

# *Maximizing Success*

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## Maximizing Success – How to Prepare for and Take the State Certification Exam

PAT 8850

7 Contact hours

9 CC10 hours

Making sure you are prepared to pass the State Certification Exam is not always as simple as just knowing the material; you also have to have knowledge of how to prepare and take the exam. This course will review how different study methods work for different learning styles, note taking strategies, and specific skills that would help in the learning environment. The course will then address examination techniques and what not to do when getting ready for an exam, for example, cramming and how to handle test anxiety. Other topics covered will include: an overview of multiple choice questions; recognizing distracters and foils (wrong options); strategies and tactics; analyzing multiple choice questions; analyzing responses; how options can be wrong; how to guess intelligently; taking the multiple choice test; varieties in the form of the question; and varieties in the nature of the question. Throughout this course, operators will take practice exams with themes becoming more complex to match increasing complexity of the state certification exam.

1. Identify how different study methods work for different learning styles
2. Employ note taking strategies
3. Manage strategies to reduce cramming and test anxiety
4. Recognize distractors and foils
5. Analyze multiple choice questions to arrive at the correct answer
6. Demonstrate the ability to guess intelligently

Quick Agenda:

- A. Preparing for the Certification Exam **(120 minutes)**
- B. Taking Notes **(35 minutes)**
- C. Effective Study Skills **(45 minutes)**
- D. Learning styles **(45 minutes)**
- E. Communication Styles **(35 minutes)**
- F. Test Taking Strategies **(60 minutes)**
- G. Multiple choice questions **(45 minutes)**
- H. Managing Anxieties and Stress **(35 minutes)**

Agenda:

- A. Preparing for the Certification Exam
  - a. Need-to-Know criteria
  - b. Exam topics

- i. 11 Test Topic Areas - General, Process, Operations, Maintenance, Procedures, Data Interpretation, Public Health, Science, Math, Safety, and Regulations
  - ii. Study materials
    - 1. Sacramento manuals
    - 2. AWWA and WEF study guides
- c. Preparation time
- d. Self-study:
  - i. Reading manuals
  - ii. Reading SOPs
  - iii. Reading Study Guides
  - iv. Videos
  - v. Audio-tapes
- e. OJT – On-the-job training
- f. Classroom training
- g. Time Management
  - i. Scheduling study time
  - ii. Concentrating
  - iii. Avoiding procrastination
- h. Reading to learn
  - i. Active reading
  - ii. SQ4R
  - iii.

**Group Exercise** – What have you learned so far?

## B. Taking Notes

- a. Why take notes?
- b. Taking notes:
- c. Outlining
  - i. Description:
    - 1. Start with general information at the left, indent more specific facts and clarifications to the right
  - ii. Method:
    - 1. Read and then write down points in organized pattern, based on space indentation
    - 2. Place major points farthest to the left and indent each more specific point to the right

3. Levels of importance will be indicated by distance away from major point

iii. When to use outlining:

C. Effective Study Skills - Summary

- a. Effective study skills must be practiced in order to do well on exam:
  - i. Math calculations
  - ii. Answering multiple choice questions
- b. It's not enough to "think about" studying – you actually have to do it and then reflect on what you could be doing better
- c. Know how you best learn:
  - i. Do you need a quiet area to study?
  - ii. Can you learn with distractions around?
- d. Master any environmental, emotional, and physical obstacles
- e. Develop an unflawed study strategy
- f. Prepare sufficiently to study daily and weekly
- g. Take as many multiple-choice practice exams as you can find
- h. Develop good multiple-choice exam taking skills:
  - i. Simple fact – from the question or the "stem" in the question, one answer is obviously correct
  - ii. Complex fact – from the question, choosing the "best" answer will take deductive reasoning
  - iii. Be aware of distracters and foils
- i. Study, Study, Study...and Study some more!!!

**9:00 a.m. - BREAK (10 – 15 minutes)**

D. Learning styles (To acquire information, different from learning an activity)

- a. No learning style is "better"
- b. Information enters your brain three main ways:
  - i. Sight
  - ii. Hearing
  - iii. Touch
- c. Which one you use most is called your "Learning Style"
- d. **Visual Learners** learn by sight
- e. **Auditory Learners** learn by hearing
- f. **Tactile Learners** (kinesthetic) learn by touch
- g. Using your learning style is the key to successful learning
  - i. Your learning style is:

1. Uniquely your own, different from anyone else's
  2. Defined by conditions which you find it easiest and most pleasant to learn and work
- ii. Make the best use of your learning style

**Learning Exercise** – Crossing thumbs and arms...!

**10:15 a.m. - BREAK (10 – 15 minutes)**

**Learning Style “ConcepTest” - Exercise**

- h. Individually, pick your learning preferences out of the list of 15 activities
  - i. When finished, discuss with a partner/neighbor
  - ii. Then we'll open the floor for group discussions
- i. Math learning styles
  - i. For all learning styles:
    1. Study math everyday -- **Practice** DAILY!
    2. Work through problems in the study guides and in other math books
    3. Do additional problems

**Group Discussion** – Is Math easy or hard for you?

- ii. For Visual Learners:
- iii. For Auditory Learners:
- iv. For Kinesthetic Learners:
- v. Characteristics of successful math students:
  1. Disciplined
  2. Persistent
  3. Patient
  4. Hard working
  5. Able to concentrate

**LUNCH (11:30 a.m. – 12:30 p.m.)**

E. Communication Styles

- a. A significant part of learning requires *communication*
- b. In addition to knowing your learning style, understanding your *communication style* can also help you learn
- c. Are you a Sensor?

- d. Are you an Intuitor?
  - e. Are you a Thinker?
  - f. Are you a Feeler?
- F. Test Taking Strategies
- a. General:
    - i. If time allows, first scan through exam and survey questions
    - ii. Try and relax during exam so brain works best
    - iii. Answer easy questions first, then more difficult questions
    - iv. Attempt to do math questions, easy ones first then more difficult ones
    - v. Save time at end of exam to review all questions and answers
    - vi. Leave no questions unanswered!
  - b. Show up early (Not too early...!) and relax
  - c. Leave cell phone in car
  - d. Scratch paper will be provided to make sketches and math calculations
  - e. Brainstorm – write down all your “personal” topic summaries that you can remember
  - f. Pace yourself, even take short breaks
  - g. Be confident and answer all questions

**Group Discussion – Test taking strategies**

**1:30 p.m.- BREAK (10 – 15 minutes)**

- G. Multiple choice questions
- a. Components:
    - i. **Stem:** presents the problem
    - ii. **Correct or keyed options:** correct option/answer
    - iii. **Distracter options:** incorrect options/answer
  - b. **MCQ Item** - the entire multiple choice question; consists of a root, stem, and a set (3 to 5) of options
    - i. **Root** – the part of the item that presents underlying facts; most are significant, some may be irrelevant
    - ii. **Stem** – the part of the item that sets up a situation for response; e.g., a question, a problem, or an incomplete statement to answer
    - iii. **Options or Alternatives** – all possible multiple choice responses
      - 1. **Key or Keyed response** – the correct or “best” answer
      - 2. **Distracters/decoys and foils** – wrong answers; responses “distracting or foiling” examinees who are uninformed on the question topic or who may be good guessers

