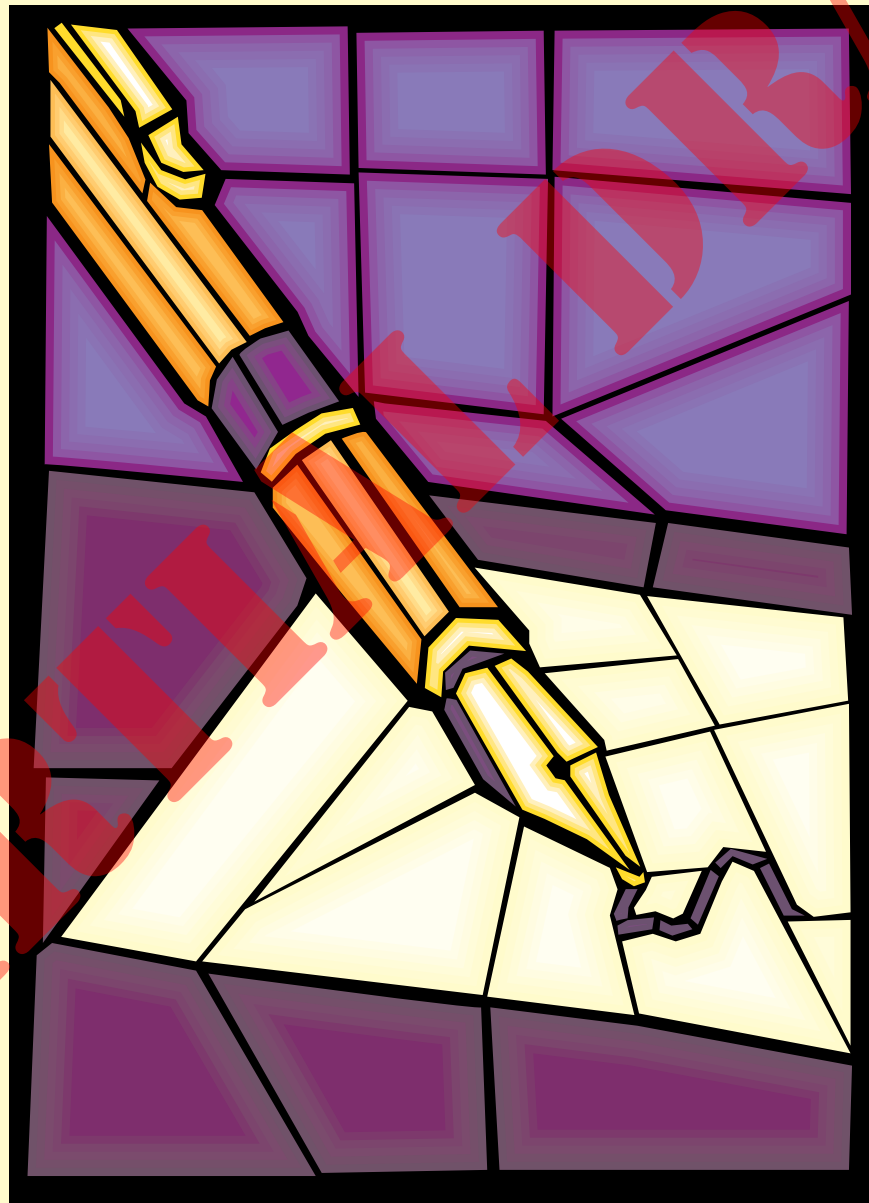


The Test Writer's Guide to Crafting Good Questions

— First Edition —

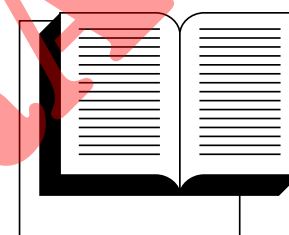


Jill Meryl Levy • Firebelle Productions

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**This book is
organized into
six chapters.**

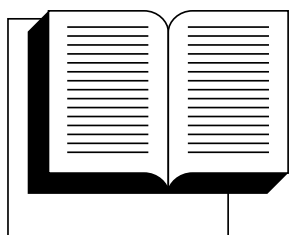


**Chapter 1:
Focus on the
Right Concepts**

**Chapter 2:
Write the
Questions Well**

**Chapter 3:
Don't Give Away
the Answers**

This book is organized into six chapters.



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Chapter 1

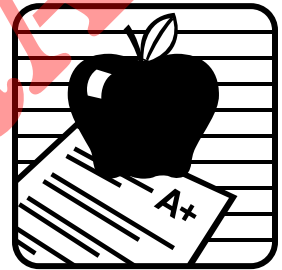
Focus on the Right Concepts

This chapter is about how to focus on the right concepts when writing test questions. Too many test writers do what is easy for them instead of what is right for the test takers. And so tests are filled with vocabulary questions, trivia questions, and other weak questions that don't address the most important things test takers should know. This chapter is designed to solve that problem.

Some of the topics in this chapter will overlap others. That is intentional. The need to write quality test questions is so great ... and poor quality test questions are so prevalent ... that it warrants the emphasis (and sometimes the repetition).

People often have a lot at stake when they take tests. You owe it to them to write quality questions that add value and challenge the test takers.

People often have a lot at stake when they take tests.



Always strive for quality. Write test questions that add value and challenge test takers.

Keep your eye on the ball when writing test questions.



What are the most important things for test takers to know in the real world?

Keep Your Eye on the Ball

Rationale

Always keep your eye on the ball when writing test questions. Before you start, consider the following:

- What is the purpose of the test?
- Have you reviewed applicable codes, regulations, and standards to ensure that you cover the competencies expected of your test takers?
- What are the most important things for test takers to know in the real world or to remember from the material they studied?
- Who are your test takers? How urgently do they, at their level, need to know the information?
- Where is the line between what test takers *need to know* versus what professionals in the field can or should look up?
- Where is the line between what test takers need to know *now* versus what they will become fluent with later?
- What is appropriate for this particular test versus another one down the line?

If you start with these considerations in mind, you can avoid wasting time and energy on unimportant topics. But then as you write each question, ask yourself, "Is it really important for test takers to know this?" Put yourself in their positions or the positions they may be in upon successful completion of the exam. Evaluate your test questions from that perspective.

Who are the test takers? Are they new recruits in a police academy or fire academy? If so, test them on concepts that will help ensure their safety and enable them to do their jobs effectively. Mentally put them in that patrol car or fire engine en route to a 911 call, and test them on what they need to know from that perspective. Are the test takers future paramedics or emergency medical technicians? Mentally put them at an accident scene with someone's life in their hands. Test them on information that will help them save that life.

Evaluate every potential question in terms of its usefulness to the test takers. Do police officers need to know the composition of the gunpowder in their weapons? Probably not. Do they need to know how to properly maintain their weapons? Absolutely. This is common sense. And yet so many test writers focus on the wrong things. Why? Because the easiest questions to write are often ones based on less important concepts.

Consider the level of supervision test takers will have in the field. There's a world of difference, for example, between an entry level paralegal working under the close supervision of an attorney and a rookie police officer who, even under the close supervision of a field training officer, may be forced to act independently in a life-or-death situation. Thus a paralegal student doesn't have to be tested on attorney-level responsibilities, whereas a police cadet does need to know many of the same things that a seasoned officer knows.

Consider whether each test question is appropriate for *these* test takers at *this* time. For example, on *this* test, it may be sufficient to understand the consequences of failing to file a lawsuit within the statute of limitations. On another test at a more advanced level, it might be important to know the statute of limitations for particular types of cases.

When you write tests for a class, your questions should reflect the depth to which the material was covered in the classroom or in the textbook. If the textbook contains chapter objectives or review questions, use these as tools to help determine test-worthy material.

Keep your eye on the ball when writing test questions. Focus on the action that counts. Focus on the things that will enable test takers to hit the ground running at the level expected of them in the field.

Examples

Example 1: All of the questions below represent information that legal professionals should know. But the first one emphasizes vocabulary, whereas the other two stress application of the information. The answers to these three questions are (d), true, and (a), respectively.

Fair: Under the doctrine of _____, if a defendant intends to harm one person but, because of bad aim or other cause, he harms another, he can be prosecuted as if the one harmed was the intended victim.

- a. Negligence
- b. Strict liability
- c. Constructive intent
- d. Transferred intent

Good: T/F Under the doctrine of transferred intent, if a defendant intends to harm one person but, because of bad aim or other cause, he harms another, he can be prosecuted as if the one harmed was the intended victim.

Good: Jeff fires a gun at Steve, intending to kill him. Steve dives out of the way, escaping injury. But the bullet strikes and kills Marjorie instead. Under the doctrine of transferred intent, Jeff can be prosecuted for:

- a. First-degree murder.
- b. Second-degree murder.
- c. Voluntary manslaughter.
- d. Involuntary manslaughter.

**Focus on the
action that
counts.**



**Evaluate every
potential
question in
terms of its
usefulness to
test takers.
Focus on things
that matter
the most.**

To use a sports analogy, there's a lot of activity on the court that doesn't affect the score.



Your questions should be ones that "affect the score." Focus on things that will enable test takers to hit the ground running at the level expected of them in the field.

Example 2: It's interesting to know that motor vehicle accidents are the leading cause of spinal cord injuries, but it's more important that first aid students be taught to anticipate spinal cord injuries under any of the circumstances listed below and to treat injured people accordingly. The answer to this question is (b).

Fair: Which of the following is the leading cause of spinal cord injuries?

- a. Falls
- b. Motor vehicle accidents
- c. Fights and other acts of violence
- d. Sports and recreational accidents

The following is a better question, because it forces test takers to determine which of these signs is the first and most important indication of the severity of injury and the urgency of treatment. The answer is (a).

Good: The first and most important sign of brain injury is:

- a. Changes in a person's level of consciousness.
- b. Blood and cerebrospinal fluid in the ears and nose.
- c. Bruising, especially around the eyes and behind the ears.
- d. Partial or complete loss of movement in any body part.

Example 3: Attorneys and paralegals should know the difference between official reporters (those printed under the authority of the government) and unofficial reporters (those printed by a commercial publishing company without special authority from the government). But it's not crucial. It's more important to know where to look for the information one needs. The answer to both of these questions is (d).

Fair: Which of the following is an official publication?

- a. Federal Reporter
- b. Federal Supplement
- c. Pacific Reporter
- d. United States Reports

Good: Which of the following publications contains court opinions from the U.S. Supreme Court?

- a. Federal Reporter
- b. Federal Supplement
- c. Pacific Reporter
- d. United States Reports

Triage the Content

Rationale

When faced with more patients than they can effectively handle at once, emergency personnel triage those patients, quickly categorizing them based on how urgently they need medical attention and how likely they are to survive. You can triage your potential content in much the same way, making it easier to determine what material is test-worthy and what is not. Remember, too, that this will vary depending on who your test takers are and what the purpose of the test is. You can make up names of your own, but most content falls into one of three categories:

- Need-to-know
- Nice-to-know
- Trivial or unimportant (a.k.a. Who cares?)

This is really another way of saying “keep your eye on the ball,” which was covered in the previous pages. It also overlaps other guidelines that follow this one. But it's so important that it's worth emphasizing in different ways.

As you start planning your test, identify the information test takers need to know. Write your first questions based on that material. Once you've included all the need-to-know material, if you need additional questions to meet your target, look to the nice-to-know information. If you use this approach, you may never write another trivial question again.

Examples

Example 1: Someone studying criminal law needs to know what does and does not qualify as self-defense, because that affects the way a homicide case is handled. So the following is a good question. The answer is (a).

Need: When may a defendant charged with homicide use a self-defense claim?

