

Name: _____

Many students read a science textbook as if they were watching a movie--they just sit there and expect to take it all in. Actually, reading a science book is more like playing a video game. You have to interact with it! This skill sheet will teach you active strategies that will improve your reading and study skills. Remember--just like in video game playing--the more you practice these strategies, the more skilled you will become.

The **SQ3R** active reading method was developed in 1946 by Francis Robinson to help her students get the most out of their textbooks. Using the SQ3R method will help you interact with your text, so that you understand and remember what you read. "SQ3R" stands for:

- **Survey**
- **Question**
- **Read**
- **Recite**
- **Review**

Your student text has many features to help you organize your reading. These features are highlighted on page *ii* and *iii* of the introduction. Open your text to those pages so that you can see the features for yourself.

1. Survey

Survey the chapter first.

Skim the *introduction* on the first page of every chapter. Notice the *learning goals* and the *vocabulary* list that appear on the second page. Write down any vocabulary words that are unfamiliar to you. This will help you recognize and learn them later on.

Next, skim the chapter to get an overview. Notice the *section titles*. These divide the chapter into major topics. The *subheadings* in each section outline important points. Vocabulary words are highlighted in blue. Tables, charts, and figures summarize important information.

Finally, read the *concept review questions* at the end of each chapter to learn what you are expected to know when you finish your reading.

2. Question

Question what you see. Turn headings into questions.

Take another look at each of the section headings and subheadings, printed and underlined in blue in your text. Change each heading to a question by using words such as who, what, when, where, why, and how. For example, **Section 2.3: Acceleration** could become *What is acceleration?* The subheading **Acceleration in metric units** could become *How do I calculate acceleration in metric units?* Write down each question and try to answer it. Doing this will help you pinpoint what you already know and what you need to learn as you read.

3. Read

Read and look for answers to the questions you wrote.

Pay special attention to the *sidenotes* in the left margin of each page. These phrases, short sentences, and questions are designed to guide you to the most important ideas in the text.

Slow your reading pace when you come to a difficult paragraph. Read difficult paragraphs out loud. Copy a confusing sentence onto paper. These methods force you to slow down and give you time to think about what the author is saying.

4. Recite

Recite concepts out loud.

This step may seem strange at first, because you are asked to talk to yourself! But studies show that saying concepts out loud can actually help you to record them in your long-term memory.

At the end of each section, stop reading. Ask yourself each of the questions you wrote in step two on the previous page. Answer each question out loud, in your own words. Imagine that you are explaining the concept to someone who hasn't read the text.

You may find it helpful to write down your answers. By using your senses of seeing, hearing, and touch (when you write) as you learn, you create more memory paths in your brain.

5. Review

Review it all.

Once you have finished the entire chapter, go back and answer all of the questions that you wrote for each section. If you can't remember the answer, go back and reread that portion of the text. Recite and write the answer again.

Next, reread the learning goals at the beginning of the chapter. Have you accomplished each of these?

Complete the vocabulary and concept review sections at the end of the chapter. Use the glossary and index at the back of the book to help you locate specific definitions.

6. Bringing it all together

The SQ3R method may seem time-consuming, but it works! With practice, you will learn to recognize the important concepts quickly.

Active reading helps you learn and remember what you have read, so you will have less to re-learn as you study for quizzes and tests.