- a. **Distracters or decoys** – misleading responses which can draw attention away from correct responses
- b. **Foils** – incorrect responses which contrast with other responses, particularly the correct answer
- c. One correct answer (key)
- d. Distracters:
  - i. Common misconceptions
  - ii. Reasonable errors that could be made
  - iii. Plausible, yet less important information
  - iv. Similar in style and length to the key
- e. Multiple-choice items:
  - i. **Place a high degree of dependence on a student’s reading ability**
  - ii. Answers subject to clueing...students can often deduce the correct response by elimination of answers
- f. Typically uses Bloom’s cognitive taxonomy or something appropriate for context
- g. Lower level questions—remembering, understanding and lower level applying levels
- h. Higher level questions require complex application, analysis, and evaluation skills
- i. “Remembering” stems
- j. “Understanding” stems
- k. “Applying” stems
- l. “Analyzing” stems
- m. “Evaluating” stems
- n. Operator Certification exam questions are usually written at three levels of knowledge:
  - i. **Comprehension** level questions require examinees to recognize, remember, or identify important ideas
  - ii. **Application** level questions require examinees to interpret, calculate, predict, use, or apply information and solve problems
  - iii. **Analysis** level questions require examinees to compare, contrast, diagnose, examine, analyze, and relate important concepts

**Group Discussion – Example multiple choice questions**

**2:45 p.m.- BREAK (10 – 15 minutes)**

- o. Answering Multiple Choice Questions
  - i. General

1. Analyze multiple choice questions to arrive at the correct or best answer
  2. Recognize distracters and foils
  3. Demonstrate varieties in the form and nature of questions
  4. Demonstrate abilities to guess intelligently
- ii. Answer those that you are 100% sure of
  - iii. Put ? on those needing more thought
  - iv. Revisit and answer those you are reasonably sure of
  - v. Guess the rest
  - vi. READ instructions carefully
  - vii. Try covering the answers first
  - viii. Think of the correct answer; is it there?
  - ix. Embedded facts in highly similar pairs (go for the one that reflects familiar terminology)
  - x. Beware of answers where only one word is different
  - xi. Break the question down
  - xii. Note clues/key words in stem and alternatives
  - xiii. Reread the question to ensure understanding of what's being asked
  - xiv. Use your elimination techniques
  - xv. Read all the alternatives, don't jump to the first conclusion
  - xvi. Compare answers
  - xvii. Eliminate the obviously wrong ones
  - xviii. Relate remaining answers back to the stem
  - xix. Narrow your choice to two
  - xx. Pick the one that most closely matches your prior learning
  - xxi. Don't waste time puzzling over one question
  - xxii. Mark it as needing to be returned to
  - xxiii. Return as time allows
  - xxiv. Other questions on exam can get the creative juices flowing

#### H. Managing Anxieties and Stress

- a. What is Exam Anxiety
  - i. It is the worry caused by having to take an exam
- b. Why do We Have Exam Anxiety?
- c. The "Flight or Fight Response"
- d. How can we Control Anxiety?





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### Maximizing Success – How to Prepare for and Take Operator Certification Exams



The image contains the McET logo on the left and a photograph on the right showing a pencil resting on a multiple-choice test sheet with a calculator nearby.

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### Process Training Sessions

Before class starts, please:


- **Sign in** on Attendance Sheet

During class, please:

- **Asks questions**
- Feel free to get up and leave the classroom at any time (i.e., rest rooms, phone calls, etc.)
- **Answer questions** on post test

After class, please:

- **Fill out** a Class Evaluation
- **Pick up** Attendance Card, if appropriate



The image includes a cartoon character holding a large pencil and a photograph of a classroom with a teacher at the front and students at their desks.

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## Housekeeping

- one-day class
- Start time – 8:00 am
- Please mute/silence cell phones
- 10-minute Breaks – every hour
- Lunch – Between 11:30 am ~ 12:30 am
- End class ~ 4:00 pm



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## Instructor Expectations

- Begin and end class on time
- Be interactive – participate at your own comfort level
- Share experiences and needs
- Less lecture, more discussions
- Keep it simple
- **Make this an enjoyable and informative experience!**



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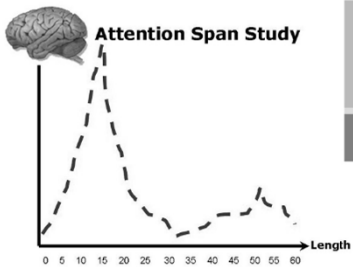
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## Student Attention Span - Lectures



Source: based on a study by Richard Mayer

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## How this Class is Structured

- This workshop will be more class discussion, less lecture
- The workshop will be structured around three teaching components:
  - Establishing rapport (Trainer as facilitator)
  - Stimulating student interest (Trainer as motivator)
  - Structuring classroom experiences (Trainer as designer)

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## Discussions

- Student involvement in class discussions is encouraged:
  - To keep students attentive
  - To help students retain information



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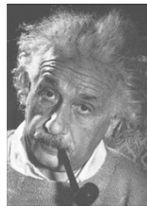
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## The Guiding Expectation

**“Things should be made as simple as possible -- but no simpler.”**

**Albert Einstein**

image source: [www.physik.uni-frankfurt.de/~jr/physicoeinstein.html](http://www.physik.uni-frankfurt.de/~jr/physicoeinstein.html)



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## Ground Rules

- Discussion is encouraged; share exam taking experiences
- Use terms we all can understand
- Everyone is different, so please show respect for others in the room
- Express opinions - of things, not people
- Maintain confidences



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## Acronyms

- ABC – Association of Boards of Certification
- AWWA – American Water Works Association
- MCQ – Multiple choice question
- MDE – Maryland Department of the Environment
- NTK – Need-to-Know
- WEF – Water Environment Federation

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## Ice Breaker and Discussion

- Before we start, let's introduce ourselves:
    - Name
    - What do you do
    - Do you have any specific exam taking questions?
      - How to improve study habits?
      - How to determine study topics?
      - How to set up test taking strategies?
      - How to enhance answering multiple choice questions?
      - How to lessen exam anxieties?
- (Allow several minutes for reflection and discussion)

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**Introduction**

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Class Objectives

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**Learning Objectives**

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- To provide Exam **“Need-to-Know” or “Core Competency”** Topic Information
- **How to Prepare and Study** for the Exam
- To **Review Example Exam Questions**
- **How to Take Exams**

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**Learning Objectives**

1. To explain how to improve individual study habits and test taking skills
2. To provide:
  - Study habits that correspond with learning styles
  - An exam study blueprint
  - Study material references
  - Multiple choice question **study** suggestions
  - Math calculation **practice** suggestions
  - Test taking strategies

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## Learning Objectives

1. To identify a study blueprint and study habits for exam preparation
2. To identify “need-to know” criteria and study topics
3. To enhance skills answering multiple choice exam questions
4. To develop test taking strategies

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## At the Conclusion of the Class, Students should be able to Discuss:

- When to begin preparing for the exam
- **How to study for the exam**
- What “Need-to-Know” topics to study
- **How to answer multiple choice questions**
- Test taking strategies



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## Introduction

Overview

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## Certified Operating Personnel

