

SAFE DRINKING WATER ACT AND WATER SURVEILLANCE PRACTICE TEST (SAMPLE) STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

**VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE**

<https://safedrinkingwateract.examzify.com>



Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	15

SAMPLE

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

SAMPLE

- 1. What chlorine concentration is used initially for new water main disinfection?**
 - A. 50 mg/L
 - B. No less than 25 mg/L chlorine solution
 - C. 10 mg/L
 - D. 100 mg/L
- 2. Which device is used to collect a composite sample by combining multiple samples over time or from different locations?**
 - A. A weighted bottle sampler.
 - B. A Whirl-Pak bag.
 - C. A sample made by combining multiple samples collected over time or from different locations.
 - D. A Cubitainer.
- 3. What type of disease is a major effect of water pollution?**
 - A. Cardiovascular disease
 - B. Human infectious disease
 - C. Skin cancer
 - D. Respiratory illness
- 4. Which factor is most sensitive to changes during transport that preservation addresses?**
 - A. Temperature and pH
 - B. Turbidity
 - C. Odor
 - D. Color
- 5. What characterizes a Tier 2 violation?**
 - A. A violation with significant potential for serious adverse health effects from short-term exposure.
 - B. A violation with potential serious but not immediate adverse health effects.
 - C. A violation with minor monitoring/testing issues.
 - D. A violation that requires immediate plant shutdown.

- 6. Which statement correctly defines a Non-Transient Non-Community Water System (NTNCWS)?**
- A. A PWS that serves all year-round to a city.
 - B. A PWS that regularly supplies at least 25 of the same people at least 6 months per year but not year-round.
 - C. A PWS that serves only schools.
 - D. A PWS that only uses bottled water.
- 7. Which pathogens were targeted by the Surface Water Treatment Rule?**
- A. Nitrates and arsenic.
 - B. Pesticides.
 - C. Giardia, Legionella, and viruses.
 - D. Chloride and sulfate.
- 8. Alkalinity is mainly due to which species?**
- A. Chlorides and sulfates.
 - B. Nitrates and phosphates.
 - C. Organic matter.
 - D. Carbonates, bicarbonates, and hydroxide ions.
- 9. Why are natural bathing areas higher risk than pools?**
- A. They Are Outdoors
 - B. The Water Is Not Chemically Treated
 - C. They Have More People
 - D. They Are Deeper
- 10. Which instrument is used for measuring pH and temperature?**
- A. DPD Kit.
 - B. pH pen.
 - C. Bacon Bomb.
 - D. Dippers.

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. What chlorine concentration is used initially for new water main disinfection?

- A. 50 mg/L
- B. No less than 25 mg/L chlorine solution**
- C. 10 mg/L
- D. 100 mg/L

Disinfecting a new water main relies on creating and maintaining a strong free chlorine residual inside the pipe so microorganisms are inactivated during the disinfection period. The minimum concentration used for this initial disinfection is no less than 25 mg/L of free chlorine, kept in contact with the pipe interior for the required dwell time (often around a full day) before flushing and testing. This level is high enough to ensure effective disinfection of the interior surfaces, including areas that might harbor microbes, while avoiding unnecessary excessive tastes, odors, or corrosion. A concentration of 10 mg/L would not reliably disinfect the pipe interior, while higher values like 50 mg/L or 100 mg/L may be used in some protocols or special situations but are not the stated minimum for this standard.

2. Which device is used to collect a composite sample by combining multiple samples over time or from different locations?

- A. A weighted bottle sampler.
- B. A Whirl-Pak bag.
- C. A sample made by combining multiple samples collected over time or from different locations.**
- D. A Cubitainer.

