FMS SCIENCE PRACTICE TEST (SAMPLE)

STUDY GUIDE

SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

1. **In a three-dimensional plot where two factors determine the outcome, which axis would display the dependent variable (the outcome)?**

   A. X-axis

   B. Y-axis

   C. Z-axis

   D. Time axis

2. **Tectonic plate movement shapes crustal features on the surface of the Earth. Which statement best describes this?**

   A. They influence only ocean basins

   B. They cause meteor impacts

   C. They shape crustal features on the surface of the Earth

   D. They do not affect surface topography

3. **The Moon cycle lasts how many days?**

   A. 365 days

   B. 29.5 days

   C. 7 days

   D. 12 hours

4. **Which observation suggests continents once fit together like a jig-saw puzzle?**

   A. The shapes of coastlines align across oceans

   B. Similar climate patterns in deserts

   C. Identical mountain ranges across all continents

   D. The presence of the same dinosaur species on all continents

5. **Spring tides occur when which configuration of the Sun, Moon, and Earth exists?**

   A. When the Moon is perpendicular to the Earth

   B. When the Sun is between the Earth and Moon

   C. The Sun, Moon, and Earth are aligned in a straight line

   D. When the Moon is eclipsing the Sun

6. Which statement about a chemical equation is true?

A. It always includes a phase label (solid, liquid, gas) for every substance.

B. It shows the left side as products.

C. It shows the right side as reactants.

D. It shows reactants on the left and products on the right.

7. Which Moon phase is completely dark?

A. Full Moon

B. New Moon

C. First Quarter

D. Gibbous

8. Colliding plates buckle upward to create mountains. This occurs at which boundary?

A. Transform boundary

B. Divergent boundary

C. Oceanic boundary

D. Convergent boundary

9. What term describes a substance that contains only one type of atom?

A. Molecule

B. Compound

C. Element

D. Mixture

10. Which instrument is best for measuring the volume of a liquid?

A. Graduated cylinder

B. Ruler

C. Beaker

D. Thermometer

Answers

1. C
2. B
3. B
4. A
5. C
6. D
7. B
8. D
9. C
10. A

Explanations

1. In a three-dimensional plot where two factors determine the outcome, which axis would display the dependent variable (the outcome)?

A. X-axis

B. Y-axis

C. Z-axis

D. Time axis

When two factors determine an outcome in a 3D plot, those two factors are laid out on two axes (typically the X and Y axes), while the third dimension represents the outcome itself. The dependent variable is shown on the vertical axis, the Z-axis, so you can see how the result changes as you vary the two inputs. Time would only be used as an axis if time were one of the factors, which isn't implied here.

2. Tectonic plate movement shapes crustal features on the surface of the Earth. Which statement best describes this?

A. They influence only ocean basins

B. They cause meteor impacts

C. They shape crustal features on the surface of the Earth

D. They do not affect surface topography

Movement of Earth's tectonic plates reshapes the crust by pushing, pulling, and sliding at plate boundaries. This activity builds mountains where plates collide, creates deep ocean trenches where one plate sinks beneath another, and forms mid ocean ridges as new crust rises. It also sculpts continental rifts and other surface features, showing how plate motion directly shapes what we see on the Earth's surface. Meteor impacts come from space and aren't caused by plate movement, and plate dynamics affect both continents and ocean basins, not just one aspect of surface topography. So the statement that best describes the effect is that tectonic plate movement shapes crustal features on the surface of the Earth.

3. The Moon cycle lasts how many days?

A. 365 days

B. 29.5 days

C. 7 days

D. 12 hours

Think about how long it takes for the Moon to go through all its phases and line up with the Sun and Earth in the same way again. That repeating pattern, called the synodic month, is about 29.5 days (roughly 29.53 days). The reason it's longer than the Moon's orbital time relative to the stars (about 27.3 days) is that Earth is also moving around the Sun, so the Moon has to travel a bit more to reach the same phase relative to the Sun. The other options describe unrelated timescales: a year, a week, and a half-day. So the Moon cycle lasts about 29.5 days.

4. Which observation suggests continents once fit together like a jig-saw puzzle?

A. The shapes of coastlines align across oceans

B. Similar climate patterns in deserts

C. Identical mountain ranges across all continents

D. The presence of the same dinosaur species on all continents

Coastlines that line up across oceans show that the continents were once joined. When you match the edges of continents, like the eastern edge of South America with the western edge of Africa, they fit together like puzzle pieces. That visual fit points to a time when these lands were part of a single large landmass that later split apart as the tectonic plates moved. This observation is supported by other lines of evidence, such as similar rock types and fossil species found on now-distant continents, which reinforce the idea of a shared, ancient connection. But the coastline alignment is the most direct and intuitive signal that the pieces of the continents were once one continuous surface. Other ideas, like desert climate patterns, mountain ranges appearing across continents, or the same dinosaur species on different continents, don't demonstrate a past global connection as clearly and can arise from unrelated processes.