- Until applying for an operator certificate, operators are issued temporary certificates
  - Maryland, COMAR 26.06.01.06(B)(1)
- Until becoming certified, operators are referred to as “operators-in-training” consistent with other states
  - Maryland, COMAR 26.06.01.06(B)(4)
- To obtain an operator certificate, applicants need to pass an appropriate certification exam
  - Maryland, COMAR 26.06.01.06(C)(1)(c)

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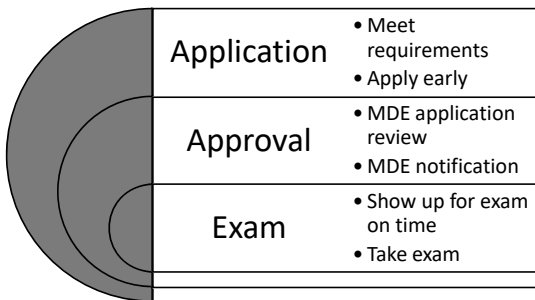
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## Exam Application Process



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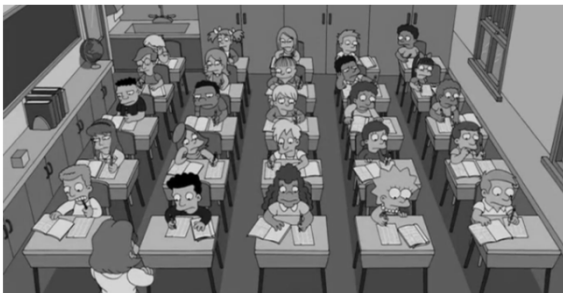
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## Exam Room



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## Exam Rules

- Each examinee must bring to the exam the authorization letter from the Board, and positive identification that includes a photo I.D. (preferably a driver's license)
- No examinee will be admitted to the exam room later than 15 minutes after the exam has started
- Exam is closed book; notebooks and reference material are not allowed in the exam rooms

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## Exam Rules

- All work must be done on materials provided by the exam proctor; these materials must be returned to the proctor intact
- Calculators are permitted; programmable calculators are not
- No cell phones, tablets or other electronic devices are permitted

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## Exam Rules

- Examinees are not permitted to:
  - Assist or receive assistance from another examinee or talk with another examinee during the exam session
  - Use unauthorized material
  - Leave the exam room without permission from the exam proctor
  - Talk to anyone while outside the room during the exam
  - An examinee who violates any above conditions will not be allowed to complete the exam and that person's name will be forwarded to the Board for disciplinary action.

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## How to Prepare for and Take Operator Certification Exams

- Organization and Preparation
- Effective Study Methods
- Test Taking Skills and Strategies
- Managing Anxiety and Stress
- Be Familiar Test Topics

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## Preparing for the Exam

- Closed book exams questions are difficult:
- Requires:
  - Recall and application of information
  - Relating questions to work experiences
  - Math calculations
- Reasoning:
  - Deductive - examining data to explain something
  - Inductive - analyzing data to construct a theory to explain something

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## Preparing for the Exam

- Practice using:
    - Study Manuals:
- | Example Study Manuals |          |            |
|-----------------------|----------|------------|
| ABC                   | AWWA     | WEF        |
| Arizona               | Kentucky | New Mexico |
| Pennsylvania          |          |            |
- Example multiple choice questions
  - Doing math calculations
- Prepare a test taking strategy to use during the exam

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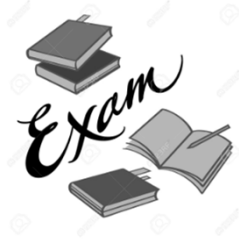
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## Operator Certification Exams

- Complexity of exam questions:
  - Basic
  - Intermediate
  - Advanced



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## Certification Exam Questions

ABC Operator Certification exam questions are written at three degrees of difficulty:

- **Comprehension** (Recall) -- **Basic (B)** questions require examinees to recognize, remember, relate, or identify important ideas and knowledge...Degree of difficulty – mild
- **Application** (Apply knowledge) -- **Intermediate (I)** questions require examinees to interpret, calculate, predict, use, or apply information and solve problems...Degree of difficulty – medium
- **Analysis** (Use inductive/deductive reasoning skills) – **Advanced (A)** questions require examinees to compare, contrast, diagnose, examine, analyze, evaluate, and relate important concepts...Degree of difficulty – hard

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## Multiple Choice Questions

- Cover major ideas and specific details; and recall, application, and reasoning skills
  - Follows Bloom's cognitive taxonomy for context:
    - Knowledge
    - Comprehension
    - Application
    - Analyses
    - Evaluation
- Basic Level
- Intermediate Level
- Advanced Level

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## Multiple Choice Questions

- Basic (B) level questions—remembering, understanding, and basic level application and analysis skills
- Basic (B) level questions:
  - Evaluate student’s preparation and comprehension of topic information
  - Diagnose student’s strengths and weaknesses of treatment plant O&M fundamentals

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## Multiple Choice Questions

- Intermediate (I) and advanced (A) level questions require complex application, analysis, and evaluation skills
- **Exam questions are mostly intermediate (I) and advanced (A) level questions**
- Intermediate (I) and advanced (A) level questions:
  - Require students to think deeply and critically
  - Use problem solving skills
  - Use deductive and inductive reasoning skills

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## Factors for Successful Exam Taking



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## Preparation and Study



- Your knowledge, based on preparation and study, are basic to doing well
- Without proper preparation and study, you may panic in the test due to incomplete knowledge or from not having studied enough

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## Preparing for the Exam - Overview

- Collect subject manuals and study guides
- “Actively” read manuals and study guides
- **Practice** “answering” multiple choice questions
- Prepare a test taking strategy to use during the exam...one that will keep you calm during the exam!
- **Practice** “doing” math calculations

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## Test Taking Skills and Strategies

Familiarity with multiple choice test taking formats and the development of good test taking strategies are essential to successfully passing the certification exam!



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## Emotional State

- Your emotional state affects your ability to test well
- It takes a calm and controlled emotional state for your memory and judgment to work most effectively



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## Formula for Exam Success

Real Study + Real Practice = Success

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## How to take an Exam

- Read questions carefully:
  - Questions will be multiple choice
  - The right answer will usually become obvious
  - Be aware of “extreme modifiers” (all, never, must, etc.)
  - Some answers may be partially correct, so go over each answer and pick the best
  - Try and reduce “best” answers to two – choose the answer that is “more correct”, more true than false

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## How to take an Exam

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- Understand the questions and answers:
  - Determine the point of the question
  - Be aware of distracting information
  - Some information may be irrelevant
- Use the process of elimination
  - Eliminate answers that are definitely incorrect
  - When choosing between two “best” answers, focus back on the question and visualize scenarios to choose the “correct answer”

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## How to take an Exam

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- Rely on your gut instinct...!
  - Go with it first
  - Then review more thoughtfully and compare
  - But be careful not to change correct answers
- Don't let one question beat you
  - Most test takers mark difficult questions, go on and do the other questions, and come back
  - Also, chances are you will not score 100% on the exam, so don't let one question upset you

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## MATH PROBLEM TIPS

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- Read each question carefully to be sure you know what answer is required
- Make a drawing or sketch if it will help
- Simplify the problem; Break it down into small pieces if necessary.
- Make all necessary conversions to correct units (dependent on answer's units)
- Give answer to the nearest 'significant' figure, rarely more than two decimal points
- Be sure the decimal point is in the right place
- Check to make sure that the answer makes sense!