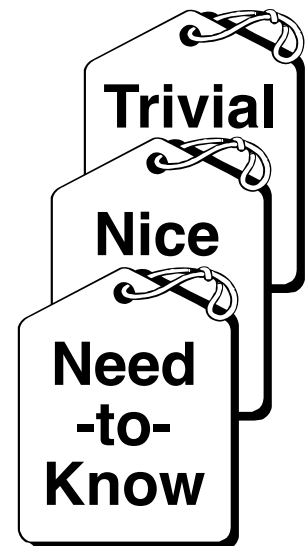
- If he honestly and reasonably believed he was about to be killed or seriously injured.
- If he killed someone who threatened to kill him as soon as they were alone.
- If he accidentally killed a police officer while resisting what he believed was an unreasonable arrest.
- All of the above.

The following question could be need-to-know or nice-to-know, depending on the audience. It's more important to attorneys or paralegals who will specialize in criminal law than to students who are merely getting an overview of criminal law as part of their training. The correct answer is (c).

Need/Nice: What is the standard of proof generally required for a criminal defendant to meet the burden of persuasion on an affirmative defense?

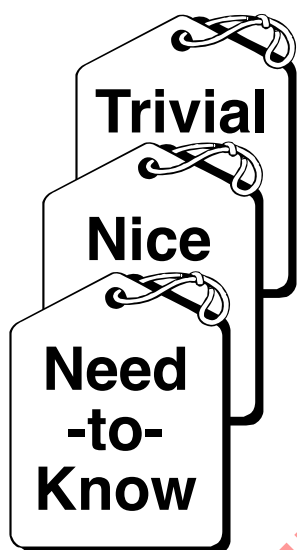
- Beyond a reasonable doubt
- By clear and convincing evidence
- By a preponderance of the evidence

You can triage potential test content much the way emergency personnel triage patients to determine priorities.



Write your first questions based on need-to-know information. If you need additional test questions, pick from the nice-to-know material.

You'll never write another trivia question if you triage your potential content before writing your tests.



It's easy to separate trivia from need-to-know and nice-to-know information.

The answer to the following question is false. But the question would be trivial on a criminal law test, because the only thing that matters is the law of the land wherever attorneys or paralegals are working. Does the state allow a defense of voluntary intoxication, or does it not?

Trivial: T/F In *Montana v. Egelhoff* (1996), the U.S. Supreme Court determined that due process requires that states allow criminal defendants to use a defense of voluntary intoxication.

Example 2: This first question covers information that firefighters must know about flame impingement on a compressed gas cylinder or tank. The correct answer is (a). Most compressed gas cylinders are equipped with a pressure relief device, but relief devices are prohibited on cylinders containing highly toxic materials.

Need: You are responding to a fire at a chemical facility known to have compressed gases in both small cylinders and large tanks. One of your immediate concerns is the potential for a BLEVE (boiling liquid expanding vapor explosion) from flame impingement. En route, you and your crew review key safety concerns. Which of the following statements is **not** accurate?

- a. All compressed gas cylinders are equipped with a pressure relief device to prevent rupture when exposed to fire.
- b. Reliable indicators of an impending BLEVE include a rising sound from a venting relief device and discoloration of the tank due to fire.
- c. Large pressure vessels impinged on by fire have been known to fail catastrophically within 10 to 20 minutes or even days afterwards.
- d. The greatest danger is from flame impingement on the vapor space versus the liquid space of a tank.

Here's another question that might fit into either the need-to-know or nice-to-know category. The answer is true. However, emergency responders must consider the *entire* tank vulnerable, because there is still significant risk of failure at the sides. Thus a better question might be one that requires them to use appropriate reference sources to identify minimum evacuation distances based on the contents of the tank.

Need/Nice: T/F If a high-pressure cargo tank or rail car is impinged on by fire, the greatest risk of tank failure will be at the ends of the tank.

The answer to the following question is (c). But firefighters may have no idea how full a tank is when they respond to a fire. And a fire scene is not the place to lay odds on the risk of a BLEVE; one has to go into the incident as if the risk is 100%. So the following question is trivial.

Trivial: Most BLEVEs occur when liquefied gas containers are approximately _____ full.

- a. Less than 1/4
- b. From 1/4 to 1/2
- c. From 1/2 to 3/4
- d. More than 3/4

If information is presented in the wrong context, it can be dangerous.



If test questions aren't geared for the specific audience, people may walk away from your test remembering information that could prove harmful.

Write for the Right Audience

Rationale

It's essential to write questions for the right audience. What might be a good question for one set of test takers could be a dangerous question for others. Context matters.

Examples

Example 1: The answer to the following question is true. The description accurately reflects how blasting agents are classified by the Department of Transportation. In that regard, this is a good question. But it's dangerous on a test geared for firefighters and other emergency responders.

Wrong: T/F Blasting agents such as ANFO (ammonium nitrate-fuel oil mixture) are relatively insensitive and present little risk of accidental explosion under normal conditions of transport.

When firefighters respond to a 911 call, it's not because hazardous materials are "under normal conditions of transport." Firefighters need to know how these materials will behave under emergency conditions. Otherwise, lives may be lost. The following are more appropriate questions for emergency responders. The answers are true and (c), respectively.

Right: T/F Although blasting agents are relatively insensitive under normal conditions of transport, they can explode when impinged on by fire.

Right: A tipster has reported finding a van loaded with ANFO (ammonium nitrate-fuel oil mixture). While en route to the scene, you review the potential for explosion. ANFO is:

- a. Relatively sensitive to heat, shock, and friction.
- b. Relatively insensitive, with little chance of accidental explosion.
- c. Relatively insensitive under normal conditions of transport, but likely to explode when impinged on by fire.

Example 2: Shown below are two more otherwise good questions that are potentially dangerous on a test geared for firefighters and other emergency responders. The answers are true and (b), respectively.

Wrong: T/F Anhydrous ammonia is classed as a nonflammable gas (Class 2.2).

Wrong: Anhydrous ammonia is classified as a/an:

- a. Flammable gas (Class 2.1).
- b. Nonflammable gas (Class 2.2).
- c. Inhalation hazard (Class 2.3).
- d. Poisonous material (Class 6.1).

The revised questions are more appropriate for emergency responders. The answers are true and (d), respectively. For reasons that are beyond the scope of this book, anhydrous ammonia is classified as a nonflammable gas by the Department of Transportation, despite having a flammable range of 16% to 25%.

Right: T/F Anhydrous ammonia has a flammable range of 16% to 25%.

Right: You have responded to an anhydrous ammonia leak at a nearby packing plant. During the safety briefing, you remind everyone that anhydrous ammonia is:

- a. A flammable gas.
- b. A nonflammable gas.
- c. Classified as a flammable gas, but is very difficult to ignite.
- d. Classified as a nonflammable gas, but has a flammable range of 16% to 25%.

Example 3: Even if a question does not involve life-or-death scenarios, it may involve make-or-break concepts. The intended answer to both questions below is (d). But the first question is problematic. It has no clear answer, and it runs the risk that test takers will walk away with misinformation that can cause them to make errors later in their careers.

Issue statements may be either persuasive or analytical, depending on the documents they're used in. For a persuasive issue statement, such as would be used in a brief to the court, the correct answer is (d). For an analytical issue statement, such as would be used in a legal memorandum evaluating the merits of a client's case, the answer is (c). If an attorney is not analytical and objective at that stage in the case, it can adversely affect the client. The first question below conveys the idea that it applies to all issue statements, whereas the revised question targets only persuasive issue statements.

Poor: What makes a good issue statement?

- a. It advocates for your client.
- b. It contains a premise designed to pull the court toward your conclusion.
- c. It clearly and concisely states the applicable law, key facts of the case, and the question to be answered.
- d. All of the above.

Revised: What makes a good persuasive issue statement?

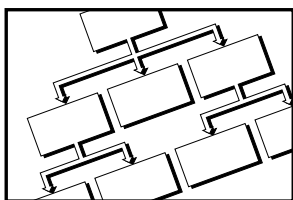
- a. It advocates for your client.
- b. It contains a premise designed to pull the court toward your conclusion.
- c. It clearly and concisely states the applicable law, key facts of the case, and the question to be answered.
- d. All of the above.

Consider who your test takers are, what their needs are, and how they will use the information.



Even when lives are not at stake, questions may involve make-or-break concepts. Put those questions in the proper context to make sure people walk away from your test with the correct information.

Approach test writing with the attitude that your reach—and your obligation—extends beyond the test takers.



Take seriously the idea that someone else's future is in your hands via the ultimate performance of your test takers.

Remember the Obligation to People Downstream

Rationale

Good test writers maintain an attitude that their reach—and their obligation—extends beyond test takers to people “downstream.” Written tests are not the sole measure of person’s knowledge or capabilities, but they are often the final hurdle—the one that determines whether someone will graduate, become certified or licensed, be hired or promoted, and so forth. So it’s crucial that tests be well-written and accurately reflect the information professionals must know in the real world.

Step out of the role of test writer for a moment and put yourself into the role of a patient, for example. Do you want your life in the hands of a healthcare provider whose performance in school was marginal and who graduated only by virtue of a weak test that failed to demonstrate competency? Probably not. The same concept applies to any other profession.

If you look at testing from the perspective of people downstream, you can get a clearer picture of what is at stake. You should function as a gatekeeper—passing people who are capable of doing the job and failing those who are not. Otherwise, someone downstream may pay a steep price.

Examples

Example 1: The first question below is not bad, but just knowing what causes hypovolemic shock is not enough. First aiders need to know how to recognize shock in the early stages, how serious shock can be, and how to care for someone in shock. Instructors who reinforce this information can save lives through their students. The answers to the first three questions below are (a), (e), and true, respectively.

- Fair:* Hypovolemic shock is caused by:
- A loss of blood in the circulatory system.
 - Failure of the heart to circulate blood adequately.
 - A spinal or head injury that causes the nervous system to lose control over the vascular system.
 - A severe allergic reaction.
 - Toxins produced by a severe infection.
- Good:* Which of the following signals is often the first indication that a person is developing shock?
- Pale, cool, moist skin
 - Rapid, shallow breaths
 - Rapid, weak pulse
 - Altered level of consciousness
 - Restlessness or irritability
- Good:* T/F A person can die from shock even if the injuries themselves are not fatal.
- Good:* Describe the appropriate first aid measures for a person in shock. Be thorough.

Avoid Trivia Questions

Rationale

Above all else, avoid trivia questions.

One of the worst things a test writer can do is fill the test with questions that have little to do with the objectives, whether they be the objectives of a class, a certification exam, a hiring process, or a promotional test. What's a trivia question? It's one that generates a response of "Who cares?" It's one that no self-respecting test taker would think to study for unless someone provided clear warning that the material would be on the test.

Trivia questions are easy to write, much more so than quality questions. They are often easier to defend too, because they are seldom open to interpretation. But trivia questions are a lot like empty calories. They add fat to fill a test, but they don't add value.

Some questions are borderline. They're valuable enough that they don't count as pure trivia, but neither are they the most effective way to measure knowledge. We'll look at examples of borderline questions too.

Examples

Example 1: The following question might be appropriate if the subject of the test is the history of pipelines, but not if the subject is emergency response to hazardous materials incidents. The answer is (c).

Trivial: Pipeline safety regulations are a result of the Natural Gas and Pipeline Safety Act of:

- a. 1966.
- b. 1967.
- c. 1968.
- d. 1969.

