Overview of Resources

Resources pages and their relationship to assignments

Each assignment in the course is structured around the principles of:

- Developing skills and understanding.
- Making connections to prior learning.
- Preparing for future lessons.
- Reading, writing, and reflection.

Each assignment contains problems in which you practice the skills from the lesson, including extending those skills in a new way or applying them to a new situation.

Taking control of your own learning

In addition, each assignment includes questions designed to prepare you for future lessons. Resources are provided if you need help. For example, if you have difficulty with the place value questions in the first assignment, some videos on place value and large and small numbers are suggested in the Resource **Place Value and Large and Small Numbers**.

When you use videos as a tool for refreshing concepts, it is best to actively engage with the material in the video, rather than watching passively. For example:

- Copy the examples.
- Pause the video and work problems when directed to do so.
- When you have to correct your work, do so underneath the original work and write an explanation of your error and/or the correction.
- Watch the video a second time and add comments by the examples.

Self-regulating your learning

One goal of this course is to increase your ability to learn efficiently and effectively. This means learning faster and learning smarter—what scientists call being a "self-regulated learner." The following section explains what this means.

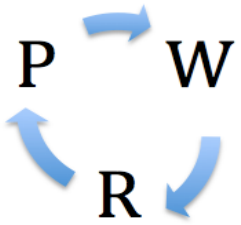
Self-regulating your learning means you *plan* your work, *monitor* your work and progress, and then *reflect* on your planning and strategies and what you could do to be more effective. The three phases of Self-Regulated Learning (SRL) are introduced below and will be discussed in detail later in the course.

> **Plan**: Before doing a problem or assignment, self-regulated learners *plan*. They think about what they already know or do not know, decide what strategies to use to finish the problem, and plan how much time it will take. Research has shown that math experts often spend much more time planning how they will do a problem than they do actually completing it. Novices, the people who are just starting out, often do the opposite.

Work: Self-regulated learners use effective strategies as they *work* to solve problems. They actively *monitor* what study strategies are working and make changes when they are not working. When they do not know which strategy would be better, they ask for help. Self-regulated learners also keep themselves focused while they are working and pay attention to their feelings to avoid getting frustrated.

Reflect: Usually after an assignment or problem is done, self-regulated learners take time to *reflect* about what worked well and what did not. Based on that reflection, they think about how to change their approach in the future. The *reflect* phase helps self-regulated learners understand more about how they learn so they can become more efficient and more effective the next time they solve a problem. Reflecting is important for doing a better job next time you plan for a new problem or assignment.

You can think of these three phases as a cycle:



You incorporate what you learned during the reflect stage in your next plan phase, making you a more effective learner as you repeat this process many times. The most effective students get in the habit of working this way.

For most people, self-regulating takes time, practice, and hard work, but it is always possible. People can improve even if, in the beginning, they did not self-regulate their learning very well. The more you practice something and the more you train your brain to think in certain ways, the easier it becomes.