Memory Tips

We say students learned because they are able to recall information presented to them. The ability to recall, memory, can be enhanced through utilizing some common sense strategies. We will look at 10 things we can do to improve memory.

One reason for not remembering well is lack of linking. The clear presentation and organization of a good lesson provides a structure that helps students remember. Where information drifts in as isolated facts, it will normally be forgotten simply because it is not actively fitted into a way of remembering information easily.

As an example, when teaching equations of lines, teachers might start with the mathematical definition of slope and its interpretation (rate of change, constant growth, pitch, grade, etc) and multiply that slope formula by the common denominator. That results in the Point-Slope Form of a Line. Solving the Point-Slope Form of a Line for y results in the Slope-Intercept Form of a Line. The students should visualize where the graph crosses the y-axis and see how the slope affects the slant of the line. Continuing, placing the x’s and y’s on the same side of the equation results in the General Form of an Equation of a Line. Students should note the graph crosses the y-axis when x = 0 and crosses the x-axis when y = 0.

This type of linking connects learning so the math concepts and skills students are learning are not seen as isolated facts.

* Remind students, before studying for their next exam, they might want to use a few strategies to boost their memory of important information. There are a number of tried and tested techniques for improving memory.

1. Focus your attention on the topics you are studying.

Attention is one of the more important components of memory. In order for information to move from short-term memory into long-term memory, you need to actively think about this information. Try to study in a place free of distractions such as television, music and other diversions.

2. Avoid cramming by establishing regular times to study.

Studying materials over time gives students the opportunity they need to adequately process the information. Research has shown that students who study regularly remember the material far better than those who did all of their studying in one long session.

3. Structure and organize the information you are studying.

Researchers have found that information is organized in memory in related clusters. You can take advantage of this by structuring and organizing the materials you are studying. Try grouping similar concepts and terms together, or make an outline of your notes and textbook readings to help group related concepts.

4. Utilize mnemonic devices to remember information.

Mnemonic devices are a technique often used by students to aid in recall. A mnemonic is simply a way to remember information. For example, you might associate a term you need to remember with a common item that you are very familiar with. You might come up with a rhyme, song or joke to help remember a specific segment of information.

5. Elaborate and rehearse the information you are studying.

In order to recall information, you need to encode what you are studying into long-term memory. One of the most effective encoding techniques is known as elaborative rehearsal. An example of this technique would be to read the definition of a key term, study the definition of that term and then read a more detailed description of what that term means. After repeating this process a few times, your recall of the information will be far better. Use this before bedtime and when you first get up in the morning.

6. Relate new information to things you already know.

When you are studying unfamiliar material, take the time to think about how this information relates to things that you already know. By establishing linkages between new ideas and previously existing memories, you can dramatically increase the likelihood of remembering the recently learned material.

7. Visualize concepts to improve memory and recall.

Many people benefit greatly from visualizing the information they study. Pay attention to the photographs, charts and other graphics in your textbooks and relate that to the information you need to recall. If you do not have visual cues to help, try creating your own. Have a visual for each step in a procedure. Draw charts or figures in the margins of your notes or use highlighters or pens in different colors to group related ideas in your written study materials.

8. Teach new concepts to another person.

Research suggests that reading materials out loud significantly improves memory of the material. Educators and psychologists have also discovered that having students actually *teach* new concepts to others enhances understanding and recall. You can use this approach in your own studies by teaching new concepts and information to a friend or study partner.

9. Pay extra attention to difficult information.

Have you ever noticed how it's sometimes easier to remember information at the beginning or end of a chapter? Researchers have found that the position of information can play a role in recall, which is known as the serial position effect. While recalling middle information can be difficult, you can overcome this problem by spending extra time rehearsing this information. Another strategy is to try restructuring the information so it will be easier to remember. When you come across an especially difficult concept, devote some extra time to memorizing the information.

10. Practice

In order to build automaticity, procedural fluency, students need to do enough practice problems so they are not continually going back checking on the formula or procedure to do problems.

These tips, along with the understanding of the importance of student-teacher relationships, building *success on success*, and knowing that self-confidence in learning mathematics is one of the strongest indicators of math achievement will result in increased student performance in the classroom. If students are to be critical thinkers, problem solvers, then they must have a body of information to draw from (memorization of facts, formulas, & procedures, otherwise we are just spitting into the wind.