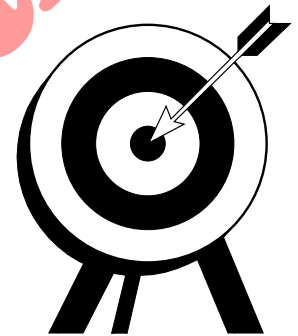
If firefighters are faced with a pipeline emergency, they don't care about when the regulations were written. They need to know how to identify the hazards and how to mitigate the incident. The following question is more appropriate. The answer is (c).

Important: The most important reason for calling the pipeline company before shutting off valves at a pipeline leak is to:

- a. Determine how much product will continue to flow after the valves have been shut off.
- b. Give the pipeline company time to alert customers who may be affected by the shutdown.
- c. Ensure that shutting off a valve will not cause problems elsewhere in the line.
- d. Ensure that the pipeline company makes mandatory notifications to other agencies.

Although the best answer above is (c), all of the distractors are relevant concerns. So test takers need to think carefully when answering the question. The question may be difficult for some people, but no more difficult than handling this scenario in the real world.

**Stay on-target.
Avoid trivia
questions that
have little to
do with the
objectives.**



**Test questions
should be
relevant to
what test takers
will do in the
real world.**

Emphasize need-to-know information when writing test questions.



The further you get from what test takers need to know in the real world, the more likely it is that you are writing trivia questions that don't belong on the test.

Example 2: Unless one is studying the U.S. Supreme Court justices and the roles they played in shaping our nation's laws, it doesn't matter who dissented in *Terry v. Ohio* or how the votes were divided. What matters is how that decision affects what police officers can or cannot do today. The answers to the questions below are (b), false (8:1), and (b), respectively.

Trivial: Who was the lone U.S. Supreme Court justice to dissent in *Terry v. Ohio*?

- a. Hugo Black
- b. William Douglas
- c. Thurgood Marshal
- d. Earl Warren

Trivial: T/F *Terry v. Ohio* was decided on a vote of 5 to 4.

Important: In *Terry v. Ohio*, the U.S. Supreme Court upheld the right of police to frisk a person for weapons when that person's behavior is suspicious and police are acting to ensure their safety and the safety of others nearby. The Court held that search for weapons is permissible when based on _____ that the person is armed and dangerous.

- a. A hunch
- b. Reasonable suspicion
- c. Probable cause to believe
- d. Certainty

Example 3: Who cares how hot a flare burns? Whatever the temperature, it's hot enough to cause injury. What matters is how to use flares safely. The answers to the questions below are (b) and (a), respectively.

Trivial: A road flare burns at approximately _____ °F

- a. 1000
- b. 1400
- c. 1800

Important: When igniting a road flare, you should strike it:

- a. Away from your body.
- b. Toward your body.
- c. Either (a) or (b). It does not matter.

Example 4: When people study for tests, they often focus on broad concepts versus the minor details associated with them. Both questions below are true, but it's the last five lines of the revised question—the application of the law—that test takers are most likely to have studied.

Trivial: T/F The economic model of negligence is attributed to Judge Learned Hand.

Better: T/F In one of the leading cases on negligence, *U.S. v. Carroll Towing*, Justice Learned Hand reasoned that a party could be found negligent if the financial burden of taking precautions was less than the probability that the accident could have been prevented by those precautions multiplied by the cost of the accident.

Note that in the previous question, the name of the case and the name of the justice are correct. It would be grossly unfair to trick test takers by substituting incorrect names, because that's not where their focus should be when answering the question.

Borderline Questions

Again, some questions are valuable enough that they don't count as pure trivia, but neither are they the most effective way to measure knowledge. The information may be categorized as nice-to-know versus need-to-know. It may be something that people can easily look up but don't need to memorize. It may be something that will become second nature to people after they've worked in the field or in the position for a while, but it's not something they need to know now.

Should you use borderline questions on a test? It depends. If you've covered all the need-to-know information and require a few more questions to fill out the test, a borderline question might be appropriate. But if you haven't hit all the key points in your existing questions, focus on need-to-know concepts instead.

Consider, also, how well the material was covered in the class, the textbook, or other resource that test takers were told to study before the test. If it was emphasized enough that test takers are likely to remember it, it's fair game. If it was mentioned only briefly, a question about it would be unfair.

Example 5: Here are three questions about unequal pupils, a common sign in patients experiencing a stroke or head injury. What makes the second question better than the first one is that there's less emphasis on the statistic than there is on the fact that a small percentage of the population normally have unequal pupils. But the third question is superior, because it encompasses everything that unequal pupils may indicate. The answers are (b), true, and (d), respectively.

Trivial: Approximately _____ percent of the population normally have unequal pupils.

- a. 1 to 5
- b. 6 to 10
- c. 11 to 15
- d. 16 to 20

Borderline: T/F Approximately 6 to 10 percent of the population normally have unequal pupils.

Better: Unequal pupils may be indicative of:

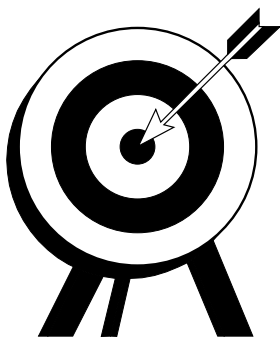
- a. A head injury.
- b. A stroke.
- c. A normal condition in up to 10% of the population.
- d. All of the above.
- e. Answers (a) and (b).

Some questions are not truly trivia questions, but neither do they cover the most important material.



Borderline questions may be appropriate on a test after you've covered all of the key points.

Borderline questions are those that convey helpful information, even if the information is not essential.



Sometimes what separates a borderline question from a good one is how much the information was emphasized in a class, textbook, or other reference material that test takers were told to study.

Example 6: The first question below conveys an important legal principle. But it's more important for law students to understand when respondeat superior does or does not apply. The answers to these questions are true and (a), respectively.

Borderline: T/F The Latin phrase *respondeat superior* means "Let the master answer."

Better: Your client wants to buy a business, but he is concerned about his potential liability if someone is injured on the premises. Before meeting with you, he did some superficial research into when respondeat superior applies. He is correct about all of the following **except**:

- a. It is a form of negligence, where both the employer and employee must be found liable for wrongdoing.
- b. It applies if the harm was caused by an employee, not by an independent contractor.
- c. It is generally designed to protect third parties, not employees who may be injured by fellow employees.
- d. It applies only if the harm was caused while employees were engaged in conduct that was within the course and scope of employment.

Example 7: Knowing the expansion ratio of water gives firefighters an appreciation for how effective steam can be in fighting a fire, so the first question below has merit. But the second question tests whether firefighters know how to apply the information in the field. The answers to the questions are (d) and (c), respectively.

Borderline: Water expands approximately ____ times its original volume when converted to steam at 212°F (100°C).

- a. 1000
- b. 1200
- c. 1500
- d. 1700

Better: What kind of pattern should firefighters use to generate the most amount of steam?

- a. A straight stream
- b. A narrow fog pattern
- c. A wide fog pattern

Example 8: If you taught a class on copyright law and repeatedly referred to Title 17 of the United States Code, a question about where to find copyright law is fair game. But if you focused on the concepts themselves with only brief references to Title 17, the question is borderline. Students who pursue a career in copyright law will become intimately familiar with it, and those who don't can find it easily if they need to know. So use your limited number of test questions for more important things.

Weak: Title 17 of the United States Code covers _____ law.

Borderline: Copyright law is contained in Title ____ of the United States Code.

Avoid Weak Vocabulary Questions

Rationale

Most vocabulary questions show only that test takers recognize a term. They do not show that test takers understand its significance. (A few exceptions are shown at the end of this section.)

Vocabulary questions are easy to write, which is why test writers often use them. But their value—or lack thereof—becomes immediately obvious when you look at what people are expected to know in the real world. Is it enough for them to regurgitate terms and definitions? If yes, vocabulary questions are fine. If not, it's far better to incorporate the terminology into performance-based questions. Always look at the big picture. What is expected of people in the real world?

Examples

Example 1: The following are poor questions, because it's not enough for emergency medical personnel to know terms and definitions. They must know far more to fulfill their responsibilities. The answers to the questions below are (b), false, and *cyanosis*, respectively.

Weak: What is a bluish color of the skin called?

- a. Pallor
- b. Cyanosis
- c. Jaundice
- d. Discoloration

Weak: T/F A bluish color of the skin is called pallor.

Weak: A bluish color of the skin is called _____.

The questions above are a form of cheating. They show that the test writer took the easy way out rather than put an honest effort into writing questions. But they also cheat the ill or injured person whose life may depend on the test takers someday.

The following are better questions. They not only test if test takers know the word, they also show if test takers know what cyanosis typically indicates. The answers are (d), true, and *inadequate oxygen in the blood*, respectively.

Better: What is cyanosis characteristic of?

- a. Heat stroke
- b. High blood pressure
- c. Carbon monoxide poisoning
- d. Inadequate oxygen in the blood

Better: T/F Cyanosis typically indicates inadequate oxygen in the blood.

Better: Cyanosis may be present with many injuries or illnesses. What does it typically indicate?

Avoid weak vocabulary questions.

They show only that test takers recognize a word.



Use questions that measure whether test takers understand the significance of the information.

Vocabulary questions seldom reflect the level of knowledge expected of people in the real world.



It's better to incorporate terminology into performance-based questions.

The next questions are even better, because they test multiple concepts. They require test takers to know what cyanosis means, what causes it, and how to begin treating the patient. The answers are (a), true, and *reassess the airway*, respectively.

Best: If a patient is cyanotic, the first thing you should do is:

- a. Reassess the airway.
- b. Elevate the patient's legs.
- c. Monitor and record vital signs.
- d. Loosen constrictive clothing.

Best: T/F If a patient is cyanotic, the first thing you should do is reassess the airway.

Best: If a patient is cyanotic, what is the first thing you should do?

Example 2: The answers to the following questions are true, *stare decisis*, and (a), respectively. But the questions do nothing to show that test takers know how *stare decisis* works in the real world.

Weak: T/F The Latin term for the doctrine of precedent is "stare decisis."

Weak: The Latin term for the doctrine of precedent is _____

Weak: The Latin term for the doctrine of precedent is:

- a. Stare decisis.
- b. Certiorari.
- c. Prima facie.
- d. Res ipsa loquitur.

The following questions test vocabulary while also testing a higher level of understanding. The answers are true, *stare decisis*, and (a), respectively.

Better: T/F Case law is based on the concept of stare decisis.

Better: In general, _____ requires trial courts to follow published case law from appellate or supreme courts within the same jurisdiction.

Better: What does stare decisis mean in terms of how courts at different levels and in different jurisdictions will decide a case?

- a. Stare decisis applies only to published cases from appellate or supreme courts, not to unpublished cases or to published cases from trial courts.
- b. In a state with more than one appellate court district, a decision by one appellate court is binding on all the others throughout the state.
- c. Decisions made by a higher court in the same jurisdiction are persuasive authority, but lower courts can decide similar cases differently if they have good reason.
- d. Recent case law from other jurisdictions trumps older case law from the same jurisdiction.

Example 3: Here is a simple matching question that requires test takers to pair terms and definitions. It's better than the vocabulary questions in the previous examples, because it accomplishes more with less effort. But it's still just a vocabulary question. The answers are (g), (d), (a), (e), (c), and (h).

Fair: Next to each term in Column 1 below, write the letter of the corresponding definition in Column 2.

<u>Column 1</u>		<u>Column 2</u>
1. Myocardial infarction	_____	a. Severe allergic reaction
2. Cerebrovascular accident	_____	b. Rapid heartbeat
3. Anaphylactic shock	_____	c. Fluid in the lungs
4. Syncope	_____	d. Stroke
5. Pulmonary edema	_____	e. Fainting
6. Tension pneumothorax	_____	f. Inadequate oxygen
		g. Heart attack
		h. Collapsed lung

Again, it's possible to test multiple concepts at the same time. The question below requires test takers to know what the terms mean while demonstrating that they know telltale symptoms associated with the conditions. The answers for this matching question are (c), (g), (e), (f), (h), and (b).

