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# Brain-Compatible Study Strategies

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# Brain-Compatible Study Strategies

 [www.edutopia.org/blog/brain-compatible-study-strategies-lori-desautels](http://www.edutopia.org/blog/brain-compatible-study-strategies-lori-desautels)

Image credit: iStockphoto

Driving my 15-year-old daughter home from cross country, I asked her where she learned to study. She replied, "Mom, I have never been taught how to study, we just do it because teachers have way too much to teach! They assume we know, and [Cornell Notes](#) are their idea of teaching us how to study!" I thought about this conversation and began to create a template that can hopefully assist students to organize, plan and create capacity in their working memories to learn content for the long term.

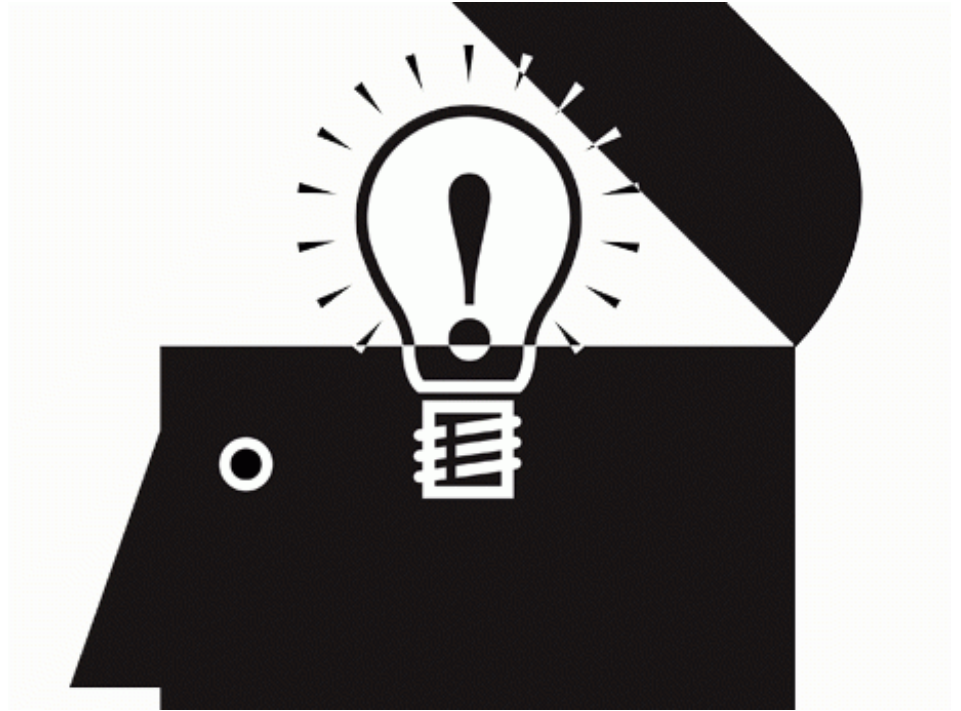
Below is a brief, simply-stated template on study skills for fifth grade students preparing for a math assessment. The brain's executive functions must be addressed even though our curriculum is full to overflowing, our days and hours are shortened instructionally, and we cannot afford not to integrate these mindful, researched strategies that invite the working memory and prefrontal cortex to engage in the learning process.

## Strategies You Need

These study skills may be implemented for any subject and should begin in the upper elementary years before students encounter the more challenging middle and high school curriculums. These strategies will prepare students for the expectation that they will be able to manage time, organize materials and thoughts, and prioritize and plan for the skills they will need to master throughout academic standards and across subject areas.

- Prediction
- Analogy
- Metacognition
- Teaching what we need to learn
- Discussion
- Visualization
- Focused attention practice
- Study-sleep cycle

## An Analogy for Fifth Graders





Taking a test is like baking a cake, putting together a model airplane, learning a video game, playing a sport or getting ready for a performance. There are steps to work through before we reach the final answer, skill or solution. If I am baking a cake, I need to get out the recipe, read over the directions and check to make sure that I have all the ingredients. When I look at the image on the box of the beautiful, delicious cake, I get excited about what I am going to create. Taking a test is no different.