The key idea is composite sampling, which pools several smaller samples into one to represent a whole period or area. This approach smooths out short-term fluctuations and gives an overall picture of water quality over time or across locations. The best choice describes the end product of that process—a single sample formed by combining multiple individual samples collected over time or from different sites. In practice, you collect the sub-samples and then merge them into one container to analyze as a composite sample. The other devices serve different purposes: a weighted bottle sampler is used to collect discrete samples at specific times or depths, a Whirl-Pak bag is simply a storage container for portions, and a Cubitainer is a portable container for transporting liquids (it can hold a composite sample, but it isn't the device that performs pooling).

3. What type of disease is a major effect of water pollution?

- A. Cardiovascular disease
- B. Human infectious disease**
- C. Skin cancer
- D. Respiratory illness

Water pollution mainly leads to infections because polluted water can carry pathogens—bacteria, viruses, and parasites—that people ingest or come into contact with. When water is contaminated with sewage or animal waste, drinking, cooking, or bathing with it can cause waterborne illnesses like diarrheal infections, cholera, typhoid, and other diseases. These infections spread readily in communities with poor sanitation and limited water treatment, making infectious disease the most directly linked health effect of polluted water.

Cardiovascular disease, while affected by many long-term factors, isn't a direct or primary outcome of water pollution. Skin cancer is more about UV exposure and certain chemical carcinogens, not the typical infectious risk from contaminated water. Respiratory illness is usually tied to air quality, though some water-related exposure can irritate the lungs, it isn't the dominant impact of water pollution.

4. Which factor is most sensitive to changes during transport that preservation addresses?

A. Temperature and pH

B. Turbidity

C. Odor

D. Color

Preservation aims to keep a water sample as close as possible to its state at collection while it's being transported to the lab. The two most influential factors to control are temperature and pH because most chemical and biological processes in a sample are highly sensitive to them. When temperature rises, reaction rates speed up, microbes become more active, and volatile components can escape or dissolve differently. Cooling the sample slows those processes, helping to keep concentrations and forms of dissolved substances stable. pH dictates how many species exist for many chemicals; changing pH can cause metals to precipitate or dissolve, alter ion speciation, or affect adsorption to container walls. Acidifying or keeping the sample cold minimizes these changes, preserving the integrity of the measurements for a wide range of analyses. Turbidity, odor, and color can change due to sampling, handling, or particulates, but preservation's primary role is to prevent the chemical and biological transformations driven by temperature and pH.

5. What characterizes a Tier 2 violation?

A. A violation with significant potential for serious adverse health effects from short-term exposure.

B. A violation with potential serious but not immediate adverse health effects.

C. A violation with minor monitoring/testing issues.

D. A violation that requires immediate plant shutdown.

Tier levels for public notification are used to match urgency and health risk to the required response time. Tier 2 is the middle category: it covers violations that could lead to serious health effects, but the risk is not immediate. In other words, there is potential for significant health impact if the issue persists or exposure occurs, yet there isn't an instantaneous, acute threat that demands immediate action. This is different from Tier 1, which flags urgent or significant short-term health risks that require very rapid notification, and from Tier 3, which covers issues with no known or suspected health effects and is less urgent. So a Tier 2 violation signals a notable health concern that needs timely public notification and corrective measures, but not the immediate crisis indicated by Tier 1.

6. Which statement correctly defines a Non-Transient Non-Community Water System (NTNCWS)?

- A. A PWS that serves all year-round to a city.
- B. A PWS that regularly supplies at least 25 of the same people at least 6 months per year but not year-round.**
- C. A PWS that serves only schools.
- D. A PWS that only uses bottled water.

A Non-Transient Non-Community Water System is defined by serving a stable group of people, at least 25 of them, for a substantial part of the year but not year-round. The “non-transient” part means the same people are served regularly, and “non-community” means it isn’t a community system serving the public at a fixed location year-round. The statement that matches this definition is the one that says the system regularly serves at least 25 of the same people for at least six months per year, but not year-round. That combination—minimum population, fixed group, and half-year duration—is exactly what identifies an NTNCWS. The other descriptions don’t fit as cleanly: a system serving a city year-round describes a community water system; a system that serves only schools can meet the 25-and-six-month criterion but isn’t the defining characteristic on its own; and a system that uses only bottled water isn’t considered a public water system in the same sense.