Better: For each of the following signs and symptoms, select the most likely cause:

- _____ Paralysis, weakness, numbness, or loss of sensation on one side of the body. Speech disturbances. Loss of bowel or bladder control. Unequal pupils.
- _____ Light-headedness. Pale, moist skin. Sudden and temporary loss of consciousness, usually followed by rapid recovery once the patient is lying down.
- _____ Possible chest pain or pressure that is unrelieved by rest or nitroglycerin. Anxiety. Sense of impending doom.
- _____ Difficulty breathing, especially when lying down. Rapid, shallow breaths. Frothy, pink sputum in severe cases.
- _____ Severe respiratory distress with rapid deterioration. Unequal chest movement. Distended neck veins. Tracheal deviation.
- _____ Flushed, itching, or burning skin. Edema, especially of the face and tongue. Wheezing. Difficulty breathing that may worsen rapidly.

Conditions

- Abdominal aortic aneurysm
- Anaphylactic shock
- Cerebrovascular accident
- Ketoacidosis
- Myocardial infarction
- Pulmonary edema
- Syncope
- Tension pneumothorax

The potential answers in the revised question were put in alphabetical order for ease of reading. This is often a good practice with one- or two-word answers, but it's not a necessity.

Matching questions are often used to test vocabulary.



But most can be rewritten to test more complex concepts while also ensuring that test takers know the terms and definitions.

If both lists in a matching question contain an equal number of items, test takers can use the process of elimination to help fill in all the answers.



The question is more challenging when the lists contain an unequal number of items.

Example 4: Here we have another vocabulary question. Unlike the example on the previous page, this question contains an equal number of items in each list. So test takers who don't know all of the terms and definitions can still do fairly well through the process of elimination. The answers are (e), (f), (d), (a), (g), (b), and (c).

Fair: Match each of the terms in Column 1 with a definition in Column 2.

Column 1		Column 2
1. Corpus delicti	_____	a. "The thing speaks for itself"
2. Mens rea	_____	b. "To stand by things decided"
3. Nolle prosequi	_____	c. "To speak the truth"
4. Res ispa loquitur	_____	d. "Not to wish to prosecute"
5. Scienter	_____	e. "Body of the crime"
6. Stare decisis	_____	f. "Guilty mind"
7. Voir dire	_____	g. "Knowingly"

The revised question is more effective for demonstrating that test takers understand the concepts associated with these terms. And this time, there are three more definitions than there are terms, so test takers can't use the process of elimination. They must know the material. The answers are (a), (e), (f), (j), (i), (h), and (b).

Better: Match each of the terms below with the appropriate definition.

1. Corpus delicti	_____
2. Mens rea	_____
3. Nolle prosequi	_____
4. Res ispa loquitur	_____
5. Scienter	_____
6. Stare decisis	_____
7. Voir dire	_____

a. The physical evidence of a crime.
b. The process of questioning potential jurors.
c. The party who makes the decisions in a lawsuit.
d. A law passed against or in favor of a specific individual.
e. A state of mind involving criminal intent or recklessness.
f. Legal notice that a lawsuit or prosecution has been abandoned.
g. The wrongful deed that comprises the physical components of a crime.
h. The doctrine requiring courts to follow precedent set in earlier judicial decisions.
i. A degree of knowledge that makes a person legally responsible for his or her act or omission.
j. A doctrine that justifies a presumption of negligence based on the circumstances surrounding an accident.

The definition list above was put in order by line length. This optional strategy can make answers easier to read—providing one isn't working with a list that must be in sequential order instead.

Exceptions to the Rule

Not all vocabulary questions are weak or ineffective. Some test important concepts that *should* be on the exam.

Example 5: Some beginning law students are unsure what it means when an appellate court remands a case. They may erroneously believe that *remand* means *reverse*. It's important that students understand what they're reading when they look at the disposition of a case. So these are worthwhile vocabulary questions.

The answers to the first two questions are (d) and false, respectively. The answer to the third is that when an appellate court remands a case, it sends the case back to the trial court for further action based on a particular holding.

Good: When an appellate court remands a case, it:

- a. Reverses the trial court's ruling.
- b. Affirms the trial court's ruling.
- c. Modifies the trial court's ruling.
- d. Sends the case back to the trial court for further action.

Good: T/F When an appellate court remands a case, it reverses the trial court's ruling.

Good: Describe what it means when an appellate court remands a case.

Example 6: The prefix *in-* usually signals "not." Examples include *inaccurate*, *incomplete*, and *ineffective*. So it's logical to think that *inflammable* means "nonflammable." But believing that could be a deadly mistake, because *inflammable* means "flammable." This need-to-know information justifies any of the vocabulary questions below. The answers are (a) to the first two questions and true to the last two.

Good: *Inflammable* means:

- a. Flammable.
- b. Nonflammable.
- c. Explosive.

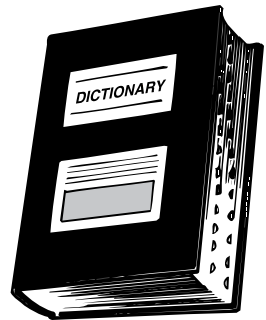
Good: An inflammable gas or liquid is:

- a. Flammable.
- b. Nonflammable.
- c. Explosive.

Good: T/F *Inflammable* means "flammable."

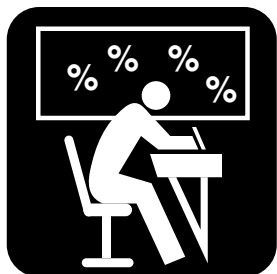
Good: T/F An inflammable gas or liquid is flammable.

Not all vocabulary questions are weak and ineffective. Some test important concepts that should be on an exam.



But they are the exception rather than the rule. Most vocabulary questions should be avoided.

Statistical questions are not inherently bad. But it's essential to focus on meaningful statistics rather than trivia.



Statistics may be meaningful if they remind test takers of information that will help them be more effective in the real world.

Avoid Trivial Statistics

Rationale

Statistical questions are not inherently bad. But many test writers focus on unimportant details when writing statistical questions. They ask about trivia instead of testing on meaningful information. Or they use statistical questions that are less valuable than ones they could (or should) ask.

Use statistical questions only if they remind test takers of information that will help them be more effective in the real world. For example, statistics that might be meaningful in a class on crime prevention might not be meaningful in a class on criminal investigation or police procedures. Students in the latter classes are more focused on their responsibilities once a crime has been committed than they are on how frequently such crimes occur.

Examples

Example 1: The answer to the following question is (d), but it's not an important statistic to police en route to a robbery call.

Trivial: Only about _____ of robberies committed are reported to the police.

- a. 35%
- b. 45%
- c. 55%
- d. 65%

It is useful, on the other hand, for officers to know the likelihood of encountering multiple offenders and chances that the robber(s) will be armed. The answers to the following questions are (b) and (c), respectively.

Better: Approximately _____ of robberies are committed by multiple offenders.

- a. 40%
- b. 50%
- c. 60%
- d. 70%

Better: Weapons are used in approximately _____ of robberies nationwide.

- a. 40%
- b. 50%
- c. 60%
- d. 70%

Example 2: The following statistic might be important to someone designing pool safety systems, but it's not as meaningful to emergency responders, who are going to do their best to save *any* drowning victim, regardless of age. The answer to the question is (a).

Trivial: Approximately _____ of fatal drowning victims are children 14 and younger.

- a. 20%
- b. 30%
- c. 40%
- d. 50%

The next question is better, because it reminds emergency responders that drowning victims should always be evaluated in a hospital, even if they appear to be recovering rapidly after being rescued from the water. You can't take chances when roughly 15% of all drowning deaths are due to secondary complications. The answer to the question is (a).

Better: Approximately _____ of all drowning deaths are due to secondary complications.

- a. 15%
- b. 25%
- c. 35%
- d. 45%

**The value
of statistics
depends on the
audience.**



**What is
meaningful to
one group of
test takers may
be trivial to
another.**

Avoid Trick Questions and Red Herrings

Rationale

The goal of every test writer should be to measure knowledge, not to trick the test takers. It's inappropriate to sneak in little gotchas to see who's paying attention and who isn't. It's unfair to force test takers to be mind readers because the answers depend on how one interprets the questions. It's dishonest to plant red herrings like mystery writers do. Don't treat test writing like it's a game of wits against the test takers.

Examples

Example 1: It's hard to tell if the first question below is a trick question or a poorly written one. Regardless, the answer could be (b) or (d), depending on how one interprets it. The right to counsel guaranteed by the Sixth Amendment (ratified in 1791) applied only to defendants charged with crimes in *federal* court. But the right to counsel in *state* court comes primarily from the Fourteenth Amendment (ratified in 1868).

Tricky: A criminal defendant's right to be represented by counsel comes from the:

- a. Fifth Amendment.
- b. Sixth Amendment.
- c. Eighth Amendment.
- d. Fourteenth Amendment.

The revised questions below are clear enough for test takers to know what is expected. The answers are (b) and (d), respectively.

Revised: Which Constitutional amendment was written to ensure the right to counsel for defendants charged with crimes in federal court?

- a. Fifth Amendment.
- b. Sixth Amendment.
- c. Eighth Amendment.
- d. Fourteenth Amendment.

Revised: A criminal defendant's right to counsel in state court comes primarily from the:

- a. Fifth Amendment.
- b. Sixth Amendment.
- c. Eighth Amendment.
- d. Fourteenth Amendment.

(In reality, it took nearly 100 years before the U.S. Supreme Court definitively determined that the vague language in the due process clause of the Fourteenth Amendment guaranteed criminal defendants the right to counsel in state court. See the next example.)

Avoid trick questions and red herrings. The goal for every test writer should be to measure knowledge, not to trick the test takers.



Don't treat test writing like it's a game of wits against the test takers.

It's unfair to sneak in little gotchas to see who's paying attention and who isn't.



It's unfair to plant red herrings like mystery writers do.

Example 2: The following question might simply contain a typo (1968 versus 1963). But if it was intended to trick test takers, it's grossly unfair. The correct answer for the revised question is true.

Tricky: T/F In *Gideon v. Wainwright*, 372 U.S. 335 (1968), the U.S. Supreme Court held that the Fourteenth Amendment guaranteed defendants charged in state court the right to assistance from counsel.

Revised: T/F In *Gideon v. Wainwright*, 372 U.S. 335 (1963), the U.S. Supreme Court held that the Fourteenth Amendment guaranteed defendants charged in state court the right to assistance from counsel.

Example 3: This example contains a red herring. The question is designed to see if test takers know the best way to immobilize a possible hip fracture. The answer is (d). But the first question distracts test takers with information about unexplained abdominal pain that has no bearing on the cause of the fall, the extent of the injuries, or the care required. Nor is this the type of question that requires test takers to sort through several facts (some important, some not) to arrive at a conclusion. You're not writing a mystery. Don't try to divert test takers with false clues.

Herring: You have been called to the home of a 75-year-old female who fell in her garage. She is complaining of severe pain in her left hip. Although circulation, sensation, and motor function are present distal to the injury, the patient cries out at the slightest movement. As you check the woman for other injuries, she tells you that her stomach hurts too. She says that it has been bothering her for weeks, but her doctors have been unable to determine the reason for her stomach pain. The best way to immobilize this patient's injuries are probably with a/an:

- a. Air splint.
- b. Traction splint.
- c. Pneumatic antishock garment.
- d. Long board or scoop stretcher and pillows.