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## How to take an Exam

- Don't turn in your exam right away...!
- Recheck answers after completing the exam:
  - Try and allow 30 minutes at the end of the exam for reflection
  - Brain becomes sharper with rest
  - Go back and review/correct answers to questions you were unsure of or guessed at

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## How to take an Exam

- Don't leave any questions unanswered
- Finally, when in doubt...make an educated guess!

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## Introduction

Exam Topics

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## Maryland WTP Classifications

- 1 **Disinfection – 50 questions**
- 2 **Chemical Treatment – 75 questions**
- 3 **Iron & Manganese Removal – 100 questions**
- 4 **Complete Treatment – 100 questions**
- 5 Site Specific
- G No Chemical Addition

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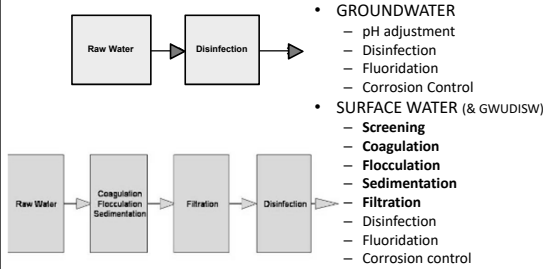
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## COMMON TREATMENT TECHNIQUES



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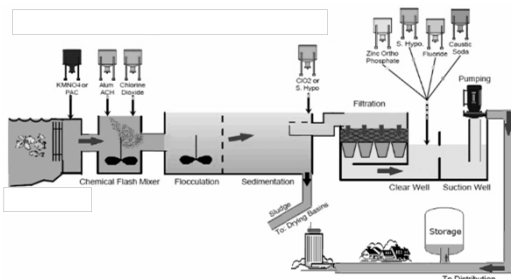
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## Water Supply Treatment Process



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## Maryland WWTP Classifications

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- 1 Lagoons – 50 questions
- 2 Physical/Biological – 75 questions
- 3 **Packaged Activated Sludge – 100 questions**
- 4 **Trickling Filters/RBCs – 100 questions**
- 5 **Activated Sludge – 100 questions**
- 6 Site Specific
- S Solids Handling
- A **AWT– 50 questions**

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Exam Study Habits

Time Management

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Time Management



Make your time work for YOU!

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Time Management

- How many hours a week do you work?
  - Full time job
  - Part-time job(s)
- What other priorities take up time in your schedule?
  - Family
  - Friends
- How many hours a week can you set aside for studying?



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## Time Management



- Say “no” to unnecessary commitments (Family/ friends sometimes ask us to do something without thinking. Learn to say “No”, but offer alternatives.)
- Make and use lists (Making a list is easy, but following it requires self-discipline. Plan your work and work your plan!)
- Keep track of important dates--use a calendar (Humans forget, especially if they lead a busy life! Put things in writing to aid your memory.)
- Organize effectively (Discover what makes you most effective and efficient. Stick with it!)
- Keep an open mind to change (When a strategy is not working, change it! Try a different approach!)

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## Time Management

- Create a checklist of all the tasks you need to do before you begin to study
- Find a place to study that is best for you
- Have everything you need to study nearby:
  - Sacramento manuals
  - AWWA and WEF study guides (e.g., self-tests)
  - Note book(s) and writing utensils
  - Calculator

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## Time Management

- Where do you study?
  - Is it quiet and free of distractions?
  - Are you able to stay alert and focused?
  - Do you have household issues?
  - Effective studying requires focus and concentration
  - If any of the above are affecting the quality of your study sessions, consider more appropriate alternatives



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## Time Management

- Skim through the chapters...this should help find basic ideas
- Try reading the chapter out loud
- Highlight key points
- Take advantage of the practice self-tests and problem reviews

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## Time Management

- Whenever possible, study during the day
- Review material daily
- Set small goals and deadlines for big tasks
- Distribute work on big tasks—spread it out
- Plan blocks of time to study
- Use “distributed study”



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## Time Management

- Break chapter readings into discrete tasks:
  - Read section by section
  - Take notes
  - Take self-tests subject by subject
- Should you use your own books for study?
- Reward yourself for hard work

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## Time Management

- **Distribute** your reading and studies—30 minutes a day, MINIMUM!
  - R1 = Record = **Take notes** of what you read
  - R2 = Reduce = Weed out unnecessary words in writer’s message/personal notes
  - R3 = Recite = Talk through your reduced notes
  - R4 = Reflect = How does message/material relate to work? Can you make a connection to message?
  - R5 = Review = What do you know well? What do you need to practice more?

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## Problems with Concentration

- At times when you may be trying to study...
  - Your mind may wander from one thing to another
  - Your worries may distract you
  - Outside distractions may take you away from your studies before you know it
  - You may find the material boring, difficult, and/or not interesting

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## Concentration Strategies

- Following are some strategies you can use to focus during study time:
  - Study in a set place that is naturally free of distractions
  - When your mind wanders, tell yourself, “now is when I must study”
  - Stick to a routine, realistic, and effective study schedule
  - Focus on your goals with the material you are studying, each and every time

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## Concentration Strategies

- Change your study topics every 1-2 hours to keep things interesting
- Vary your study activities – don't try and study in the same way for more than an hour or so
- Take regular scheduled breaks and enjoy them!

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## Procrastination

- **What is procrastination?** – Putting off or avoiding to do something that must be done
- Procrastination:
  - Is a natural behavior
  - Can interfere with studies/exam success
  - Needs to be avoided
- Worse, excessive procrastination can result in guilt feelings and anxieties at exam time because of inadequate studying

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## Procrastination

- Avoid Procrastination
  - Develop a study schedule as soon as exam date is set
  - Avoid cramming... it contributes to fatigue on test day, which in turn leads to anxiety and poor performance.
  - Review/translate notes the same day that you write them (recopying the same day increases retention and reduces cramming)

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## Procrastination

- **Why do we procrastinate?**
  - Perfectionism
  - Fear of failure
  - Confusion
  - Poor motivation
  - Task difficulty
  - Difficulty concentrating
  - Task unpleasantness
  - Lack of priorities

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## Procrastination

- **How to Eliminate *procrastination!***
  - **Motivate yourself to work on a task...**Tell yourself: "There's no time like the present" or "The sooner I start, the quicker I'm finished"
  - **Commit yourself to completing a task once you've started it**
  - **Work on the smaller tasks first...**This leaves more time for the more difficult and time consuming tasks
  - **Work on tasks when you work/learn best...**e.g., early morning, early evening

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## Time Management "ConcepTest"

- Following are 10 time management questions
  - Answer yes or no to the questions
  - When finished, discuss/compare with a partner/neighbor
  - Then we'll open the floor for group discussions
- (Allow 20 to 30 minutes for reflection and discussion)

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## Time Management Questionnaire

Check YES or NO for each of the following items :	YES	NO
1. Do you often find yourself doing things that interfere with your studies simply because you can't say no to people?		
2. Do you feel that you are in charge of your own time by and large?		
3. Do you believe you can improve the way you manage time?		
4. Do you set <b>and</b> honor priorities?		
5. Do you make a list of the things you have to do each day?		
6. Do you make constructive use of your time?		
7. Do you continue pursuing unprofitable study routines or habits?		
8. Do you have a set of study goals?		
9. Do you have a history of cramming the night before exams?		
10. Do you regularly review for your notes even when the exam is not imminent?		

