

# Science Exam Tips

There are 100 questions on this test, and you must answer approximately 44 of them correctly in order to pass. (The score is scaled, so 44 may not be the "magic number" of correct items.)

Simple and difficult questions are scattered throughout the test. You may want to begin by scanning the entire test booklet and marking the ones you know IN THE BOOKLET putting the answer document to the side. Return to the beginning and begin attempting the more challenging questions.

When you have completed taking the exam in the book, pullout the answer document and start bubbling in. Make clear and precise marks. Focus on answering every question.

It is important that you narrow your focus and your answer choices. In other words, though we all know that answering questions correctly is the first key to test success, we should remember that eliminating wrong answers is the second key. Here is what I mean. A sample test item in a practice booklet published by the state reads:

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**The unit of measurement you should use to measure the amount of liquid in a glass is...**

A. grams B. kilograms C. milliliters D. centimeters

Did you know the answer right away? Let's assume that you did not. You have probably seen centimeters on a ruler when measuring inches. That

means it does not measure liquids. That can't be it. Have you ever watched the news after a big drug bust? How have they measured the dry substances? Strike A and B. You have bought two and three liter cokes, right? C must be the liquid measurement.

Let's try another that deals with the flow of energy through the ecosystem.

**A type of cell structure found ONLY in producers is. . .**

- A. cytoplasm B. chloroplast C. mitochondrion D. plasma membrane

Did you know? Let's assume that you must make a good guess (after all, science begins with *good guesses*). Think of what a producer must do. The name tells you that it must produce its own food. Once you remember this, a plant seems to be the logical example of a producer. Answer B begins with "chloro" as in green chlorophyll. It would make sense that chlorophyll would not be found in humans or cats and dogs or fish..... B is a logical guess and a correct one.

Pay attention to vocabulary root words and prefixes when you come across something you do not know. The example above with "chloro" is a good one. It can help you make connections and narrow your choices. Genetics alone uses words like dominant... I know you have heard that

one... or recessive... what happens when the water recedes or a hairline recedes? Mutation is another word... come on, what about the sewer-dwelling turtles? My point is that you should focus on what you do know in situations where you are unsure.

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## **You should be familiar with:**

The scientific method.

The transfer of matter and energy (photosynthesis, respiration).

Particle motion and solids, liquids, and gases.

The periodic table and its organization.

How factors affect rates of physical and chemical changes.

The major taxonomic groups and their characteristics.

The different structures, functions, and characteristics of plants and animals.

The inheritable characteristics of organisms (dominant, recessive...).

The way the DNA molecule transfers genetic information from parent to offspring.

The differences in meiosis and mitosis.

The balance of populations and ecosystems.

The Law of Conservation of Energy and waves and the transfer of energy.

Newton's Three Laws of Motion.

The relation of force to pressure in fluids.