

What type of 'Math Learner' are you? And what can you do about it?

Assessing Your Learning Style

Carefully read the following statements. Give yourself 3 points if the item usually applies. Give yourself 2 points if it sometimes applies. Give yourself 1 point if it rarely applies.

Are you a visual learner?

1. _____ I am more likely to remember math if I write it down.
2. _____ I prefer to study math in a quiet place.
3. _____ It's hard for me to understand math when someone explains it without writing it down.
4. _____ It helps when I can picture working a problem out in my mind.
5. _____ I enjoy writing down as much as I can in math.
6. _____ I need to write down all the solutions and formulas in order to remember them.
7. _____ When taking a math test, I can often see in my mind the page in my notes or in the text where the explanation or answers are located.
8. _____ I get easily distracted or have difficulty understanding in math class when there is talking or noise.
9. _____ Looking at my math teacher when he or she is lecturing helps me stay focused.
10. _____ If I'm asked to do a math problem, I have to see it in my mind's eye to understand what is being asked of me.

Total score _____

Are you a kinesthetic/tactile learner?

1. _____ I learn best in math when I just get in and do something with my hands.
2. _____ I learn and study math better when I can pace the floor or shift positions a lot.
3. _____ I learn math best when I can manipulate it, touch it, or use hands-on examples.
4. _____ I usually can't verbally explain how I solved a math problem.
5. _____ I can't just be shown how to do a problem; I must do it myself so I can learn.
6. _____ I've always liked using my fingers and anything else I could manipulate to figure out my math.
7. _____ I need to take lots of breaks and move around when I study math.
8. _____ I prefer to use my intuition to solve math problems, to feel or sense what's right.
9. _____ I enjoy figuring out math games and math puzzles when I learn math.
10. _____ I learn math best if I can practice it in real-life experiences.

Total score _____

Are you an auditory learner?

1. _____ I learn best from a lecture and worst from the blackboard or the textbook.
2. _____ I hate taking notes; I prefer just to listen to lectures.
3. _____ I have difficulty following written solutions on the blackboard, unless the teacher verbally explains all the steps.
4. _____ I can remember more of what is said to me than what I see with my eyes.
5. _____ The more people explain math to me, the faster I learn it.

6. _____ I don't like reading explanations in my math book; I'd rather have someone explain the material to me.
7. _____ I tire easily when reading math, though my eyes are okay.
8. _____ I wish my math teachers would lecture more and write less on the blackboard.
9. _____ I repeat the numbers to myself when mentally working out math problems.
10. _____ I can work a math problem out more easily if I talk myself through the problem as I solve it.

Total score _____

Enter the category with the highest score _____

Enter the second highest scoring category _____

Enter the category with the lowest score _____

Visual learners

Do you find you must see math problems written on the board or on paper before you can begin to understand and comprehend what is being asked of you? Would it drive you crazy if you had to listen to a math lecture, and you had nothing to write with or if the teacher wrote nothing on the board?

Here are some math strategies to use if you are a strong visual learner.

1. Always take written notes when someone is explaining math to you.
2. Whenever possible, ask for written instructions.
3. Make your own drawings or diagrams when figuring out word problems.
4. Use flashcards to review all important concepts, formulas, theorems, equations, and explanations.
5. Write as much as you can when you study. Work out lots of problems.
6. In lecture, concentrate on what the instructor is writing on the blackboard and copy everything down. If you can't get much of what the teacher explains in class, bring a tape recorder.
7. Use two or three math books. Read how different authors explain topics you learn.
8. Visualize in your mind's eye the math concepts you are learning.
9. Use computer programs that illustrate concepts you are learning.
10. Read your textbook assignments and previous class notes before your next class.
11. Use workbooks, supplemental study guides, handouts, etc.
12. Map out, chart, or in some way graphically illustrate your classroom and textbook notes.
13. Rewrite your notes. Underline key words. Mark important concepts and use colored pencils to liven them up.
14. Sit near the front of your classroom to avoid visual distractions and to pay closer attention to your instructor.

Auditory learners

Do you prefer to have someone explain math to you rather than read about it or see it on paper? Do you often have to repeat math problems aloud or in your head before you can figure them out? Do you just hate it when a teacher shows the class how to figure out a math problem on the board, but does not explain each step aloud while writing it?

The following suggestions may be helpful if you are a strong auditory learner.