Revised: You have been called to the home of a 75-year-old female who fell in her garage. She is complaining of severe pain in her left hip and cries out at the slightest movement. The best way to immobilize this patient's injury is probably with a/an:

- a. Air splint.
- b. Traction splint.
- c. Pneumatic antishock garment.
- d. Long board or scoop stretcher and pillows.

Although this example was used to illustrate a red herring, it's also symbolic of the problems that can happen when test writers try to be too realistic. This is based on a real event. But fidelity to the truth just mucks up the question. Take a tip from good fiction writers, and omit trivia that adds nothing to the story.

Tests should not be either too easy or too difficult. They should accurately reflect what is expected of test takers in the real world.



Questions should evaluate knowledge versus experience. They should not be so specific that only an expert would know the correct answer.

Test to the Appropriate Level

Rationale

Throughout the previous pages, you've seen examples of testing to the appropriate level. But now it's time to examine the topic more closely. Let's start with four basic assumptions:

- Tests should not be disproportionately easy or hard when viewed in the context of the class taught, the material studied, the position or promotion sought, etc. Neither extreme is fair.
- Tests should reflect what is expected of test takers upon completion of the course or before moving on to the next level. For example, if test takers are expected to demonstrate competency or proficiency in the real world, questions should not be written at the awareness level.
- Tests should be designed to evaluate knowledge versus experience. Although test takers with experience in the field may find it easier to complete the test, experience shouldn't be a prerequisite to success.
- Questions should not be so specific that only an expert would know the correct answer.

Educators commonly refer to the cognitive levels of learning identified in Bloom's Taxonomy (*The Taxonomy of Educational Objectives, The Classification of Educational Goals, Handbook I: Cognitive Domain* by Benjamin Bloom [editor], M. D. Englehart, E. J. Furst, W. H. Hill, and David Krathwohl). Those six levels, in order from lowest to highest, are as follows:

- **Knowledge:** This level requires remembering facts, terms, concepts, definitions, principles, etc. Test takers are asked to define, list, identify, label, name, state, and so forth.
- **Comprehension:** This level involves explaining or interpreting the meaning of material. Test takers are asked to explain, predict, interpret, infer, summarize, convert, translate, give examples, or paraphrase.
- **Application:** This level requires using a concept or principle to solve a problem. Test takers must apply, solve, show, make use of, modify, demonstrate, or compute.
- **Analysis:** This level involves breaking down material into its component parts to identify the parts, analyze the relation between parts, and identify the organizational principles. Test takers are asked to differentiate, compare and contrast, distinguish, etc.
- **Synthesis:** This level involves putting parts together to form something new. Test takers must design, construct, develop, formulate, imagine, create, change, or write.
- **Evaluation:** This level requires the ability to judge the value of material for a given purpose. Test takers are asked to appraise, evaluate, justify, judge, critique, or recommend.

As you write test questions, you can refer to the list above for ideas. Pay particular attention to the verbs and how closely they match your questions. That may help you judge how easy or challenging your questions are.

For some, the cognitive levels of learning in Bloom's Taxonomy are tough to apply, in part, because these descriptions are not as clear-cut as they may appear. For instance, test takers may be asked to identify which of four options best fits with the premise, but doing so requires an analysis or evaluation of several factors. So what looks like a knowledge-level question is really more challenging.

In the seventh edition of *Fire Service Instructor*, the International Fire Service Training Association (IFSTA) presented a simpler way to define the levels of learning. IFSTA identified only three levels:

- **Level 1 - Basic Knowledge (Basic):** The first level is one of basic knowledge and awareness. It requires test takers to recall, recognize, and identify.
- **Level 2 - Competent (Intermediate):** The second level is one of competency. It requires test takers to apply their knowledge to prescribed problems.
- **Level 3 - Highly Proficient (Advanced):** The third level is one of high proficiency. Test takers must apply their knowledge to a new set of circumstances. They must think outside the box.

Because this categorization is more user-friendly than Bloom's Taxonomy, these are the levels that will be illustrated in the examples that follow.

It's probably fair to say that if you shoot for writing Level 2 questions, you'll be on-target most of the time. Level 2 questions strike a comfortable balance. They show test takers that you treat the topic seriously and expect them to do the same. But the questions are not so challenging that they leave test takers with a sense of failure. When in doubt, let Level 2 be your starting point.

You can scale down to Level 1 if you are writing questions for an introductory course, a pre-employment test, or other exam where test takers need exhibit only basic knowledge or awareness. Conversely, you can increase to Level 3 if you're writing tests for use in upper-division classes, in classes where students must master life-or-death concepts, and on tests designed to weed out weak performers.

Again, tests should reflect the level of competency or proficiency expected of test takers in the real world. For example, someone who is hired by an ambulance company upon completing Emergency Medical Technician (EMT) training essentially has the power of life and death over patients. Although he or she will work with a senior partner who provides more on-the-job training, there's little room for error. That new EMT must be competent enough to do the right thing when the senior partner is not directly supervising (such as when both are caring for different patients at an automobile accident). So tests required for EMT certification should be sufficiently challenging.

Other test takers may be competing with more experienced job seekers. Potential employers may not expect a recent graduate to hit the ground running, but neither can they afford to disrupt their businesses to the point that they're teaching basics the new employee *should* have learned in school. Nor can they afford to have new employees make mistakes that will negatively affect their businesses and their customers.

Questions can be categorized based on the level of competency or proficiency expected of test takers.



**Level 1:
Basic Knowledge
(Basic)**

**Level 2:
Competent
(Intermediate)**

**Level 3:
Highly Proficient
(Advanced)**

Shoot for writing Level 2 questions as your starting point. Then increase or decrease the level of difficulty as appropriate.



This strategy can help you avoid writing questions that are disproportionately easy or hard.

Examples

Example 1: This series of questions demonstrates an increasing level of difficulty for personnel who respond to hazardous materials incidents. The answer to the first question is (c).

- Level 1:* A normal atmosphere contains approximately _____ oxygen?
- a. 19%
 - b. 20%
 - c. 21%
 - d. 22%

The answer to the next question is also (c). Here, test takers must show that they can use the information above. This knowledge can be important if emergency responders have only an oxygen meter versus one capable of detecting specific contaminants.

- Level 2:* You get a reading of 20% oxygen (almost a 1% drop from normal). How much of a displacing gas (contaminant) is likely to be present?
- a. 1%
 - b. 3%
 - c. 5%
 - d. 7%

Since oxygen comprises just over one-fifth (20.9%) of the gases found in a normal atmosphere, a 1% drop in oxygen means that close to 5% of the normal atmosphere has been displaced. Hence there may be as much as 5% of a contaminating gas in the atmosphere.

Here's a more challenging problem based on a hypothetical scenario. Answer (a) is the best choice.

- Level 3:* You get a reading of 20.5% oxygen in an atmosphere suspected to contain acetone vapors. Acetone has a lower explosive limit (LEL) of 2.5% and an upper explosive limit (UEL) of 12.8%. What do these initial oxygen readings suggest?
- a. The acetone concentration may be below the LEL.
 - b. The acetone concentration may be within the flammable range.
 - c. The acetone concentration may be above the UEL.
 - d. The initial readings do not provide any information that can be used to predict flammability.

A 0.4% drop in oxygen means that roughly 2.0% of the normal atmosphere has been displaced. (Remember, oxygen comprises just over one-fifth of the atmosphere. Multiply 0.4 times 5.) If the atmosphere contains 2.0% acetone, the acetone concentration is likely to be below the LEL of 2.5%. Other monitoring equipment should be used to confirm actual concentration, but initial readings do provide some information to help predict flammability.

Example 2: The problems in this example show escalating challenges for students in a legal research class. First, students are asked to cite factors that courts consider in determining if a resident of one state can be sued in another. Students need only demonstrate a basic understanding of personal jurisdiction. (Answers are not provided for these essay questions.)

Level 1: List at least four factors that courts must consider in determining whether they can exercise personal jurisdiction over nonresident defendants.

The next problem requires not only that students understand the basic principles but also that they can find and properly cite primary authority.

Level 2: Summarize in five pages or less the basic principles that allow a court to exercise personal jurisdiction over a nonresident defendant. Cite your sources using proper *Bluebook* citation format.

Finally, students are given a research assignment based on a scenario that they might encounter in a law office. Notice that the expectations to use the IRAC method and proper *Bluebook* citation format are made clear right away. (IRAC stands for issue, rule, analysis, and conclusion).

Level 3: Using the IRAC method, write a legal memorandum to your supervising attorney based on the following problem. Cite your sources using proper *Bluebook* citation format.

While living in California, Robert borrowed \$500,000 from his friend Glenn to purchase property in Nevada and start an auto restoration business. Robert faithfully paid Glenn \$3000 per month for the first two years, but then his once-thriving business was hit hard by the recent recession. Nine months ago, he stopped paying Glenn according to their written agreement. And three months ago, Robert transferred the property to his parents by quit claim deed. Glenn fears that Robert fraudulently transferred the property to escape his obligation to repay the loan.

Glenn has reluctantly come to your law firm to discuss the possibility of filing a lawsuit against Robert and his parents. Even though Robert is now living in Nevada, Glenn can sue him in California, because the contract was formed in California at a time when Robert was living there. But what about Robert's parents, who reside in Nevada and had nothing to do with the contract? If Glenn names them in a cause of action for conspiracy to commit a fraudulent transfer, can a California court exercise personal jurisdiction over these nonresident defendants?

Additionally, what must Glenn prove to show that the property was fraudulently transferred? And what remedies are available under the Uniform Fraudulent Transfer Act?

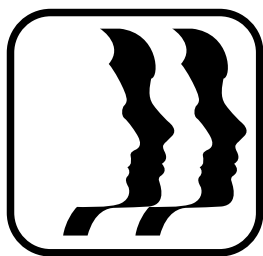
This is a good example of requiring students to apply their knowledge to a new set of circumstances.

Tests should reflect the level of competency or proficiency expected of test takers in the real world.



Questions that are too easy are a disservice to test takers and everyone "downstream."

Avoid questions so narrow in scope that they apply to only a small percentage of the test takers.



If you have a broad audience, write broad questions.

Write for the Common Denominator

Rationale

Sometimes you'll have a mix of test takers, each with different backgrounds and different needs. When that's the case, write your questions for the common denominator. This *doesn't* mean the *lowest* common denominator. Your goal isn't to dummy-down the test so that everyone is guaranteed to pass. Rather, as much as practicable, your questions should be applicable to all test takers. It's unfair to expect people to memorize information that is so narrow in scope that the questions apply to only a small percentage of the test takers.

Examples

Example 1: The first question below may be appropriate on a test geared for paramedics and emergency room personnel, but other emergency responders are unlikely to know the specific antidotes for nerve agents. The answer to the question is (d).

Narrow: Emergency treatment for nerve agent exposure may include all of the following drugs **except**:

- a. Atropine.
- b. Pralidoxime chloride.
- c. Diazepam.
- d. Amyl nitrate.

The revised question also includes information about antidotes, but test takers don't have to know what drugs are in a MARK 1 Nerve Autoinjector. They only have to know that using it may be part of the treatment protocol. The correct answer to the question is (d).

Broad: Emergency treatment for nerve agent exposure may include all of the following **except**:

- a. Removing contaminated clothing, and flushing contaminated skin with copious amounts of water.
- b. Administering oxygen.
- c. Administering a MARK 1 Nerve Autoinjector (if available and permitted by local protocols).
- d. Encouraging patients to drink water to replace lost fluids.