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## Time Management Questionnaire - Analysis

Comments:
1. If you answered "Yes", give a higher priority to your studies! Who can you expect to honor your commitment to your studies if <b>you</b> don't?
2. If "Yes", great! Stay in the driver's seat!
3. If "Yes", make up your mind to make some necessary changes!
4. If "Yes", good! If you don't honor your priorities you can't expect anyone else to!
5. The busier you are the more important it is for you to make lists. Without a list (or schedule) it is too easy to forget.
6. It is so easy to procrastinate, so be sure that you can account for your time!
7. If something isn't working it is senseless to continue using it!
8. It is necessary that we know where we're going; goals help us keep on track.
9. If "Yes", work on time management, priorities, and distributed studies.
10. To get the most from note taking, review on a regular basis. This helps you better understand and internalize the learning.

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## Exam study Habits

### Effective Reading Skills

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## Learn to Read Effectively

- Effective reading skills can significantly improve learning
- Improved reading skills are particularly helpful with your least favorite subjects!
- So how do you help yourself focus when you are not interested?
  - SQ4R reading technique



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## Discussion Questions

Based on your experiences:

- Why do you read?
- How do you read so that you can retain information?
- When you read, do you ever take notes?

(Allow 20 to 30 minutes for reflection and discussion)

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## Why do we Read?

- To gain information
- To prepare for tests



To learn, we need to be an active and thinking reader to ensure remembering material more deeply.

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### Reading with the Mind

- Read with your brain, not merely your eyes
- The goal should be to “drain the brain” as slowly as possible so that you can function at a higher level when studying
- Don’t just open a book and *read* on “autopilot”... “Attack” reading, interact with it, think about how to approach it, even make adjustments *while* reading, all in an effort to have a better quality reading session

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### Tips for Improving Reading Ability

- Find a quiet study location
- Read in 25-minute blocks with 5 minute breaks in between
- **Take notes**, recite key ideas or jot down questions in the margins
- Focus on key issues in the text
- Experiment with your reading rate  
Can you speed up?



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### Read to Learn

- Reading is a large part of preparing for certification exams
  - Sacramento manuals
  - AWWA and WEF study guides
- Retaining information depends largely on how “actively” you read
- To read means to “**construct meaning**”.

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## Read to Learn

- Before reading manuals, get familiar with manual content:
  - Review Table of Contents
  - Leaf through manual and read chapter titles
  - Go to the back and check for:
    - Glossary
    - Index
    - Quizzes
    - Answers to quizzes

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## Read to Learn

- Before reading a manual chapter, preview chapter content:
  - Look at headings, subheadings, and topic sentences
  - **Boldfaced** and *italicized* words
  - Pictures, diagrams, graphs, and summaries
  - Review questions at the end
- Ask yourself questions about the subheadings

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## Read to Learn

- When reading a manual chapter:
  - Read one section (subheading) at a time
  - Ask yourself;
    - “What did I just read?”
    - “Do I understand what I just read?”
    - “Could I answer questions about what I just read?”
    - “Could I explain it to someone else?”
  - Continue reading and asking yourself questions

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## Read to Learn

- To retain information as you read, use different strategies to improve the way you read:
  1. Look for main ideas, details, and their implications
  2. Use a marking system to focus your attention and identify information to recite and review
  3. Be an **active reader** (e.g., SQ3R or SQ4R reading techniques)

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## Highlighting Text

- Highlight:
  - Topic sentences, Key words, Conclusions
- But, watch out!
  - Highlighting too much can cause you to re-read everything because you don't know what's important.
  - Highlighting doesn't show you why you highlighted something
  - You need to have the entire text with you to review.



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## Reading Strategies that DON'T Work

- Reading information out loud without writing it down
- Glossing over notes without “proving” you know it
- Excessive highlighting of text
- Studying with someone else – unless you are equally committed and focused
- Staying up really late or pulling an all-nighter

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**SQ3R and SQ4R**  
**Active Reading Techniques**

- Proven techniques to sharpen reading skills and retain information
- Help make reading interesting, purposeful, and meaningful
- Use reading time most effectively
- Techniques that can increase reading comprehension

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**SQ3R and SQ4R**

Textbook reading strategies that help students:

1. Identify the most important points quickly
2. Distinguish between main ideas and details
3. Comprehend information quickly
4. Situate information into memory
5. **Review for exams efficiently**

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**Steps in SQ3R**

S = Survey  
Q = Question  
R1 = Read actively  
R2 = Recite/Record  
R3 = Reread/Review

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### Steps in SQ4R

S = Survey

Q = Question

R1 = Read actively

R2 = Recite/Record

**R3 = Relate/Reflect**

R4 = Reread/Review

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### “SQ4R” Reading Method

- Survey - Preview all information to be studied by scanning or glancing over all headings, subheadings, diagrams, charts, bold features, etc., to get an idea of what is to come.
- Question - Form questions from the previewed information by adding “what,” “how,” “why,” etc. to all headings and subheadings. This will give you purpose when reading.

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### “SQ4R” Study Method

- Read - Read the information thoroughly, with the purpose of finding answers to the questions formed
- Recite - Recite aloud the answers to the questions. The more repetition experienced with the information, the more chance for retention
- Relate - Reflect on material and relate it to personal or work related experiences
- Review - Thoroughly review all information, including headings, subheadings, text, questions, answers, and any additional notes

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## Survey

- Surveying is briefly skimming each chapter before reading for depth
- In surveying you're being an active reader, rather than passive...reading passively leads to boredom and poorer concentration.
- Some readers use their finger or a pen to guide their eyes as they read...this can help them keep their place on the page.

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## Why Survey?

- Get the big picture
- Decide importance
- Know important points
- Connect known to unknown
- Prepare to read



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## Survey

- Preview the text by looking at and check if you recognize any:
  - Titles
  - Headings
  - Sub-section headings



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## Survey

- Get an idea of what the chapter is about by reviewing highlights:
  - Note words that are *italicized* or **bold**
  - Look at charts, graphs, pictures, maps, and other visual material
  - Read captions
  - Read the very beginning and ending of chapters
  - **Read questions at end of each section**



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## Question

- As you survey the text, ask a question for each section
- **Rewrite** the questions at the end of the chapter or after each subheading in your own words
- **Write down your questions**...questions help you pay attention, understand the text better, and recall the information more easily

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## Why Question?

- Stay focused
- Gives purpose
- Creates interest



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## Question

- If given questions at the end of the chapter, view them first, then read to answer them
  - This is reading with a purpose, reading more actively
  - This is a more active way to read than reading straight through with no idea about more important aspects of a chapter
  - Questions at end of chapter will “focus” your reading

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## Question

- What information do you hope to gain from reading the material?
- What do you already know about the topic?
- Predict what a section might be about, explore the purpose of the reading
- Turn title/headings into questions
  - Use who, what, where, when, why, and how to develop questions

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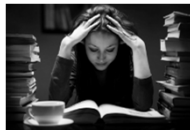
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## Read Actively

- Use your questions as a guide for reading
- Visualize what you read
- What’s important?
- Slow down reading during difficult sections
- Re-read important sections



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### Read Actively

- Look for answers to the questions you first thought about
- Answer questions at the end of chapters
- Answer multiple choice questions in study guides
- Reread captions under pictures, graphs, etc.

