

MTTC UPPER ELEMENTARY (3–6) EDUCATION – SCIENCE AND SOCIAL STUDIES (124) 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

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- 1. In an experiment, which variable is the outcome that you measure?**
 - A. Control variable
 - B. Dependent variable
 - C. Independent variable
 - D. Constant variable

- 2. In a market economy, what determines which goods are produced and how resources are allocated?**
 - A. The interaction of supply and demand in the market.
 - B. The government directives and plans.
 - C. Random choices by producers.
 - D. A fixed list from cultural tradition.

- 3. In a food web, which organism is a primary producer?**
 - A. Rabbit
 - B. Grass
 - C. Eagle
 - D. Snake

- 4. Which is the final step in the typical scientific method as presented?**
 - A. Ask a question
 - B. Communicate the findings
 - C. Plan/perform an experiment
 - D. Analyze results

- 5. When studying Indigenous and nonindigenous groups before statehood, what study method is most appropriate?**
 - A. Describing one group's diet
 - B. Memorizing dates
 - C. Comparing and Contrasting lifestyles
 - D. Solving equations

- 6. What is a major difference between plant and animal cells?**
- A. Animal cells have chloroplasts
 - B. Plant cells have cell walls and chloroplasts; animal cells do not
 - C. Plant cells lack a nucleus
 - D. Both plant and animal cells have identical features
- 7. The water cycle step where water turns into vapor and rises into the atmosphere is called what?**
- A. Condensation
 - B. Precipitation
 - C. Runoff
 - D. Evaporation
- 8. Which principle is central to democracy?**
- A. Rule by a king
 - B. Government by the people
 - C. Hereditary power
 - D. Monolithic rule
- 9. Why are safety goggles important in a science laboratory?**
- A. To protect eyes from chemicals, shards, or heat
 - B. To decorate lab bench
 - C. To improve vision
 - D. To measure liquids
- 10. What is the significance of the Equator and the Prime Meridian in geography?**
- A. The Equator marks the starting line for measuring longitude.
 - B. The Equator divides Earth into northern and southern hemispheres, while the Prime Meridian divides east and west and serves as the reference for longitude.
 - C. The Equator determines time zones, and the Prime Meridian determines climate zones.
 - D. They are obsolete lines with no current geographic use.

Answers

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

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Explanations

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1. In an experiment, which variable is the outcome that you measure?

- A. Control variable
- B. Dependent variable**
- C. Independent variable
- D. Constant variable

The outcome you measure in an experiment is the dependent variable. You deliberately change one thing—the independent variable—to see how it affects the dependent variable. For example, if you test how the amount of fertilizer affects plant growth, the fertilizer amount is the independent variable, and the plant height is the dependent variable—the measurement that shows the result. Other factors you keep the same across trials are control variables, which help ensure that any change in the dependent variable is due to the independent variable. The idea of a constant variable isn't the outcome you observe; it's about what you keep unchanged. So, the dependent variable is the measurement that reflects the effect of your manipulation.

2. In a market economy, what determines which goods are produced and how resources are allocated?

- A. The interaction of supply and demand in the market.
- B. The government directives and plans.**
- C. Random choices by producers.
- D. A fixed list from cultural tradition.

In a market economy, prices created by the forces of supply and demand guide what gets produced and how resources are used. When people want a product more, demand rises and prices go up, encouraging firms to increase production. If demand fades, prices fall and production slows. Over time, resources like labor and capital move toward activities that offer higher returns, so the mix of goods and services adjusts to consumer wants. This price-signal mechanism is why resources are allocated efficiently in markets. Government directives and plans describe a command economy, where officials decide what to produce. Random producer choices don't reliably align with what people want, and a fixed list based on tradition fits more with a traditional economy, which is less adaptable.

3. In a food web, which organism is a primary producer?

- A. Rabbit
- B. Grass**
- C. Eagle
- D. Snake

Primary producers are organisms that make their own food using energy from the sun, turning light into chemical energy stored in sugars. Grass is a plant that does this through photosynthesis, so it sits at the base of the food web. The rabbit eats grass, making it a consumer that relies on producers for energy. Predators like the snake and the eagle obtain energy by eating other animals, not by producing their own food, so they're higher up in the food web. Therefore, grass is the primary producer.

4. Which is the final step in the typical scientific method as presented?

- A. Ask a question
- B. Communicate the findings**
- C. Plan/perform an experiment
- D. Analyze results

Communicating findings is the final step. After collecting data and analyzing results, scientists share what happened, how they did it, what they found, and what it means. This completes the cycle by letting others evaluate methods and data, replicate the work, and build on it for future discoveries. You'll see this in lab reports, journal articles, conference talks, or open data, all aimed at spreading knowledge so the scientific community can learn from it. The earlier stages—asking a question, planning and carrying out experiments, and analyzing results—are about generating and interpreting evidence; sharing those findings is what closes the loop and moves understanding forward.