Example 2: All four questions in this example are good questions, but the first one is so narrow in scope that many legal professionals may not know the answer. The answer is true.

Narrow: T/F The ownership of a copyright may be bequeathed by will or may pass as personal property by the applicable laws of intestate succession.

The following questions are broader in scope, so they work for a larger audience. Both true/false questions below are true. The answer to the multiple-choice question is (c).

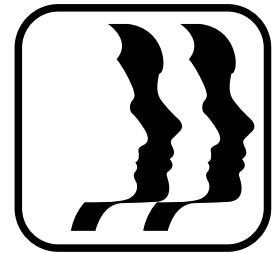
Broad: T/F In the case of a work made for hire, the employer or other person for whom the work was prepared is considered the author unless the parties have expressly agreed otherwise in writing.

Broad: T/F Copyright in a work created on or after January 1, 1978, lasts for the life of the author plus 70 years after his or her death.

Broad: Copyright in a work created on or after January 1, 1978, lasts for the life of the author plus _____ years after his or her death.

- a. 25
- b. 50
- c. 70
- d. 95

If a question is so narrow in scope that few professionals in the field would know the answer, it's not appropriate to include it in your test.



Concentrate on questions that work for a large audience.

Chapter 2

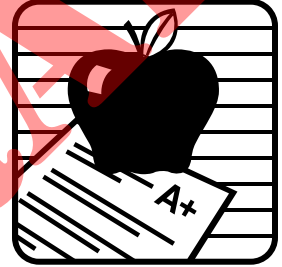
Write the Questions Well

Focusing on the key concepts, as addressed in Chapter 1, is only half the battle. You can't accurately assess what test takers know if the questions aren't well-written.

Some questions are unnecessarily difficult because they are poorly written. They may contain more than one correct answer. They may be neither true nor false as written. They may contain so much detail that they make it hard for test takers to focus on key points. This section is designed to help you spot these problems and correct them.

Additional information on grammar, punctuation, and related rules of writing can be found in Chapter 4.

**Write your
questions well.**



**Questions
shouldn't be
unnecessarily
difficult due to
poor writing.**

Distractors should be plausible enough that people who don't know the correct answer may select a distractor instead.



Don't give away the answers by writing distractors that couldn't possibly be right.

Use Plausible Distractors

Rationale

Use plausible distractors (wrong answers) when writing multiple-choice questions. The distractors should be plausible enough and attractive enough that people who don't know the correct answer may select a distractor instead. It's acceptable to have one or two distractors that are weaker than the others, but don't give away the answer by writing distractors that couldn't possibly be right.

Don't feel that you must write four options for every multiple-choice question. If the content lends itself to only three good options, stop at three. Don't add a nonsense option just to have four.

Examples

Example 1: The primary purpose of the exclusionary rule—the rule that makes evidence seized in violation of the Fourth Amendment inadmissible in a criminal case—is to deter police misconduct. So the correct answer to both questions below is (a).

Weak: The primary purpose of the exclusionary rule is to:

- a. Deter police misconduct.
- b. Make it easier for defense attorneys to get their clients acquitted on a technicality.
- c. Make sure that prosecutors have a solid case before charging someone with a crime.
- d. Give judges more discretion in determining what evidence to admit or exclude at trial.

Good: The primary purpose of the exclusionary rule is to:

- a. Deter police misconduct.
- b. Protect the integrity of the judicial system.
- c. Avoid sending innocent people to jail.
- d. Encourage police to obtain search warrants, except when exigent circumstances make it impossible.

Part of what makes answer (b) in the revised question a strong distractor is that it's often cited in court opinions. But it is usually cited as being secondary to deterring police misconduct. Answers (c) and (d) in the revised question are strong, believable answers also. Conversely, the distractors in the first question are more likely to be said in jest or sarcasm.

Example 2: In the plastics industry, inhibitors are sometimes used to prevent dangerous polymerization reactions. Thus the answer to both questions below is (a). At best, you might get a chuckle from using *narcotics* and *sedatives* as distractors, but no one would consider them plausible answers.

Poor: _____ are sometimes added to other substances to slow or stop a chemical reaction.

- a. Catalysts
- b. Inhibitors
- c. Narcotics
- d. Sedatives

The revised question is better, but how valuable it is will depend on the audience. It may be too easy in a college chemistry course, where students are expected to master the terminology early. It might be just right in a class for emergency responders whose lives may depend on understanding the terminology in a material safety data sheet or other reference source.

Better: _____ are sometimes added to other substances to slow or stop a chemical reaction.

- a. Catalysts
- b. Inhibitors
- c. Monomers
- d. Polymers

Example 3: Someone who knows little about radioactive materials might struggle with the first question below, but anyone who has had some training will quickly rule out the distractors. This question is also an example of an incomplete premise, which was addressed in the previous guideline. The correct answer to both questions below is (b).

Poor: Half-life is:

- a. A measure of how long it takes for a person exposed to radioactive materials to become radioactive.
- b. A measure of how long it takes for one half of a given amount of radioactive material to decay to something else.
- c. The potential for a radioactive material to cut an exposed person's life expectancy in half.
- d. The best indication of how life-threatening a radioactive material is.

Answers (c) and (d) in the revised question won't fool people who know the material, but answer (a) is plausible enough and close enough to the correct answer that test takers will have to consider both (a) and (b) carefully.

Good: Half-life measures how long it takes for:

- a. Radioactive materials to decay to something non-hazardous.
- b. One half of a given amount of radioactive material to decay to something else.
- c. Stable atoms to become radioactive once exposed to a source of radiation.
- d. Half of an exposed population to exhibit effects of radiation sickness.

Don't feel that you must write four options for every multiple-choice question.



If the content lends itself to only three good options, stop at three.

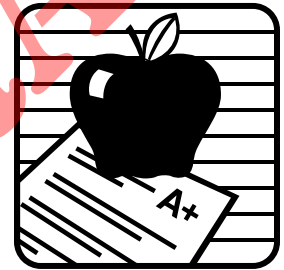
Chapter 3

Don't Give Away the Answers

Test writers sometimes give away the answers in the way they word their questions. Consequently, test takers are able to answer questions correctly, not necessarily because they know the material, but because they are sharp enough to spot the giveaways. (They outsmart the test writer.)

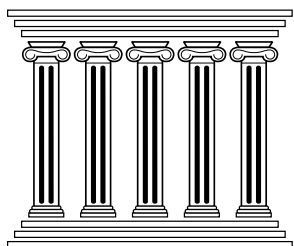
This section is designed to help you avoid the giveaways that weaken your test and make it a less effective tool for measuring what people know.

Don't give away the **answers** with **poorly worded questions**.



This section will help you avoid the giveaways that can make your test a less effective tool for measuring what people know.

Nonparallel structure is often a giveaway, particularly when the correct answer is worded differently from the distractors.



Use parallel structure for all answers.

Don't Give Away the Answers with Nonparallel Structure

Rationale

To use parallel structure means to use like form or structure in your writing. In other words, when two or more items or ideas are presented in the same sentence or list, the wording should be similar. Nonparallel structure is often a giveaway, particularly when the correct answer is worded differently from the distractors.

Examples

Example 1: The three distractors below are worded as dependent clauses, whereas the correct answer contains two independent clauses. The different wording points to (d) as the answer.

Giveaway: When should you treat for shock in caring for a patient with serious injuries?

- a. If you notice the signs and symptoms of shock.
- b. If the patient's condition begins to decline.
- c. After you treat all other injuries.
- d. Treat for shock routinely. Do not wait for the signs and symptoms to develop.

Revised: When should you treat for shock in caring for a patient with serious injuries?

- a. If you notice the signs and symptoms of shock.
- b. If the patient's condition begins to decline.
- c. After you treat all other injuries.
- d. Routinely, without waiting for the signs and symptoms to develop.

Example 2: The three distractors below are sentence fragments, whereas the correct answer is a complete sentence. Again, the different wording points to answer (d).

Giveaway: To prove the *corpus delicti* in a murder trial, prosecutors:

- a. May rely on the defendant's confession.
- b. Must show proof of a dead body.
- c. Must be more convincing than the defense attorney.
- d. They must show direct proof or circumstantial evidence establishing that the victim was murdered.

Revised: To prove the *corpus delicti* in a murder trial, prosecutors:

- a. May rely on the defendant's confession.
- b. Must show proof of a dead body.
- c. Must be more convincing than the defense attorney.
- d. Must show direct proof or circumstantial evidence establishing that the victim was murdered.

Chapter 4

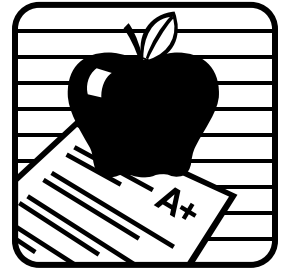
Use Good Grammar

This section briefly addresses grammar, punctuation, and related rules of writing. It is included to help you:

- Avoid errors that can change the meaning of your sentences.
- Avoid problems that can make it more difficult for people to read and understand test questions.
- Avoid errors that test takers find distracting.
- Present yourself as an intelligent and educated professional.

Some of the information was touched on in previous sections. Some of it is new.

By using good grammar and punctuation, you can avoid errors that might change the meaning of your sentences.



You can also avoid problems that make it more difficult for people to read and understand test questions.

Being concise is fundamental to effective writing.



The key to writing concisely is using words economically and omitting words that don't add value.

Write Concisely

Rationale

Being concise is fundamental to effective writing. Writing concisely does not mean omitting details for the sake of brevity. Nor does it require writers to sacrifice creativity. But it does mean using words economically and omitting words that don't add value.

Writing concisely requires more time and effort than simply getting your thoughts down on paper does. But it's a process—as is any aspect of writing well. Good writers often start with a rough first draft, doing very little editing in the first pass. That first pass is all about getting Critical Self out of the way long enough for Creative Self to breathe life into the project. But once the content is down on paper, good writers devote themselves to refining their work. For many, the editing is more fun and more creative than the first pass. And part of the joy comes from artfully using the English language to convey ideas as economically as possible.

It's beyond the scope of this book to cover this topic in depth. But we'll touch on a few guidelines that will benefit you in any writing you do.

Unnecessary repetition

Repetition is sometimes an effective tool to make writing more coherent or emphatic. Careless repetition, however, will weaken your writing. Here's a simple example of unnecessary repetition. There's no difference between *white* and *white in color*. So delete the extra two words.

- Wordy:* Tanks containing high-pressure gases generally have at least the top two-thirds painted white in color.
Concise: Tanks containing high-pressure gases generally have at least the top two-thirds painted white.

Here's another example of unnecessary repetition, along with two fixes.

- Wordy:* The defendant killed her by smothering her to death.
Concise: The defendant killed her by smothering her.
Concise: The defendant smothered her to death.

Little redundancies can creep into your writing because of the way people sometimes express thoughts verbally. Consider the following examples.

<u>Redundant</u>	<u>Concise</u>
advance warning	warning
unexpected surprise	surprise
intentional sabotage	sabotage
totally demolished	demolished

When an adjective or adverb adds nothing to the word it modifies, delete the redundant modifier.

Wordy phrases

Replace wordy phrases, like those below, with more concise ones.

<u>Wordy</u>	<u>Concise</u>
at the present time	now, currently
at that point in time	then
until such time as	until
at a later date	later
ahead of schedule	early
for the purpose of	for
in order to	to
for the reason that	because
because of the fact that	because
in the event that	if
provided that	if
during the course of	during
pertaining to	about
in spite of the fact that	although, even though
a sufficient number of	enough
it is my opinion that	I think

Excessive detail

In these examples, the unnecessary language makes the sentences unclear and difficult to read. Readers quickly become frustrated with such garbled writing. The revisions convey everything the original sentences do. But they are clearer and more eloquent in their simplicity.