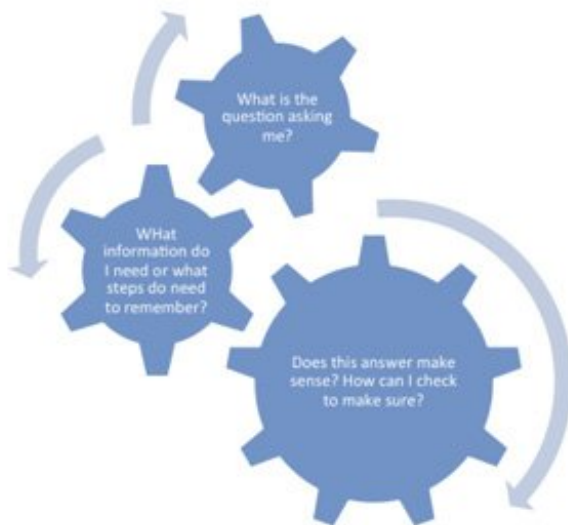
1. Check to make sure I have all the ingredients.
2. Measure each ingredient in the right order, and gradually add to the mixing bowl.
3. Check.
4. Stir the batter.
5. Grease the pan.
6. Oven on? Check.
7. Check.
8. Pour the batter into the pan.
9. Bake.
10. Check the recipe for how long to bake, and for the next steps.
11. Pull out of oven, allow time for cooling off, and ice the cake.
12. Check as I clean up and put ingredients away, asking myself:
  - Did I miss an ingredient?
  - Did I follow the directions?
  - What would work better the next time?

Gearing up for a test

Credit: Lori Desautels

## Math Test Preparation

1. Before you begin to study, check to make sure you have all of your materials.
2. Free write for three minutes about any concerns, worries or stresses that you feel about the test, or that you have about anything happening in your life.
3. Take three to five deep breaths through the nose with your eyes closed. Count to five on the inhale and six on the exhale. See your neurons firing behind your eyebrows like a firework show as they make connections. Feel the electrical charge (*sizzle crack pop*) as you visualize the right answers and solve the problems!
4. Begin with the first review problem. Talk out loud as you write down the problem, explaining to yourself the important information and the steps you'll need to know.
5. After solving the problem, move away from it for a few minutes. Take a brain break -- stretch, run or walk for



10 to 15 minutes, get some water and a snack -- but no TV or computer. Return to the problem with a new pen color or different pencil and paper, checking your answer as you talk through each step out loud.

6. Now is the time to teach your problems to a classmate, a teacher or to your family. After you explain the steps to your new student, create two problems for him or her to solve. You must do these problems, too, and then compare answers.
7. Set aside 30 minutes before you fall sleep to review your practice problems one more time, talking yourself through the steps. Close your notes, fluff up your pillow, close your eyes and feel the excitement of being prepared for the test. As you fall asleep, relaxed, your brain begins moving and massaging the information throughout the working memory all night long. Our brains are actually able to work harder when we sleep if we study what we need to know before closing our eyes for the night.

## **After the Test**

### **Questions to Ask Yourself Now (and For Next Time)**

1. Did I make careless mistakes?
2. Did I forget the steps or order of operations?
3. Am I forgetting "how" to solve the problem?
4. What do I need for coming up with the right answer?
5. Who can help me?
6. What are my resources? (Friend, teacher, parents, book, worksheets, computer?)
7. I know that 24 repetitions is the way to learn this 80 percent of the time.

## **Parent and Teacher Support**

When we look at the results of a test, rather than focusing on the final grade with our students, we should ask:

- Do you understand your mistakes or errors, and have you found a way to correct them?
- What could you do differently the next time?
- What can I do to make sure you feel very comfortable with your corrections from the errors you made on the test?

## **A Word for Students**

Remember that mistakes are our greatest learning tools! It is what we do with our mistakes that matters the most. Scientists *love* mistakes because, with each error, they improve the experiment or invention, and will know much more the next time.