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### Read Actively

- Read one section of a chapter at a time
- Looking for answers to your questions
- Pay attention to **bold** and *italicized* text used to make important points.
- Be sure to review everything in the section, including tables, graphs, and illustrations

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### Read Actively

- When you read;
  - Take breaks
  - Break reading into sections
- Make sure your brain is as fresh as possible when reading
- If your brain is tired or bored, you will read more slowly and comprehend less

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### Recite/Record

- Restate the main points and supporting details in your own words while you read
- Mark/highlight text to indicate main points, definitions, characteristics, examples, and conclusions
- Use numbers to indicate series of information
- Take notes in the margins

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### Why Recite/Record?

- Retain information
- Check understanding

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### Recite/Record

- Jot down unfamiliar terms and find the meaning using the glossary or a dictionary
  - Consider the context around new and challenging words
  - Analyze terms to discover the most meaningful part of the word
  - Take the opportunity to use new terms in your writing and speaking

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## Recite/Record

- At the end of each section, recite an answer to your question for that section in your own words
- **Write down** your answer
- Repeat the Question, Read, and Recite steps for each section of the chapter
- First ask a question for the next section, then read to find the answer
- Finally, **recite/write** the answer in your own words
- Written questions and answers in your notes will help you study during future review

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## How to Recite/Record

- Put it in your own words
- Write a summary
- Write notes (in book or on paper)
- Create 3X5 cards
- Highlight text

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## Relate/Reflect

- Connect reading material to personal experiences
- Any work related information?
- Any meaningful information?

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## Reread/Review

- After completing each chapter, review your notes
- Identify the main points of the reading by looking for the most important idea in each section
- If you still aren't quite sure, go back and reread to make sure it was all understood
- Write a brief summary of the chapter

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## How to Review

- Check over notes
- Re-read highlights
- When to review:
  - Immediately after reading
  - Weekly/monthly
  - Before exam

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## Reread/Review

- Review notes to remember the main points of the material
- Test yourself on your comprehension
- Some ways to review:
  - Notes
  - Study questions w/answers
  - flash cards
  - outlines
- Make reviewing every week a study goal



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## Reread/Review

- Review material you have covered to see how much you remember
- Several review periods spaced over time will help you retain information more effectively than one long review period prior to the exam

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## Final Reading Tips and Reminders

1. Prepare a study plan that includes reading:
  - Manuals
  - Study guides and working self-tests
2. Schedule reading times
3. Read with a purpose
4. Read in several short periods of time
5. Take notes and talk to improve comprehension

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## SQ4R SUCCESS!!

- By learning and using the SQ4R Reading Method, you will improve your memory and perform better in your certification exam



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### Discussion Questions

1. What areas stood out as most helpful in preparation for your certification exam? Least helpful?
2. With what you learned, how can you improve your study habits to increase your chances of success on the exam?

(Allow 20 to 30 minutes for reflection and discussion)

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### Exam study Habits

Taking Notes

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### Why Take Notes?

- Taking notes facilitates learning
- When taking notes, students:
  - **Stay more focused** on what they are reading
  - **Are continuously analyzing** what they are reading
  - **Are forced to think rapidly** about what they are reading

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## Why Take Notes?

- Taking notes:
  - Helps students to:
    - Recognize main ideas
    - Prepare for exams
  - Makes a student an active part of the learning process rather than a passive one
  - Means that you are working and processing information

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## How to Take Notes - Outlining

- **Description:**
  - Start with general information at the left, indent more specific facts and clarifications to the right
- **Method:**
  - Read and then **write down points** in organized pattern, based on space indentation
  - Place **major points farthest to the left** and indent each more specific point to the right
  - Levels of **importance** will be indicated by **distance away from major point**

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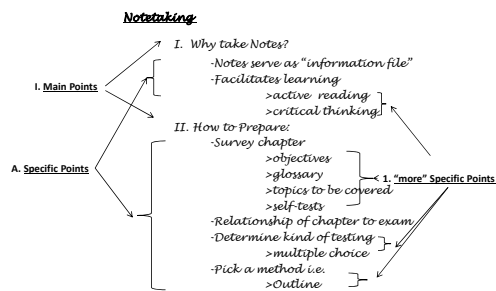
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## How to Take Notes - Outlining



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**How to Take Notes - Outlining**

- When to use:
  - When reading organized/sequential material
- Advantages:
  - Reduces need to edit
  - Easy to turn main points into questions
- Disadvantages:
  - Doesn't lend to itself to variety of review and question applications

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**Effective Study Skills**

- Effective study skills must be practiced in order to do well on exam:
  - Math calculations
  - Answering multiple choice questions
- It's not enough to "think about" studying – you actually have to do it and then reflect on what you could be doing better

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**Effective Study Skills**

- Know how you best learn:
  - Do you need a quiet area to study?
  - Can you learn with distractions around?
- Master any environmental, emotional, and physical obstacles
- Develop an unflawed study strategy
- Prepare sufficiently to study daily and weekly

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## Effective Study Skills

- Take as many multiple-choice practice exams as you can find
- Develop good multiple-choice exam taking skills:
  - Simple fact – from the question or the “stem” in the question, one answer is obviously correct
  - Complex fact – from the question, choosing the “best” answer will take deductive reasoning
  - Be aware of distracters and foils

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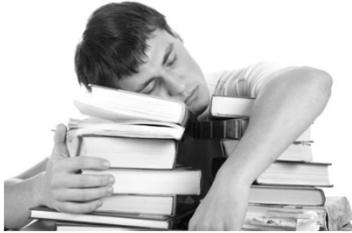
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## Final Comments

- Study, Study, Study...and Study some more!!!



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## Exam Study Habits

Learning Styles

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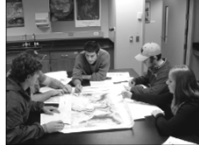
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## Learning Styles

- Focus on different types of information
- Operate on that information differently
- Achieve understanding at different rates
- No learning style is “better”



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## What are Learning Styles?

- Information enters your brain three main ways:
  - Sight
  - Hearing
  - Touch
- Which one you use most is called your “Learning Style”



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## What are Learning Styles?

- **Visual Learners** learn by sight
- **Auditory Learners** learn by hearing
- **Tactile Learners** (kinesthetic) learn by touch



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## Using Knowledge of Your Learning Style

- Knowing your learning style, both your strengths and your weaknesses, can help you study more effectively.



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## Using Your Learning Style

- **The key to successful learning**
- Your learning style is:
  - Uniquely your own, different from anyone else's
  - Defined by conditions which you find it easiest and most pleasant to learn and work

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## **TACTILE** or Kinesthetic Learners

- Prefer touch as their primary mode for taking in information
- In traditional lecture situations, they should write out important facts
- Create study sheets connected to vivid examples
- Role-playing can help them learn and remember important ideas

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### Build Strengths across the Learning Styles

- Make the best use of your learning style
- Work harder in skills that don't come easily to you
- Be flexible and adaptable, try new things and new ways
- Keep growing! Don't be easily satisfied!

