you understand what is expected of you? If not, ask the instructor to be sure you are clear. Too many students lose points simply by not following directions completely!
8. **Do the easy questions first.** By getting the easy questions out of the way, you'll feel more confident about the test and have more time to think about the tougher questions. Start with the objective sections of the exam first (multiple choice, true or false, and matching columns). As you answer these questions, keep an eye out for facts or concepts you may want to use later in an essay question.
9. **Keep an eye on the time.** Keep as close to your plan as possible. If you see that you are running out of time, don't panic. Move to those questions you think you can still answer accurately within the remaining time.
10. **Check your work.** This doesn't mean going through all your calculations again. Start by ensuring that you have *complete* answers according to the directions. Then look for other common mistakes, such as a misplaced decimal point, dropped words (especially those that can modify the answer, like “not”), and any incomplete or incomprehensible phrases.

## Strategies for Math and Science Exams

Math tests require some special strategies because they are often problem based rather than question based.

### Do the following before the test:

- Attend all classes and complete all assignments. Pay special attention to working on all assigned problems. After reviewing problems in class, take careful notes about

what you did incorrectly. Repeat the problem and do a similar one as soon as possible.

It is important that the last solution to a problem in your mind is a correct solution.

- Think about how each problem solution might be applied in a real-world situation. This helps make even the most complex solutions relevant and easier to learn.
- In your study group, take turns presenting solutions to problems and observing and correcting everyone's work.
- If you are having difficulty with a concept, get help right away. Remember that math especially builds new material on previous material, so if you are having trouble with a concept now, you are likely to have trouble going forward. Make an appointment with your instructor, your teaching assistant, or a skilled classmate. Check with your college's academic support office to see about a tutor. Don't be shy about asking for a tutor—tutoring is not just for students needing remedial help; many successful students seek them out, too.

**Do the following during the test:**

- Review the entire test before you start and work the problems you feel most confident with first.
- Approach each problem following three distinct steps:
  1. Read the problem through twice: the first time to get the full concept of the question, and the second time to draw out pertinent information. After you read through the problem the first time, ask yourself, "What is this problem about?" and "What is the answer likely to look like?" The second time through, consider these questions: "What facts do I have available?" "What do I know?" "What measurable units must the answer be in?" Think about the operations and formulas you will need to use. Try to estimate a ballpark answer.
  2. Compute your answer. First, eliminate as many unknowns as possible. You may need to use a separate formula for each unknown. Use algebraic formulas as far as you can before plugging in actual numbers; that will make it easier to cancel and combine factors. Remember that you may need two or more tries before you come up with the answer.
  3. Check your work. Start by comparing your actual answer to the estimate you made when you first read the problem. Does your final answer sound likely? Check your arithmetic by opposite operations: use multiplication to check division and addition to check subtraction, and so on.

You should consider using these three steps whenever you are working with any math problems, not just when you get problems on tests.

Science tests also are often problem based, but they also generally use the scientific method. This is why science tests may require some specific strategies.

- Before the test, review your lab notes as well as your class notes and assignments. Many exam questions build upon lab experience, so pay close attention to your notes, assignments, and labs. Practice describing the experimental process.
- Read the question carefully. What does the instructor expect you to do? Prove a hypothesis? Describe an experiment? Summarize research? Underline the words that state the objective of the question.
- Look carefully at all the diagrams given with the question. What do they illustrate? Why are they included with the question? Are there elements on the diagram you are expected to label?

- Many science questions are based on the scientific method and experimental model. When you read the test question, identify the hypothesis the problem is proposing; be prepared to describe an experimental structure to prove a hypothesis. When you check your work, make sure the hypothesis, experimental steps, and a summary of results (or expected results) are clear. Some of these elements may be part of the question, while others you may need to provide in your answer.

## KEY TAKEAWAYS

- There is no such thing as an unimportant quiz.
- In addition to studying, prepare for exams and quizzes by getting plenty of rest, eating well, and getting some exercise the day before the exam.
- Cramming is seldom a good strategy.
- Before the exam, learn as much as you can about the kinds of questions your instructor will be asking and the specific material that will be covered.
- The first step to successful completion of any exam is to browse the entire exam and develop a plan (including a “time budget”) for completing the exam.
- Read questions carefully. Underline keywords in questions, particularly in essay questions and science questions.
- Unless points are deducted for a wrong answer, it pays to take educated guesses.