5. Spring tides occur when which configuration of the Sun, Moon, and Earth exists?

A. When the Moon is perpendicular to the Earth

B. When the Sun is between the Earth and Moon

C. The Sun, Moon, and Earth are aligned in a straight line

D. When the Moon is eclipsing the Sun

Tides are driven by the gravitational pull of the Moon and the Sun on Earth's oceans. When their gravitational forces line up in the same direction relative to Earth, they reinforce each other and push the ocean bulges higher and create stronger tides. This happens when the Sun, Moon, and Earth lie in a straight line, which occurs during a new moon (Moon between Sun and Earth) and a full moon (Earth between Sun and Moon). Those alignments produce spring tides—larger high tides and lower low tides. When the Sun and Moon are at right angles relative to Earth (the quarters), their pulls partially cancel, giving smaller tides called neap tides.

6. Which statement about a chemical equation is true?

A. It always includes a phase label (solid, liquid, gas) for every substance.

B. It shows the left side as products.

C. It shows the right side as reactants.

D. It shows reactants on the left and products on the right.

In a chemical equation, the substances that react are written on the left and are called reactants, while the substances produced are on the right and are called products; the arrow between them shows the direction of the change from reactants to products. This left-to-right layout helps you see what starts the reaction and what is formed, and keeping the equation balanced ensures the same number of atoms of each element appears on both sides, reflecting the conservation of mass. Phase labels (s, l, g, aq) are sometimes shown, but they're not required for every substance, so a statement insisting every substance must have a phase label isn't universally true. Saying the left side are the products or the right side are the reactants would reverse the reaction direction, which is not how these equations are written. So the standard arrangement—reactants on the left, products on the right—is the correct description.

7. Which Moon phase is completely dark?

A. Full Moon

B. New Moon

C. First Quarter

D. Gibbous

The Moon's appearance changes because of how much of its sunlit side we can see from Earth. It doesn't emit light itself; it shines by reflecting sunlight. The phase that looks completely dark happens when the Moon is positioned between the Sun and Earth. In that alignment, the side that faces us on Earth is the side not lit by the Sun, so our view shows no illuminated portion at all—the New Moon. If you look at the other phases, you'll see how the fraction of the lit hemisphere changes: a Full Moon occurs when Earth lies between the Sun and Moon and the near side is fully lit; First Quarter shows half of the near side illuminated; Gibbous is more than half lit but not yet full.

8. Colliding plates buckle upward to create mountains. This occurs at which boundary?

A. Transform boundary

B. Divergent boundary

C. Oceanic boundary

D. Convergent boundary

Mountain-building from plate collisions comes from compression when two tectonic plates move toward each other. At convergent boundaries, the crust is pushed and thickened, causing it to buckle and rise to form mountains. This uplifting process is driven by the forces of collision and crustal shortening, which is exactly what creates the tall, uplifted terrains we recognize as mountain ranges, like the Himalayas. In contrast, transform boundaries involve sliding past one another horizontally, which mostly causes earthquakes and lateral movement rather than vertical uplift. Divergent boundaries pull plates apart and create new crust at mid-ocean ridges or rift valleys, not the buckling that forms major mountains. The term "oceanic boundary" isn't a specific mechanism for mountain formation; it's the convergence of crusts (often oceanic colliding with continental or another oceanic plate) that leads to the uplifting we associate with mountains.

9. What term describes a substance that contains only one type of atom?

A. Molecule

B. Compound

C. Element

D. Mixture

An element is a pure substance made of only one type of atom. That means every particle is the same kind of atom, whether it exists as individual atoms or as molecules composed of identical atoms (such as O2 or N2). This distinguishes it from a compound, which combines two or more different elements, and from a mixture, which blends different substances without chemical bonding. So when a substance contains only one kind of atom, it falls into the category of an element.

10. Which instrument is best for measuring the volume of a liquid?

A. Graduated cylinder

B. Ruler

C. Beaker

D. Thermometer

Measuring how much liquid is in a container is about reading a precise volume, not just holding the liquid. A graduated cylinder is designed for that purpose: it has finely marked volume intervals along a narrow, tall shape that minimizes error and lets you read the liquid level accurately. To get the correct reading, you look at the bottom of the meniscus at eye level and use the smallest division available. Rulers measure length, which isn't useful for volume. Beakers can hold liquids and have volume marks, but their wide shape and larger spacing between marks make them far less precise for small amounts. Thermometers measure temperature, not how much liquid there is. So the graduated cylinder provides the most accurate measurement of liquid volume.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

https://fmsscience.examzify.com

We wish you the very best on your exam journey. You've got this!