7. Which pathogens were targeted by the Surface Water Treatment Rule?

- A. Nitrates and arsenic.
- B. Pesticides.
- C. Giardia, Legionella, and viruses.**
- D. Chloride and sulfate.

The main idea is that the Surface Water Treatment Rule focuses on reducing microbial pathogens in surface-water-supplied drinking water by ensuring treatment steps that remove or inactivate those organisms. The rule targets pathogens that pose the most immediate public-health risk, especially *Giardia lamblia* and viral pathogens, using processes like coagulation, filtration, and disinfection to achieve this reduction. The option that lists *Giardia*, *Legionella*, and viruses aligns with this focus on microbial pathogens the rule aims to control. The other choices point to chemical contaminants such as nitrates, arsenic, pesticides, or inorganic ions like chloride and sulfate, which are governed by different regulatory provisions rather than the Surface Water Treatment Rule. In practice, meeting SWTR means implementing the appropriate treatment to remove *Giardia* and inactivate viruses, protecting drinking water quality.

8. Alkalinity is mainly due to which species?

- A. Chlorides and sulfates.
- B. Nitrates and phosphates.
- C. Organic matter.
- D. Carbonates, bicarbonates, and hydroxide ions.**

Alkalinity is the water’s capacity to neutralize added acid, i.e., its buffering ability. In most natural waters this buffering mainly comes from the carbonate system: carbonate, bicarbonate, and hydroxide ions. These species react with acids to form carbonic acid and CO₂, or to remove H⁺ directly, helping resist pH changes. Bicarbonate is usually the dominant contributor at typical environmental pH, with carbonate and hydroxide becoming more important at higher pH. That’s why the primary alkalinity components are carbonates, bicarbonates, and hydroxide ions. Chlorides and sulfates mainly affect salinity and conductivity rather than buffering capacity; nitrates, phosphates, and organic matter can influence pH and buffering only to a minor extent compared with the carbonate system.

9. Why are natural bathing areas higher risk than pools?

- A. They Are Outdoors
- B. The Water Is Not Chemically Treated**
- C. They Have More People
- D. They Are Deeper

The main idea here is that disinfection and water treatment drastically reduce the risk of illness in swimming water. Natural bathing areas are not routinely chemically treated or filtered. That means any pathogens from animal waste, human activity, or runoff can remain in the water, and bather exposure to those pathogens is more likely to cause illness. Pools, by contrast, are designed to keep water clean through continuous circulation, filtration, and chemical disinfection (like chlorine) with monitoring to maintain effective levels. This treatment inactivates or kills many pathogens, lowering the chance of getting sick from swimming. Other factors like being outdoors or the water being deeper aren't the primary drivers of risk in this context. Outdoor waters can still be safe if properly treated, and depth alone doesn't determine safety as long as disinfection and hygiene practices are observed. The lack of chemical treatment in natural bathing areas is what makes them higher risk.

10. Which instrument is used for measuring pH and temperature?

- A. DPD Kit.
- B. pH pen.**
- C. Bacon Bomb.
- D. Dippers.

Measuring pH and temperature on-site relies on a device that combines a pH sensor with a temperature sensor. A pH pen does exactly this, giving a direct readout of the water's acidity (pH) and a temperature reading. Temperature matters because pH readings shift with temperature, so many pH pens offer automatic temperature compensation to adjust the pH value to a standard reference temperature, making results more reliable for decisions in water surveillance and treatment. For accuracy, you typically calibrate the pen with standard buffer solutions before use. The other items serve different roles: a DPD kit measures chlorine residual via a color change, not pH or temperature; dippers are used to collect samples rather than measure pH or temperature; and a Bacon Bomb isn't a measurement instrument at all.

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://safedrinkingwateract.examzify.com>

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

SAMPLE