## 6.4 The Secrets of the Q and A’s

### LEARNING OBJECTIVES

1. Understand the five principal types of questions.
2. Gain specific strategies for addressing each type of question.

You can gain even more confidence in your test-taking abilities by understanding the different kinds of questions an instructor may ask and applying the following proven strategies for answering them. Most instructors will likely use various conventional types of questions. Here are some tips for handling the most common types.

### Multiple-Choice Questions

- Read the instructions carefully to determine if there may be more than one right answer. If there are multiple right answers, does the instructor expect you to choose just one, or do you need to mark all correct options?
- Read each question carefully and try to answer it in your head *before* reading the answer options. Then consider *all* the options. Eliminate first the options that are clearly incorrect. Compare the remaining answers with your own answer before choosing one and marking your paper.
- Look for clue words that hint that certain option answers might be correct or incorrect. Absolute words like “never,” “always,” “every,” or “none” are rarely found in a correct option. Less absolute words like “usually,” “often,” or “rarely” are regularly found in correct options.
- Be on the lookout for the word “not” in the stem phrase and in the answer choice options; it is an easy word to miss if you are reading too quickly, but it completely changes the meaning of the possible statements.

## True-or-False Questions

- Most of the tips for multiple-choice questions apply here as well. Be particularly aware of the words “never,” “always,” “every,” “none,” and “not” because they can determine the correct answer.
- Answer the questions that are obvious to you first. Then go back to statements that require more thought.
- If the question is stated in the positive, restate it to yourself in the negative by adding the word “not” or “never.” Does the new statement sound truer or more false?
- If you still are unsure whether a statement is true or false and must guess, choose “true” because most tests include more true statements than false (but don’t guess if a wrong answer penalizes you more than one left blank).

## Matching Columns

- Start by looking at the two columns to be matched. Is there an equal number of items in both columns? If they are not equal, do you have to match some items in the shorter column to two or more items in the longer column, or can you leave some items unmatched? Read the directions to be sure.
- If one column has a series of single words to be matched to phrases in the other column, read all the phrases first, then all the single words before trying to make any matches. Now go back and read each phrase and find the word that best suits the phrase.
- If both columns have single words to be matched, look to cut down the number of potential matches by grouping them by parts of speech (nouns with nouns, verbs with verbs, etc.).
- As always, start by making the matches that are obvious to you, and then work on the ones that require more thought. Mark off all items you have already used so you can easily see which words or phrases still remain to be matched.

## Short Answer Questions

- Short answer questions are designed for you to recall and provide some very *specific* information (unlike essay questions, which also ask you to apply critical thinking to that information). When you read the question, ask yourself what exactly the instructor wants to know. Keep your answers short and *specific*.

## Essay Questions

- Essay questions are used by instructors to evaluate your thinking and reasoning applied to the material covered in a course. Good essay answers are based on *your* thoughts, supported by examples from classes and reading assignments.
- Careful planning is critical to answering essay questions effectively. Note how many essay questions you have to answer and how difficult each question seems. Then allocate your time accordingly.
- Read the question carefully and underline or circle keywords. Watch for words that describe the instructor’s expectations for your response (see [Table 6.1 "Words to Watch for in Essay Questions"](#)).
- If time allows, organize your thoughts by creating a quick outline for your essay. This helps ensure that you don’t leave out key points, and if you run out of time, it may pick up a few points for your grade. Jot down specific information you might want to use, such as names, dates, and places. [Chapter 8 "Writing for Classes"](#) discusses



outlining and other aspects of the writing process in more detail.

- Introduce your essay answer, but get right to the point. Remember that the instructor will be grading dozens of papers and avoid “filler” text that does not add value to your answer. For example, rather than writing, “In our study of the Civil War, it is helpful to consider the many facets that lead to conflict, especially the economic factors that help explain this important turning point in our nation’s history,” write a more direct and concise statement like this: “Economic factors help explain the start of the Civil War.”
- Write neatly and watch your grammar and spelling. Allow time to proofread your essay. You want your instructor to want to read your essay, not dread it. Remember that grading essays is largely subjective, and a favorable impression can lead to more favorable grading.
- Be sure to answer all parts of the question. Essay questions often have more than one part. Remember, too, that essay questions often have multiple acceptable answers.