Progress is our most important trait!

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### Remember!

No matter what your Learning Style is, it's very important to:

- Be involved in the learning process—participate!
- Relate concepts to your own work experiences
- Don't hesitate to ask questions
- Stimulate further relevant discussion
- Don't get distracted – stay “on-task”
- Keep an open mind: there are many ideas beyond your own

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### Learning Style “ConcepTest”

- Following are 15 personal learning preferences
- Pick your preferences out of the list
- When finished, discuss with a partner/neighbor
- Then we'll open the floor for group discussions

(Allow 20 to 30 minutes for reflection and discussion)

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### What are your learning preferences?

1. I learn best by reading on my own.
2. I get the best results from listening to lectures.
3. I enjoy courses where there is some physical activity.
4. I can learn how to do something by watching a demonstration of how it's done.
5. Class discussions are helpful to me.
6. I like to type and to use the computer.
7. Illustrations, charts, and diagrams improve my understanding.
8. I'd rather listen to the teacher's explanation than to do the assigned reading.

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### What are your learning preferences?

9. I get more out of lab classes than lectures because of the hands-on approach.
10. How-to manuals and printed directions are helpful to me.
11. I like to use audio lessons and exercises.
12. I'd rather work with machines and equipment than listen to or read explanations.
13. I can learn to do something if someone shows me how.
14. I can follow directions best when someone reads them to me.
15. It's not enough to show me; I have to do it myself.

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### What these say about you...

- If you checked 1, 4, 7, 10, and 13 you have the characteristics of a **VISUAL LEARNER**.
- If you checked 2, 5, 8, 11, and 14 you have the characteristics of an **AUDITORY LEARNER**.
- If you checked 3, 6, 9, 12, and 15 you have the characteristics of a **TACTILE LEARNER**.

\*If your checks spread evenly among 2 or more categories, you may be equally comfortable using one or more of your senses when learning.

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**Exam Study Habits**

Learning Styles and Math

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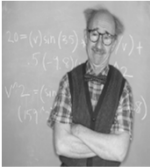
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**Practice Math Problems**

- For all learning styles:
  - Study math everyday -- **Practice** DAILY!
  - Work through problems in the study guides and in other math books
  - Do additional problems
  - Check answers in the back
  - “Own the material, don’t rent it!”



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**Practice Math Problems**

- For all learning styles:
  - Be familiar with conversions and formulas provided by MDE
  - Use MDE conversion and formula sheet to practice doing math calculations
  - Practice calculating areas and volumes of tanks

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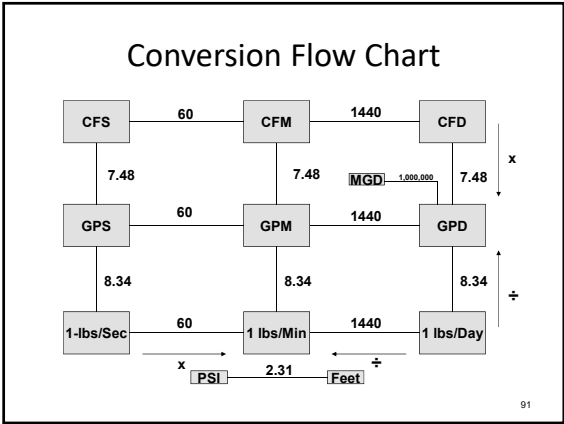
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### Give it Your All!

- Characteristics of successful math students:
  - Disciplined
  - Persistent
  - Patient
  - Hard working
  - Able to concentrate



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## Certification Exam

### Test Taking Strategies

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## Test Taking Strategies

- Show up early (Not too early...!) and relax
- Leave cell phone in car
- Scratch paper will be provided to make sketches and math calculations
  - Brainstorm – write down all your “personal” topic summaries that you can remember
- Pace yourself, even take short breaks
- Be confident and answer all questions

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## Answering Exam Questions

Answer easy questions first

- Easy multiple choice
- Basic math
- List questions in doubt on scratch paper

Answer questions in doubt second

- Less difficult multiple choice
- Less difficult math questions
- Cross off questions answered from list of questions in doubt

Answer difficult questions last

- Difficult multiple choice
- Difficult math questions
- Take best guess answer approach to unanswered questions

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## How to take an Exam

- Read questions carefully:
  - Questions will be multiple choice
  - The right answer will usually become obvious
  - Be aware of “extreme modifiers” (all, never, must, etc.)
  - Some answers may be partially correct, so go over each answer and pick the best
  - Try and reduce “best” answers to two – choose the answer that is “more correct”, more true than false

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## How to take an Exam

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- Understand the questions and answers:
  - Determine the point of the question
  - Be aware of distracting information
  - Some information may be irrelevant
- Use the process of elimination:
  - Eliminate answers that are definitely incorrect
  - When choosing between two “best” answers, focus back on the question and visualize scenarios to choose the “correct answer”

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## How to take an Exam

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- Rely on your gut instinct...!
  - Go with it first
  - Then review more thoughtfully and compare
  - Don't be afraid to change “gut” answers
  - But be careful not to change correct answers
- Don't let one question beat you
  - Most test takers mark difficult questions, go on and do the other questions, and come back
  - Also, chances are you will not score 100% on the exam, so don't let one question upset you

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## MATH PROBLEM TIPS

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- Read each question carefully to be sure you know what answer is required
- Make a drawing or sketch if it will help
- Simplify the problem; break it down into small pieces if necessary.
- Make all necessary conversions to correct units (dependent on answer's units)
- Give answer to the nearest 'significant' figure, rarely more than two decimal points
- Be sure the decimal point is in the right place
- Check to make sure that the answer makes sense!

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### How to take an Exam

- Don't turn in your exam right away...!
- Recheck answers after completing the exam:
  - Try and allow 30 minutes at the end of the exam for reflection
  - Brain becomes sharper with rest
  - Go back and review/correct answers to questions you were unsure of or guessed at

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### How to take an Exam

- Don't leave any questions unanswered
- Finally, when in doubt...make an educated guess!

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### Think, Pair, Share Discussions

- Think individually
- Talk with a partner/neighbor
- Share with the large group

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### Discussion Questions

1. Have you ever misread test directions?  
Describe the circumstances and the consequences?
2. What test taking strategies have you used?  
Have they worked well for you or not?