- Unclear:** The operations concepts addressed in this plan allow for the emergency response and mitigation efforts relating to a broad spectrum of hazards with which the site could be faced. (29 words)
- Clear:** This plan contains guidelines for responding to a variety of emergencies. (11 words)
- Unclear:** If special assistance is required for the evacuation of disabled persons, assist as necessary with “buddies” or Emergency Response Teams if the evacuation buddies are unable to accomplish the action. (30 words)
- Clear:** Assign employees to help evacuate disabled people as needed. (9 words)

Weak and wordy expressions

The English language is filled with wonderful adjectives and adverbs that enhance our ability to express ideas. But the best writers seldom rely on adjectives and adverbs. Instead, they select strong nouns, verbs, and other expressions that convey the intended meaning without help.

This doesn’t mean you should eliminate adjectives and adverbs from your writing. They’re often necessary, as in the example of *parched* grass below. But ideas should be conveyed as concisely as possible.

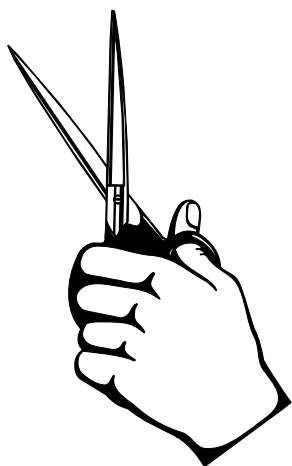
- Wordy:** The fire spread quickly through the bone dry grass.
- Concise:** The fire raced through the parched grass.

Avoid unnecessary repetition, redundant modifiers, and excessive detail.



Use strong words and expressions that convey the intended meaning without additional help.

Avoid discretionary expressions that introduce ambiguity.



If you challenge yourself to convey your message in as few words as possible, you will find it easier to write concisely.

Avoid de-energizing your sentences by burying verbs in wordier expressions, such as those in the left-hand column below.

<u>Weak</u>	<u>Strong</u>
conducted an investigation	investigated
managed to escape	escaped
reached an agreement	agreed
came to the realization	realized
made a decision	decided

Think about word count when you're writing. Ask yourself, "How can I say the same thing in as few words as possible?" If you challenge yourself that way, you'll find it much easier to write concisely.

- Wordy:* The earthquake, which was terrifying and occurred without warning, displaced hundreds of people from their homes. (16 words)
- Concise:* The sudden, terrifying earthquake left hundreds homeless. (7 words)

Discretionary expressions

Discretionary expressions used to qualify a statement can sometimes introduce ambiguity. Consider the phrase *for all intents and purposes* in the following example. Is the investigation complete or not? If it is, don't add the extra words. If it's not complete, specify what still needs to be done.

- Unclear:* The investigation is complete, for all intents and purposes.
- Clear:* The investigation is complete.
- Clear:* The investigation is complete, except for the independent analysis from a private lab.

What about the phrase *all things considered* in the first example below? What does that really mean? It may be appropriate if the sentence follows a discussion of problems encountered at the fire. By itself, however, the phrase raises questions. It is better to eliminate the phrase or replace it with specific information.

- Unclear:* All things considered, we made a good stop on the fire.
- Clear:* We made a good stop on the fire.
- Clear:* Despite delays due to difficult access and poor hydrant pressure, we made a good stop on the fire.

Examples

Let's now look at these concepts in some sample test questions.

Example 1: This example illustrates unnecessary repetition. *Consensus* and *consensus of opinion* mean the same thing ... both of which will result in mistrials. The answer to these questions is true.

Wordy: T/F In most criminal cases, if jurors cannot reach a consensus of opinion, the court will declare a mistrial.

Concise: T/F In most criminal cases, if jurors cannot reach a consensus, the court will declare a mistrial.

Concise: T/F In most criminal cases, if jurors cannot agree on a verdict, the court will declare a mistrial.

Example 2: The first question below is confusing because of a second sentence that's unnecessary. (This is a variation of the discretionary expressions illustrated earlier.) Test takers should have no trouble distinguishing between substantive and procedural law. But are they two sides of the same coin? They're clearly related. But what does the test writer mean by *two sides of the same coin*? And is it significant? This feels like a trick question. Many test takers will struggle with it. The answer to both questions should be true.

Confusing: T/F Substantive law outlines our rights and responsibilities, whereas procedural law sets forth the methods we use to enforce our rights. They are two sides of the same coin.

Clear: T/F Substantive law outlines our rights and responsibilities, whereas procedural law sets forth the methods we use to enforce our rights.

Example 3: Writing concisely is a process. Your first pass at a test question might look like the first example below. That's okay. Capture the content, then worry about refining the question. The answer to both questions is (b).

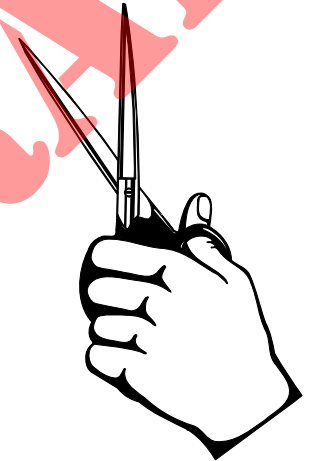
Wordy: The way that nitroglycerin works to relieve pain for someone suffering from angina is:

- a. By regulating the beating of the heart.
- b. By dilating the blood vessels in order to allow more blood and oxygen to reach the heart and vital organs.
- c. By dissolving blood clots that are clogging the coronary arteries and restricting blood flow to the heart.
- d. By numbing pain receptors in the heart muscle.

Concise: Nitroglycerin helps relieve angina pain by:

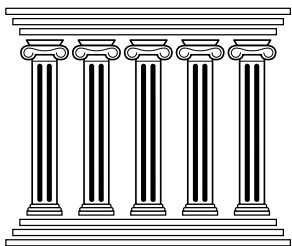
- a. Regulating the heartbeat.
- b. Dilating the blood vessels so more blood and oxygen can reach the heart.
- c. Dissolving blood clots that are restricting blood flow to the heart.
- d. Numbing pain receptors in the heart muscle.

**Writing concisely
is a process.**



**Get your
thoughts
down on paper
first. Then
look for ways
to convey the
message more
economically.**

Earlier in the book, nonparallel structure was cited as a problem that often gives away the answer.



But nonparallel structure can also be a source of confusion or distraction for test takers.

Use Parallel Structure

Rationale

To use parallel structure means to use like form or structure in your writing. In other words, when two or more items or ideas are presented in the same sentence or list, the wording or format should be similar.

Earlier in the book, nonparallel structure was cited as a problem that often gives away the answer. But the emphasis in this section is on writing well so that test takers aren't confused or distracted by poor writing.

Examples

Example 1: Nonparallel structure is most obvious in multiple-choice questions due to the vertical list format. Three of the answers below are written as directions, and two are written as statements of fact. Bad form like this often forces test takers to reread the question for clarity. That's a disservice to test takers. The answer to both of these questions is (e).

Poor: If you are the public information officer at an emergency scene, you should do all of the following **except**:

- a. Choose a safe interview location where the media can get good pictures.
- b. Speak clearly and concisely, providing the media with good sound bites if possible.
- c. Information must be approved by the incident commander before it is released to the media.
- d. Anticipate likely questions and have good answers ready.
- e. If you do not know the answer to a question, it is best to say, "No comment."

Good: If you are the public information officer at an emergency scene, you should do all of the following **except**:

- a. Choose a safe interview location where the media can get good pictures.
- b. Speak clearly and concisely, providing the media with good sound bites if possible.
- c. Ensure that information has been approved by the incident commander before releasing it to the media.
- d. Anticipate likely questions and have good answers ready.
- e. Say "No comment" if you do not know the answer to a question.

Example 2: Nonparallel structure can also occur in horizontal lists. The first question below isn't bad enough to interfere with clarity, but it can be distracting. The answer to these questions is true.

Poor: T/F In negligence cases, children are judged by a different standard than adults are. A child is required to use the degree of care that a reasonably careful child who is the same age, being equally intelligent and having similar experience, would use in that same situation.

Good: T/F In negligence cases, children are judged by a different standard than adults are. A child is required to use the degree of care that a reasonably careful child of the same age, intelligence, and experience would use in that same situation.

Example 3: This example is worse than the previous one, because while test takers are distracted by the nonparallel structure, they may miss the fact that the sentence describes the purpose of a *case* brief, not a *trial* brief. (A trial brief is written to persuade the court to render a particular decision.) Even when the question is properly written, test takers could miss that subtle distinction. But if you've added to the confusion with bad grammar, test takers are more likely to challenge the question. The answer to both questions is false.

Poor: T/F According to the course textbook, the purpose of writing a trial brief is to summarize a court opinion, force the attorney or paralegal to actively read the case, facilitating case analysis, and it reduces the need to reread the case.

Good: T/F According to the course textbook, the purpose of writing a trial brief is to summarize a court opinion, force the attorney or paralegal to actively read the case, facilitate case analysis, and reduce the need to reread the case.

Example 4: Here, nonparallel structure comes from numbers written in different formats. It's confusing. When the potential answers consist of numerical data, use a consistent format. The answer to these questions is (c).

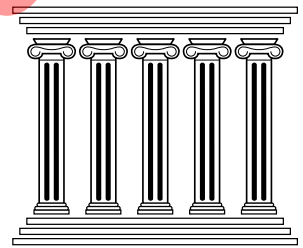
Poor: According to the Inverse Square Law, doubling your distance from a radioactive source will reduce your exposure by:

- a. 40%.
- b. Half.
- c. 3/4.
- d. 90%.

Good: According to the Inverse Square Law, doubling your distance from a radioactive source will reduce your exposure by:

- a. 40%.
- b. 50%.
- c. 75%.
- d. 90%.

Nonparallel structure is most obvious in multiple-choice questions due to the vertical list format.



Nonparallel structure can occur also in horizontal lists.

Best-case scenario, faulty sentence construction is a needless distraction to test takers.



Worst-case scenario, it creates subtle errors that change the meaning of a sentence and affect the accuracy of the test question.

Avoid Faulty Sentence Construction

Rationale

Best-case scenario, faulty sentence construction is a needless distraction that causes test takers to lose valuable time rereading the material. Worst-case scenario, it creates subtle errors that change the meaning of a sentence and affect the accuracy of the test question.

Examples

Example 1: The first question below contains a grammatical error. Test takers should be able to look past the error to recognize that the answer is true. But when test takers lose valuable time rereading poorly written questions, it may hurt their ability to finish the test in the time allotted. The answer to all three questions is true.

Faulty: T/F By doubling your distance from a radioactive source reduces your risk of exposure by 75%.

Revised: T/F By doubling your distance from a radioactive source, you reduce your risk of exposure by 75%.

Revised: T/F Doubling your distance from a radioactive source reduces your risk of exposure by 75%.

Example 2: The intended answer to both questions below is true. But the first question is faulty, because people design devices, not the use of those devices. While most test takers will look past the error, some could argue that the sentence is not true as written. Neither you nor your test takers need the headache of squabbling over a grammatical error.

Faulty: T/F The use of an oropharyngeal airway is designed to hold the tongue away from the back of the airway on an unresponsive patient in a supine position.

Revised: T/F Oropharyngeal airways are designed to hold the tongue away from the back of the airway on an unresponsive patient in a supine position.