Table 6.1 Words to Watch for in Essay Questions

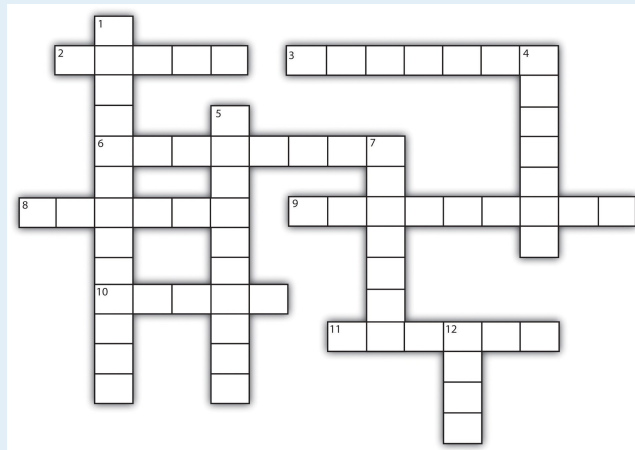
Word	What It Means	What the Instructor Is Looking For
Analyze	Break concept into key parts	Don’t just list the parts; show how they work together and illustrate any patterns.
Compare	Show similarities (and sometimes differences) between two or more concepts or ideas	Define the similarities and clearly describe how the items or ideas are similar. Do these similarities lead to similar results or effects? Note that this word is often combined with “contrast.” If so, make sure you do both.
Contrast	Show differences between two or more concepts or ideas	Define the differences and clearly describe how the items or ideas are different. How do these differences result in different outcomes? Note that this word is often combined with “compare.” If so, make sure you do both.
Critique	Judge and analyze	Explain what is wrong—and right—about a concept. Include your own judgments, supported by evidence and quotes from experts that support your point of view.
Define	Describe the meaning of a word, phrase, or concept	Define the concept or idea as your instructor did in class—but use your own words. If your definition differs from what the instructor presented, support your difference with evidence. Keep this essay short. Examples can help illustrate a definition, but remember that examples alone are <i>not</i> a definition.
Discuss	Explain or review	Define the key questions around the issue to be discussed and then answer them. Another approach is to define pros and cons on the issue and compare and contrast them. In either case, explore all relevant data and information.
Explain	Clarify, give reasons for something	Clarity is key for these questions. Outline your thoughts carefully. Proofread, edit, proofread, and proofread again! Good explanations are often lost in too many words.
Illustrate	Offer examples	Use examples from class material or reading assignments. Compare and contrast them to other examples you might come up with from additional reading or real life.
Prove	Provide evidence and arguments that something is true	Instructors who include this prompt in an exam question have often proven the hypothesis or other concepts in their class lectures. Think about the kind of evidence the instructor used and apply similar types of processes and data.
Summarize	Give a brief, precise description of an idea or concept	Keep it short, but cover all key points. This is one essay prompt where examples should not be included unless the instructions specifically ask for them. (For example, “Summarize the steps of the learning cycle and give examples of the main strategies you should apply in each one.”)

## CHECKPOINT EXERCISE

Test your test knowledge.

Figure 6.6

Crossword



Across	Down
2. "Always," "never," and "every" are words that usually indicate the answer is _____.	1. It helps to group words in matching columns by _____.
3. A way to organize your thoughts for an essay	4. Clarify, give reasons for something
6. Short answer questions require a _____ answer.	5. Essay questions often have more than one _____ answer.
8. Describe the meaning of a word	7. Show similarities and differences
9. Give a brief, precise description of an idea or concept	12. Most common answer in true and false questions
10. Type of question used to evaluate thinking and reasoning	
11. Since instructors need to read many essays, it is important to write _____.	

## 6.5 The Honest Truth

### LEARNING OBJECTIVES

1. Understand the importance of academic integrity and the consequences of dishonesty.
2. Identify most common types of academic dishonesty.

Throughout this book we have focused on the active process of *learning*, not just on how to get good grades. The attitude of some students that grades are the end-all in academics has led many students to resort to **academic dishonesty** to try to get the best possible grades or handle the pressure of an academic program. Although you may be further tempted if you've heard people say, "Everybody does it," or "It's no big deal at my school," you should be mindful of the consequences of cheating:

- **You don't learn as much.** Cheating may get you the right answer on a particular exam question, but it won't teach you how to apply knowledge in the world after

school, nor will it give you a foundation of knowledge for learning more advanced material. When you cheat, you cheat yourself out of opportunities.