(Allow 20 to 30 minutes for reflection and discussion)

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### Certification Exam

Multiple Choice Questions

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### Typical Multiple Choice Question

- Components:
  - **Stem**: presents the problem
  - **Correct or keyed options**: correct option/answer
  - **Distracter options**: incorrect options/answer

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## Typical Multiple Choice Questions

- Significant concepts, not trivial facts
- Answer not given away by clues in the question
- One correct answer (key)
- Distracters:
  - Common misconceptions
  - Reasonable errors that could be made
  - Plausible, yet less important information
  - Similar in style and length to the key

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## Limitations

### *Multiple-choice items:*

- Place a high degree of dependence on a student's reading ability
- Answers subject to clueing...students can often deduce the correct response by elimination of answers

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## Multiple Choice Questions - Basics

- **MCQ Item** - the entire multiple choice question; consists of a root, stem, and a set (3 to 5) of options
  - **Root** – the part of the item that presents underlying facts; most are significant, some may be irrelevant
  - **Stem** – the part of the item that sets up a situation for response; e.g., a question, a problem, or an incomplete statement to answer
  - **Options or Alternatives** – all possible multiple choice responses

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## Multiple Choice Questions - Basics

- **MCQ Options or Alternatives:**

- **Key or Keyed response** – the correct or “best” answer
- **Distracters/decoys and foils** – wrong answers; responses “distracting or foiling” examinees who are uninformed on the question topic or who may be good guessers
  - **Distracters or decoys** – misleading responses which can draw attention away from correct responses
  - **Foils** – incorrect responses which contrast with other responses, particularly the correct answer

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### Example

**What is the process of elimination** in a multiple choice question? (*stem*)

- A. Skipping the entire question (*distracter*)
- \*B. **Eliminating the wrong answers (*key*)**
- C. Eliminating all extreme answers (*distracter*)
- D. Just guessing (*distracter*)

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## Multiple Choice Questions - Basics

- Cover major ideas and skills as well as specific details
  - Typically uses Bloom’s cognitive taxonomy or something appropriate for context
    - Knowledge
    - Comprehension
    - Application
    - Analyses
    - Evaluation
- Lower Level
- Higher Level

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### Multiple Choice Questions

- Lower level questions—remembering, understanding and lower level applying levels
- Lower level questions
  - Evaluate students’ preparation and comprehension
  - Diagnose students’ strengths and weaknesses
  - Review and/or summarizing content

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### Multiple Choice Questions

- Higher level questions require complex application, analysis, and evaluation skills
- Higher level questions
  - Encourage students to think more deeply and critically
  - Facilitate problem solving
  - Encourage discussions
  - Stimulate students to seek information on their own

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### “Remembering” stems

- What happened after...?
- How many...?
- What is...?
- Who was it that...?
- Name ...
- Find the definition of...
- Describe what happened after...
- Who spoke to...?

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### **“Understanding” stems**

- Explain why...
- Write in your own words...
- How would you explain...?
- Write a brief outline...
- What do you think could have happened next...?
- Who do you think...?
- What was the main idea...?
- Clarify...
- Illustrate...

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### **“Applying” stems**

- Explain another instance where...
- Group by characteristics such as...
- Which factors would you change if...?
- What questions would you ask of...?
- From the information given, develop a set of instructions about...

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### **“Analyzing” stems**

- Which events could not have happened?
- If ..happened, what might the ending have been?
- How is...similar to...?
- What do you see as other possible outcomes?
- Why did...changes occur?
- Explain what must have happened when...
- What are some or the problems of...?
- Distinguish between...
- What were some of the motives behind..?
- What was the turning point?
- What was the problem with...?

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## “Evaluating” stems

Judge the value of... What do you think about...?  
Defend your position about...  
Do you think...is a good or bad thing?  
How would you have handled...?  
What changes to... would you recommend?  
Do you believe...? How would you feel if...?  
How effective are...?  
What are the consequences...?  
What influence will...have on our lives?  
What are the pros and cons of....?  
Why is....of value?  
What are the alternatives?

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## Certification Exam Questions

Operator Certification exam questions are usually written at three levels of knowledge:

- **Comprehension** level questions require examinees to recognize, remember, or identify important ideas
- **Application** level questions require examinees to interpret, calculate, predict, use, or apply information and solve problems
- **Analysis** level questions require examinees to compare, contrast, diagnose, examine, analyze, and relate important concepts

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## Answering Multiple Choice Questions

- Answer those that you are 100% sure of
- Put ? on those needing more thought
- Revisit and answer those you are reasonably sure of
- Guess the rest

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### Answering Multiple Choice Questions

- READ instructions carefully:
  - **Mark *one* correct answer** (MDE exams)
  - Mark *all* correct answers
- Read *all* the stem and *all* alternatives, two or three times
- Use a *process of elimination* to select right answer

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### Answering Multiple Choice Questions

- Try covering the answers first
- Think of the correct answer; is it there?
- Embedded facts in highly similar pairs (go for the one that reflects familiar terminology)
- Beware of answers where only one word is different

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### Answering Multiple Choice Questions

- Break the question down
- Note clues/key words in stem and alternatives
- Reread the question to ensure understanding of what's being asked
- Use your elimination techniques

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### Answering Multiple Choice Questions

- Read all the alternatives, don't jump to the first conclusion
- Compare answers
- Eliminate the obviously wrong ones
- Relate remaining answers back to the stem
- Narrow your choice to two
- Pick the one that most closely matches your prior learning

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### Answering Multiple Choice Questions

- Don't waste time puzzling over one question
- Mark it as needing to be returned to
- Return as time allows
- Other questions on exam can get the creative juices flowing

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### Certification Exam

Managing Exam Anxiety

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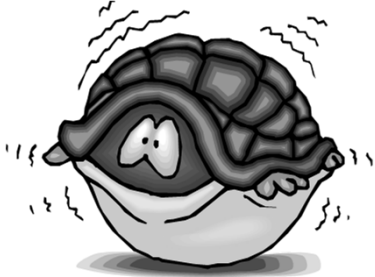
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## Managing Anxiety and Stress



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## What is Exam Anxiety?

- It is the worry caused by having to take an exam
- You may experience:
  - Butterflies in your stomach
  - Anxiety
  - Sweating
  - Nausea
  - Loss of concentration or “blinking out”



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## Why do We Have Exam Anxiety?

- Past test failures come to haunt you!
- Lowered self-confidence
- Attitude needs adjusting?
- Lack of preparation?



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## What are Other Causes of Test Anxiety?

- Pressure to succeed
- Fear of failure
- Need to score “100%”
- Irrational and/or negative thinking



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## The “Flight or Fight Response”

- The automatic stress response dates back to prehistoric times – for survival.
- We cannot differentiate between a perceived physical threat and a psychological threat.



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## How can we Control Anxiety?

- You need an attitude adjustment! To pass, you must believe it!
- You must commit to doing what it takes to pass!
  - More preparation time
  - More study time



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## Disarm the Power of Exams!

### Grades are **NOT**:

- A measure of intelligence
- A measure of creativity
- An indication of how you will contribute to society
- A measure of what you have accomplished
- A measure of your self-worth!



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### Exam Scores Are:

- A measure of what you scored on an exam that particular day
- Powerful enough to cause a delay or adjustment in reaching your certification goal
- But not powerful enough to stop you forever!



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### Who is Affected by Test Anxiety?

- Everyone experiences some test anxiety
- Generally two types of students:
  - Those who see testing as a challenge and a chance to show the instructor what they know
  - Those who view testing as a threat...they may have experienced past failures.



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## Tips for Reducing Test Anxiety



- **Be prepared! Study, study, study.....**
- **Get plenty of rest the night before**
- **Eat properly the day of the exam**
- Do not arrive too early (but never late) to the exam
- Avoid last minute studying (cramming)

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## Reverse Negative Thinking

Begin to Develop positive self-statements:

“I **CAN** do well on the exam.”

“I studied hard and **KNOW** the material.”

“I’m smart and will succeed no matter what!”

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## Questions?



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# Thank You

Maryland Center for Environmental  
Training  
College of Southern Maryland  
La Plata, MD

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- WEF's, "Wastewater Operators' Guide to Preparing for the Certification Exam"

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