Example 3: The intended answer to all three of the following questions is true. However, the first question contains a subtle error. The distinction between *deciding* to do something and actually *doing* it is that one can make a decision without following through. For example, I might *decide* to sue a doctor for medical malpractice only to learn from talking with an attorney that I'm barred by the statute of limitations. If so, my *decision* won't trigger any action; I'm stuck. Test takers should be able to look past this error, but it's best if you avoid these potential pitfalls.

Faulty: T/F Deciding to file a medical malpractice lawsuit in California requires sending the healthcare provider a notice of intent to sue 90 days before commencing the action.

Revised: T/F Filing a medical malpractice lawsuit in California requires sending the healthcare provider a notice of intent to sue 90 days before commencing the action.

Revised: T/F To file a medical malpractice lawsuit in California, a plaintiff must send the healthcare provider a notice of intent to sue 90 days before commencing the action.

Example 4: Here is another example of a subtle error that shouldn't bother test takers too much. But there's no reason to be grammatically incorrect. The first statement below is faulty because lividity is an observable sign, not a place. Avoid using *is where* or *is when* to complete your definitions. Such constructions are sometimes heard in informal speech, but they are not appropriate in writing. The answer to both questions is true.

Faulty: T/F Lividity is where there is a purplish discoloration of the skin caused by blood pooling in the dependent parts of the body after death.

Revised: T/F Lividity is the purplish discoloration of the skin caused by blood pooling in the dependent parts of the body after death.

If test takers are forced to reread unclear questions, it wastes valuable time and may hurt their ability to finish the test in the time allotted.



Test takers shouldn't be penalized because of grammatical errors.

Use Commas Properly

Rationale

The rules about commas are too extensive to cover in this book. But because the inclusion or omission of a comma can sometimes change the meaning of a sentence, the comma deserves a little attention.

When in doubt about when and where to use commas, ask yourself the following questions:

- How do commas affect the meaning of the sentence?
- Is a comma needed to ensure clarity or to provide a pause?
- Can a substitution test reveal the correct punctuation?

A sentence must be clear *as readers are reading it*—in other words, from left to right. If readers are forced to back up and reread a sentence for clarity, you've done them a disservice.

Finally, difficulty getting the commas right is often a sign that you're trying to patch up a poorly worded sentence. So if you're struggling to determine the correct punctuation and the questions above don't help you, look to see if there's a better way to write the sentence.

How do commas affect the meaning of the sentence?

From 1850 to 1963, the State of Michigan had language in the state constitution that inadvertently legalized slavery ... all because of a misplaced comma. Section 8, Article 2, read as follows:

- Wrong:** Neither slavery nor involuntary servitude, unless for the punishment of a crime, shall ever be tolerated in this state.
- Right:** Neither slavery, nor involuntary servitude unless for the punishment of a crime, shall ever be tolerated in this state.

The way the first sentence is written, it can be interpreted to mean that slavery will be tolerated for the punishment of a crime. When the State of Michigan finally corrected the error by putting the first comma after *slavery* versus *servitude*, it became clear that slavery wouldn't be tolerated at all and that involuntary servitude would be tolerated only as punishment for a crime.

Next we have a different example—one containing two commas that don't belong in the sentence. The commas signal that *caught carrying weapons* is a nonessential element, meaning that it can be removed without making the sentence structurally incomplete. But it changes the meaning to say that *any* students will be expelled. When the commas are removed, it clearly communicates that expulsion is only for those students caught carrying weapons.

- Wrong:** The principal made it clear that any students, caught carrying weapons, will be expelled.
- Right:** The principal made it clear that any students caught carrying weapons will be expelled.

Consider whether the use or omission of a comma changes the meaning of the sentence.



If it changes the meaning of the sentence, look to see what punctuation correctly conveys your intended meaning.

Consider whether a comma is needed to ensure clarity or to provide a pause.



Caution: Every comma signals a pause, but not every pause signals the need for a comma.

Finally, this example has two versions that are grammatically correct. However, the meaning of each is different. The first sentence refers to the third of three or more patients sent to County General. The second refers to the third patient overall. That patient happened to be transported to County General. We have no information on where the first two patients were sent.

Version 1: The third patient who was transported to County General had extensive second-degree burns.

Version 2: The third patient, who was transported to County General, had extensive second-degree burns.

Is a comma needed to ensure clarity or to provide a pause?

Be careful with this guideline. Every comma signals a pause, but not every pause signals the need for a comma. People who don't know the rules often use commas where they would pause when saying the sentence aloud. But that often leads to errors that are beyond the scope of this book.

This first example illustrates how a comma is needed to prevent misreading. Without the comma, this reads as if someone were eating the patient. It's a recoverable error—readers will quickly realize the intended meaning. But it's a distraction that diverts the readers' attention unnecessarily.

Wrong: While he was eating the patient began experiencing chest pains.

Right: While he was eating, the patient began experiencing chest pains.

The omission of a comma in first example below creates a sentence fragment. The way it's punctuated, readers will expect you to reveal what happened after the fire was brought under control. The comma in the second example provides the necessary pause to ensure clarity.

Wrong: The helicopter arrived at daybreak. Soon after the fire was brought under control.

Right: The helicopter arrived at daybreak. Soon after, the fire was brought under control.

Can a substitution test reveal the correct punctuation?

A simple substitution test can often help you determine the correct punctuation. The subject of the sentence below is so lengthy that people reading this aloud will typically pause where the commas are. But it's wrong to put commas between parts of a compound subject. By substituting the pronouns *he* and *she* for the lengthier phrases above, this becomes clear immediately.

Wrong: The young boy who saved his mother by dialing 911, and the dispatcher who answered his call, will meet this afternoon at police headquarters.

Right: The young boy who saved his mother by dialing 911 and the dispatcher who answered his call will meet this afternoon at police headquarters.

Test 1: He, and she, will meet this afternoon at police headquarters.

Test 2: He and she will meet this afternoon at police headquarters.

It's also wrong to put a comma between the subject and the verb. Replacing the lengthier subject below with the pronoun *it* makes it clear that there should be no comma in the following sentence either.

Wrong: Having been arrested before, is nothing to be proud of.
Right: Having been arrested before is nothing to be proud of.

Test 1: It, is nothing to be proud of.
Test 2: It is nothing to be proud of.

Examples

Let's now look at these concepts in some sample test questions.

Example 1: The commas in the first question below make *like the ones sold for home use* a nonessential element. Consequently, the statement conveys the idea that most fire extinguishers do not meet the minimum requirements for public buildings. But the intent is to highlight only those extinguishers designed for home use. The intended answer to the question is true.

Wrong: T/F Fire extinguishers, like the ones sold for home use, often do not meet the minimum requirements for use in public buildings.

Right: T/F Fire extinguishers like the ones sold for home use often do not meet the minimum requirements for use in public buildings.

Trimming a few words makes this question more concise and eliminates the potential for confusion. The answer is true.

Better: T/F Fire extinguishers sold for home use often do not meet the minimum requirements for use in public buildings.

Example 2: The first question below is missing a comma. Readers need that little pause to prevent misreading. The answer to both questions is true.

Wrong: T/F If a defendant unlawfully aims at one person and hits another he is guilty of assault and battery on the person he hit.

Right: T/F If a defendant unlawfully aims at one person and hits another, he is guilty of assault and battery on the person he hit.

It's often possible to use a substitution test to determine whether or not commas are appropriate.



Try substituting simple pronouns for lengthier expressions. This often clarifies what punctuation is needed.

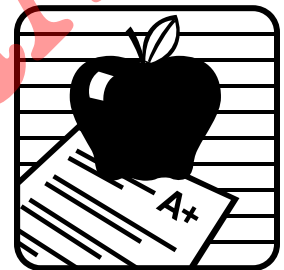
Chapter 6

Plan for Success

This last chapter is different from the others. It contains a few words of wisdom based largely on problems this author has observed through the years.

Most of the guidelines in this section are geared for instructors and the tests they write for their students. But some are also applicable to pre-employment and promotional tests.

This chapter contains a few words of wisdom to help you plan for success.



Most of the guidelines are geared for the classroom. But many are also applicable to pre-employment and promotional tests.

Consider raising the passing score if it's appropriate and you have the authority to do so.



If the passing score on a test is 70%, it means that a 30% error rate is acceptable. Would a 30% error rate be acceptable in the real world?

Raise the Bar

Raise the Passing Score ... if Appropriate

Instructors often have little control over what constitutes a passing score. It may be established by a state agency, a school, or other organization sponsoring the class. But if you have any control over this, consider raising the threshold.

It's not uncommon to see 70% as the cutoff between passing and failing. But is that appropriate? Perhaps in introductory classes. Maybe not in others.

Think about it. If the passing score on a test is 70%, it means that a 30% error rate is acceptable. Can firefighters and police officers afford to be wrong 30% of the time when lives are on the line? Can healthcare professionals afford to make mistakes on 30% of their patients? Do you want any professional who is taking care of you, your family, your home, your car, etc., to make errors up to 30% of the time?

Naturally, we make allowances for the fact that most tests do not represent the conditions under which people perform in the real world. In the real world, people may work as a team versus work solo. They may have the luxury of looking things up rather than having to rely on memory. They may not be racing the clock as they are in the classroom. And so forth. So a test may be more forgiving than the real world. But don't hesitate to raise the passing score if you have that option and feel it's appropriate for the subject matter.

Use Hands-On Testing When Possible

The closest this book came to addressing hands-on testing were a few guidelines about writing essay questions. Otherwise, hands-on testing was beyond the scope of this book. Not all classes lend themselves easily to hands-on testing. And, of course, it's more cumbersome for the instructor. But hands-on testing often does a better job of measuring what students have learned and what they are capable of doing. It also reinforces learning.

The following statistics, from *Fire Service Instructor*, 7th Edition, by the International Fire Service Training Association (IFSTA), help illustrate this point. Students retain far more when they are actively engaged in hands-on activities.

Learners Retain

- 10% of what they read
- 20% of what they hear
- 30% of what they see
- 50% of what they see and hear
- 70% of what they say
- 90% of what they say while they do something

Make Students Do Things Right

Practice doesn't make perfect. *Perfect* practice makes perfect. So the best way to ensure that students learn the material and master the skills—the best way you can fulfill your obligation to your students and to the people they will eventually serve—is to make students do things right.

This guideline applies more to hands-on training and writing assignments than to multiple-choice and true/false tests. But you can certainly have students redo any written test.

All too often, instructors will grade the students' performance in hands-on activities, highlight the things that were done well, review the things that were done incorrectly, and leave it at that. Students aren't required to go back and correct the errors.

Remember the statistics about learner retention on the previous page. If students are asked to demonstrate a skill, they are likely to remember their own performance better than they do your comments about it. Thus if they did something wrong, your spoken corrections won't be as deeply ingrained as their own muscle memory. If they do remember your words, they are more likely to leave the experience feeling a sense of failing or falling short rather than a sense of overcoming the obstacles and achieving success. Having students practice doing it right is important.

The same is true with a writing assignment. The time and energy spent doing the assignment will contribute more toward forming habits than your critique of the final product will. So if the assignment was done incorrectly, have students correct their errors.

In many ways, this mirrors what's expected in the real world. Employers don't normally tell their employees, "Don't worry about fixing your mistakes. This major error won't hurt anyone." Customers don't normally tell businesses, "I'm happy with your sloppy performance and the poor results you gave me." So why would you accept errors and sloppy performance in class? Additionally, when you set an expectation that students must correct their mistakes, it reinforces the importance of good customer service in the real world. In other words, you set a tone that we hope will carry forward and make a difference.

**Practice doesn't
make perfect.
Perfect practice
makes perfect.**



**With hands-on
tests, research
assignments,
and similar
performance-
based testing,
consider making
students correct
their errors.**

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