- **You risk failing the course or even expulsion from school.** Each institution has its own definitions of and penalties for academic dishonesty, but most include cheating, plagiarism, and fabrication or falsification. The exact details of what is allowed or not allowed vary somewhat among different colleges and even instructors, so you should be sure to check your school's Web site and your instructor's guidelines to see what rules apply. Ignorance of the rules is seldom considered a valid defense.
- **Cheating causes stress.** Fear of getting caught will cause you stress and anxiety; this will get in the way of performing well with the information you *do* know.
- **You're throwing away your money and time.** Getting a college education is a big investment of money and effort. You're simply not getting your full value when you cheat, because you don't learn as much.
- **You are trashing your integrity.** Cheating once and getting away with it makes it easier to cheat again, and the more you cheat, the more comfortable you will feel with giving up your integrity in other areas of life—with perhaps even more serious consequences.
- **Cheating lowers your self-esteem.** If you cheat, you are telling yourself that you are simply not smart enough to handle learning. It also robs you of the feeling of satisfaction from genuine success.

Technology has made it easier to cheat. Your credit card and an Internet connection can procure a paper for you on just about any subject and length. You can copy and paste for free from various Web sites. Students have made creative use of texting and video on their cell phones to gain unauthorized access to material for exams. But be aware that technology has also created ways for instructors to easily detect these forms of academic dishonesty. Most colleges make these tools available to their instructors. Instructors are also modifying their testing approaches to reduce potential academic misconduct by using methods that are harder to cheat at (such as in-class essays that evaluate *your* thinking and oral presentations).

If you feel uneasy about doing something in your college work, trust your instincts. Confirm with the instructor that your intended form of research or use of material is acceptable. Cheating just doesn't pay.

## Examples of Academic Dishonesty

Academic dishonesty can take many forms, and you should be careful to avoid them. The following list from Northwestern University is a clear and complete compilation of what most institutions will consider unacceptable academic behavior.

1. **Cheating:** using unauthorized notes, study aids, or information on an examination; altering a graded work after it has been returned, then submitting the work for regrading; allowing another person to do one's work and submitting that work under one's own name; submitting identical or similar papers for credit in more than one course without prior permission from the course instructors.
2. **Plagiarism:** submitting material that in part or whole is not entirely one's own work without attributing those same portions to their correct source.
3. **Fabrication:** falsifying or inventing any information, data or citation; presenting data that were not gathered in accordance with standard guidelines defining the appropriate methods for collecting or generating data and failing to include an

accurate account of the method by which the data were gathered or collected.

4. **Obtaining an Unfair Advantage:** (a) stealing, reproducing, circulating or otherwise gaining access to examination materials prior to the time authorized by the instructor; (b) stealing, destroying, defacing or concealing library materials with the purpose of depriving others of their use; (c) unauthorized collaboration on an academic assignment; (d) retaining, possessing, using or circulating previously given examination materials, where those materials clearly indicate that they are to be returned to the instructor at the conclusion of the examination; (e) intentionally obstructing or interfering with another student's academic work; or (f) otherwise undertaking activity with the purpose of creating or obtaining an unfair academic advantage over other students' academic work.
5. **Aiding and Abetting Academic Dishonesty:** (a) providing material, information, or other assistance to another person with knowledge that such aid could be used in any of the violations stated above, or (b) providing false information in connection with any inquiry regarding academic integrity.
6. **Falsification of Records and Official Documents:** altering documents affecting academic records; forging signatures of authorization or falsifying information on an official academic document, grade report, letter of permission, petition, drop/add form, ID card, or any other official University document.
7. **Unauthorized Access** to computerized academic or administrative records or systems: viewing or altering computer records, modifying computer programs or systems, releasing or dispensing information gained via unauthorized access, or interfering with the use or availability of computer systems or information. Undergraduate Academic Conduct Committee of Northwestern University, "Definitions of Academic Violations," <http://www.northwestern.edu/uacc/defines.html> (accessed July 13, 2010).

## KEY TAKEAWAYS

- Being dishonest can have major consequences that can affect not only your college career but also your life beyond college.
- "Everybody does it" and "It's no big deal at my school" are not valid reasons for cheating.
- When you cheat, you are primarily cheating yourself.