5. When studying Indigenous and nonindigenous groups before statehood, what study method is most appropriate?

- A. Describing one group's diet
- B. Memorizing dates
- C. Comparing and Contrasting lifestyles**
- D. Solving equations

Comparing and contrasting the lifestyles of Indigenous and nonindigenous groups before statehood lets you see both similarities and differences across culture, adaptation, and interaction. By examining multiple groups side by side, you can uncover shared patterns—how people met needs, organized daily life, or used resources—while also noticing unique practices, technologies, and social structures. This approach helps explain how environment, trade, beliefs, and contact with others shaped daily life and outcomes for different communities, without reducing history to a single example. Focusing on just describing one group's diet, for instance, gives a narrow snapshot and misses the broader context of how that community related to others and to its environment. Memorizing dates emphasizes when things happened but not why or how groups influenced each other. Solving equations isn't relevant to studying historical cultures and their lived experiences.

6. What is a major difference between plant and animal cells?

- A. Animal cells have chloroplasts
- B. Plant cells have cell walls and chloroplasts; animal cells do not**
- C. Plant cells lack a nucleus
- D. Both plant and animal cells have identical features

The main difference to understand is that plant cells have both a cell wall and chloroplasts, while animal cells do not. The cell wall provides rigidity and protection, helping plants maintain structure. Chloroplasts contain chlorophyll and carry out photosynthesis, allowing plants to make their own food using light energy. Animals lack chloroplasts and typically do not have cell walls, which makes their cells more flexible and suited to different kinds of movement and interaction with their environment. Because of these features, the statement that plant cells have cell walls and chloroplasts while animal cells do not is the accurate way to describe a key difference between the two cell types. The other options misstate where chloroplasts are found or whether plants have a nucleus, and they ignore these clear structural distinctions.

7. The water cycle step where water turns into vapor and rises into the atmosphere is called what?

- A. Condensation
- B. Precipitation
- C. Runoff
- D. Evaporation**

Evaporation is the process in which liquid water gains enough energy to become water vapor and rise into the atmosphere. When the sun heats oceans, lakes, and soils, surface water molecules gain energy and break free from the liquid, entering the air as vapor. This vapor then rises and can later cool to form clouds, continuing the water cycle. This is different from condensation (vapor turning back into liquid), precipitation (water falling to Earth as rain, snow, etc.), and runoff (water flowing over land).

8. Which principle is central to democracy?

- A. Rule by a king
- B. Government by the people**
- C. Hereditary power
- D. Monolithic rule

The main idea tested is governance by the people, where citizens participate in choosing leaders and influencing laws. This principle means political power comes from the people, exercised through elections or representative processes, with leaders and government institutions accountable to the public. It includes protecting civil liberties and following the rule of law, so ordinary citizens have a say in public decisions and can challenge those in power. This stands in contrast to rule by a king, which concentrates authority in one person, hereditary power that passes leadership along a lineage, and monolithic or centralized rule that often limits citizen input and concentrates decision-making in a single authority. In democracies, the emphasis on participation and accountability helps ensure government reflects the will of the people and protects individual rights.

9. Why are safety goggles important in a science laboratory?

- A. To protect eyes from chemicals, shards, or heat**
- B. To decorate lab bench
- C. To improve vision
- D. To measure liquids

Safety goggles are protective gear worn in the lab to shield the eyes from hazards that can cause serious damage. They block chemical splashes from reacting substances, prevent shards or fragments from broken glass or equipment from entering the eyes, and guard against heat, sparks, or molten splashes during heating or reactions. Eyes are very sensitive and damage can happen quickly, so a snug, secure fit helps keep eyes safe while you mix chemicals, pour liquids, or handle glassware. The other options don't fit because decorating the lab bench isn't safety gear, goggles don't improve vision, and they're not used for measuring liquids.

10. What is the significance of the Equator and the Prime Meridian in geography?

- A. The Equator marks the starting line for measuring longitude.
- B. The Equator divides Earth into northern and southern hemispheres, while the Prime Meridian divides east and west and serves as the reference for longitude.**
- C. The Equator determines time zones, and the Prime Meridian determines climate zones.
- D. They are obsolete lines with no current geographic use.

Understanding geography's global grid helps explain where places are on Earth. The Equator is the line at 0° latitude that runs around the middle of the planet and divides it into northern and southern hemispheres. The Prime Meridian is the line at 0° longitude that runs from the North Pole to the South Pole and serves as the main reference line for measuring how far east or west a location is. Together, they establish the starting points for latitude and longitude used to locate any place on a map or with a GPS. Some statements mix up roles: time zones and climate zones are not defined by these lines—the Prime Meridian is used for longitude, while time zones are influenced by political boundaries and longitude, and climate zones depend on latitude and other factors. These lines still matter for navigation, maps, and global coordinates.

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://mttc124.examzify.com>

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

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