## CHECKPOINT EXERCISES

1. What are the most common forms of academic dishonesty you have heard about at your school? What should be done about them?

---

---

---

2. What resources do you have on campus to learn about correct forms of referencing other people's work in your own?

---

## 6.6 Using Test Results

### LEARNING OBJECTIVES

1. Effectively evaluate your test results and correct your mistakes.
2. Use your test results as a study guide.

So far, we have focused on how to study for and take tests effectively. This section discusses how to *use* test results to their greatest benefit. Some of your most important learning begins when your graded test paper is returned to you. Your first reaction, of course, is to see what grade you received and how you did compared with your classmates. This is a natural reaction.

Make sure you listen to the instructor as the papers are returned. What is the instructor saying about the test? Is there a particular point everyone had trouble with? Does the instructor generally think everyone did well? The instructor's comments at this point may give you important information about what you should study more, about the value of review sessions, and even about possible questions for the next exam.

Although you may be tempted to throw away the exam, don't. It is a very helpful tool for the next phase of preparing for learning. This is a three-step process, beginning with evaluating your results.

### Evaluating Your Test Results

When you receive your test back, sit quietly and take a close look at it. What questions did you get wrong? What kind of mistakes were they? (See [Table 6.2 "Exam Errors and How to Correct Them"](#).) Do you see a pattern? What questions did you get right? What were your strengths? What can you learn from the instructor's comments?

Now think of the way in which you prepared for the exam and the extent to which you applied the exam strategies described earlier in this chapter. Were you prepared for the exam? Did you study the right material? What surprised you? Did you read the entire test before starting? Did your time allocation work well, or were you short of time on certain parts of the exam?

Table 6.2 Exam Errors and How to Correct Them

Type of Error	Examples	Corrective Steps
Study and Preparation Errors	I did not study the material for that question (enough).	Practice predicting possible questions better.
	I ran out of time.	Join a study group.
	I did not prepare enough.	Read the entire test before starting. Allocate your time.
	I did not read the directions carefully.	Allocate exam time carefully.

Focus Errors or Carelessness	I confused terms or concepts that I actually know well.	Give yourself time to read carefully and think before answering a question.
	I misread or misunderstood the question.	
Content Errors	I studied the material but couldn't make it work with the question	Seek additional help from the instructor.
	I didn't understand what the instructor wanted.	Go to all classes, labs, and review sessions.
	I confused terms or concepts.	Join a study group.
		Check and practice your active reading and listening skills.
		Schedule regular study time for this course.
Mechanical Errors	The instructor misread my writing.	Slow down! Don't rush through the exam. Take the time to do things right the first time.
	I didn't erase a wrong answer completely (on a computer-graded answer sheet).	
	I forgot to go back to a question I had skipped over.	
	I miscopied some calculations or facts from my worksheet.	

Based on your analysis of your test, identify the kind of corrective steps you should take to improve your learning and test performance. Implement those steps as you begin your preparation for your next class. If you don't learn from your mistakes, you are doomed to repeat them; if you don't learn from your successes, it will be harder to repeat them.

## Correcting Your Mistakes

The second step in making your test work for you is to correct your wrong answers. The last time you wrote the information (when you took the test), you created a link to wrong information in your memory, so that must be corrected.

- For multiple-choice questions, write out the question stem with the correct answer to form a single correct sentence or phrase.
- For true-or-false questions, write the full statement if it is true; if it is false, reword it in such a way that it is true (such as by inserting the word "not"). Then write the new statement.
- For math and science questions involving calculations, redo the entire solution with the calculations written out fully.
- You need not rewrite an entire essay question if you did not do well, but you should create a new outline for what would be a correct answer. Make sure you incorporate any ideas triggered by your instructor's comments.
- When you have rewritten all your answers, read them all out loud before incorporating your new answers in your notes.

## Integrating Your Test into Your Study Guide

Your corrected quizzes and midterm exams are an important study tool for final exams. Make sure you file them with your notes for the study unit. Take the time to annotate your notes based on the exam. Pay particular attention to any gaps in your notes on topics that appeared in the quiz or exam. Research those points in your text or online and complete your notes. Review your exams throughout the term (not just before the final) to be sure you cement the course material into your memory.

When you prepare for the final exam, start by reviewing your quizzes and other tests to predict the kinds of questions the instructor may ask on the final. This will help focus your final studying when you have a large amount of coursework to cover.

## If You Don't Get Your Test Back

If your instructor chooses not to return tests to students, make an appointment to see the instructor soon after the test to review it and your performance. Take notes on what you had trouble with and the expected answers. Add these notes into your study guide. Make sure you don't lose out on the opportunity to learn from your results.

### KEY TAKEAWAYS

- Working with exams does not end when your instructor hands back your graded test.
- Quizzes and midterms are reliable predictors of the kind of material that will be on the final exam.
- When evaluating your test performance, don't look only at the content you missed. Identify the types of mistakes you commonly make and formulate plans to prevent these mistakes in future assessments.

### CHECKPOINT EXERCISES

1. Take time to examine your notes for each course you are now taking. Are your exams and quizzes part of that package? If not, include them now. Review them this week.
2. Compare your exams across two or three courses. What kinds of mistakes do you make on a regular basis? Is there a trend you need to correct?

---

---

---

---

## 6.7 Chapter Activities

### CHAPTER REVIEW I

1. What is test anxiety? What are the three causes of test anxiety you would like to work on controlling?

---

---

---

---

2. When should you start studying for an exam?

---

3. Can you multitask while studying? Why or why not?

---

4. What are some of the most common distractions to your studying?

---

5. Describe the characteristics of a successful study group.

---

6. What are the two types of assessment? Which of these forms might be called the "student's assessment"? Why?

---

7. Why would an instructor assign an open-book exam? What types of things should you pay attention to if you are taking an open-book exam?

---

8. How might you predict the kinds of questions that will be on an exam?

---

9. What should you do right after the instructor hands out the exam?

---

---



10. List five words to watch for in multiple-choice and true-or-false questions.

---

---

11. List five words to watch for in essay questions.

---

---

12. What forms of academic dishonesty are most prevalent on your campus?  
What can you do to avoid them in your own academic career?

---

---

---

13. List the five most common types of errors made on exams.

---

---

---

14. What should you do with your exam after it has been graded and returned to you?

---

---

## CHAPTER REVIEW II

The following test will allow you to practice the strategies for each question type outlined in Chapter Review I:

I. Multiple-choice section (10 points)

1. All actions on this list are examples of academic dishonesty except
  - a. copying from a classmate
  - b. using another author's words without appropriate credit
  - c. chewing gum in class
  - d. creating fictitious data to support a point
  
2. To avoid running out of time on a test, you should
  - a. write quickly, even if it's not so neat
  - b. stick with a difficult question until you get a right answer so that you

don't have to come back to it later

- c. spend time reviewing the entire test before you start to budget your time
- d. frequently ask your instructor to tell you how much time is left

II. True-or-false section (10 points)

- 1. \_\_\_ You should never use examples when an essay question asks you to illustrate.
- 2. \_\_\_ Beds are a good place to study because they are comfortable and quiet.
- 3. \_\_\_ It's smart to schedule a specific and consistent time for studying for each course.
- 4. \_\_\_ In true-or-false questions, it is safer to mark true than false if you don't know the answer.
- 5. \_\_\_ One advantage of studying in a group is that students will encourage each other to do their best work.

III. Matching column section (10 points)

___ 1. Define	A. A type of formative assessment
___ 2. Study group	B. To describe pros and cons and compare them
___ 3. Weekly quiz	C. To describe the meaning of a word, phrase, or concept
___ 4. Discuss	D. Your own personalized study guide
___ 5. Class and assignment notes	E. Three or four students from a class who meet regularly to review class material and encourage each other

IV. Short answer section (15 points)

- 1. List three things you should do before a test to prepare your body to perform effectively.

---

---

---

- 2. Name at least three of the characteristics of successful study groups.

---

---

---

- 3. List at least four steps you should take before you start writing the answer to an essay question.

---

---

---

V. Essay section (Choose one; 55 points)

1. Compare and contrast effective studying and cramming.
2. Discuss academic dishonesty and its consequences.

### MAKE AN ACTION LIST

Two things I will do to...	Actions	By when I expect to take each action	How I will know I accomplished each action
Reduce my testing anxiety	1.		
	2.		
Improve my study effectiveness	1.		
	2.		
Improve my performance on exams	1.		
	2.		