1. Sit near the front of the classroom so you can clearly hear your teacher without auditory distractions.
2. You may want to use a tape recorder during lectures and listen to each lecture as soon after class as possible.
3. Take part in class discussions.
4. Ask lots of questions in class, after class, and in help sessions. Ask for clarification if you do not completely follow an explanation in class.
5. Restate, in your own words, math concepts you are trying to understand.
6. Ask your math teacher to repeat important concepts.
7. Listen carefully to the math lecture. Mentally follow the concepts, then write them down to capture what was said.
8. If you can't get everything that the teacher writes on the board, find a classmate who seems to be more of a visual learner and is writing everything from the board. Ask if you could photocopy this person's notes after class.
9. When figuring out a difficult homework assignment, you may want to read it aloud into a tape recorder and then listen to it and write it down.
10. Immediately after you read your math textbook assignment, recite aloud what you just learned.
11. Read your class notes and textbook notes aloud. Whenever possible, say them in your own words into a tape recorder.
12. Talk about math to a study partner or to anyone who might listen.
13. Listen for key words in your math lecture. Note if your instructor emphasizes certain points through his or her tone of voice, emphasis on certain words, voice inflections, and so on.
14. Record all key concepts, formulas, explanations, and theorems on an audiocassette and listen to them often.

Kinesthetic learners

Do you prefer real-life experiences with math, manipulating it and experimenting with it? Do you find that you like to move around when you study, pace the floor, or shift positions a lot?

Here are some strategies that may be useful for you.

1. You must use a hands-on approach to learning. Work out as many math problems as possible. Do, do, do. Practice, practice, practice.
2. Whenever possible, convert what you are learning in math to real-life concrete experiences. If applicable, use measuring cups, toothpicks, seeds, stones, marbles, paper clips, rulers, sticks.
3. If someone shows you how to do a problem, immediately ask if you could work out a similar one to see if you understand how to do it.
4. While studying, try to solve problems several different ways in order to decide which method feels right for you.
5. You may want to walk around while reading your assignment or even while you work out problems. Some students like to rock back and forth. Others need to shift positions

frequently. The movement seems to increase understanding and comprehension for some highly kinesthetic people.

6. Use computers and workbooks.

7. While you exercise or engage in other types of physical activities, review your math concepts in your head.

8. Rewrite class notes.

9. Use a calculator to solve problems.

10. If possible use or build models to help you understand math concepts you learn.

11. Study math on an exercise bike – preferably one that has a reading stand attached to it and that allows you to move your arms as well as your legs.

Then strengthen and connect all your learning styles. For example, you might read aloud what a chart or diagram represents, so that you can hear the information. The more you combine your learning styles, the better you will learn and remember your math concepts.

Other major factors affecting your learning could be:

Time of Day

When is your energy the highest? Each of us have times in the day or evening when we perform at our peak level of proficiency. If you have your math classes or math study sessions at these times, you'll find that you can concentrate better and learn more.

Sound Level

Do you like to study in a very quiet place free from all distractions? For most people this seems to help increase comprehension and the ability to figure out difficult problems. Many students find silence especially helpful when they work on demanding or problematic assignments, but they seem to tolerate some background music or noise when they do a routine or boring assignment or when they recopy notes. Other students find that, when it is too quiet, they become "hyper-aware" of all sounds. They can hear the refrigerator motor running or a clock ticking, etc.

Lighting

How does lighting affect your ability to learn? Do you find that you study best with natural light coming in from a window? Or do you like to study under a soft, incandescent lamp? Some students find that bright light is energizing and makes them more attentive. Other students find bright light has the opposite effect on them. – it makes them tense, fidgety, and uncomfortable. Others feel more relaxed and can concentrate better when they work in diffused natural light or under balanced full spectrum fluorescent lights. Experiment and see which light affects you.

Temperature

Do you prefer to learn in a room that is cool or one that is moderately warm? Each of us has our own unique reaction to temperature. You might notice that at different times of the year or at different times of the day, your reaction to environmental temperatures varies.

Room design

Do you like to study in a big, soft, comfortable chair? Or perhaps you study best in a straight backed chair at a desk? When you prepare for a test, you should take all practice exams in a room arranged like the testing room, so you can transfer your learning to a classroom setting more readily.

Food intake

Are you often hungry when you study? Perhaps you find that you must wait at least an hour after you eat before you can concentrate on learning anything? Do certain foods affect your study? Too much caffeine may make you feel nervous and jittery. A large fatty meal may make you feel dull, exhausted, and lethargic.

Alone or with others

Are you a loner when you study? Do you like to review or study with a partner? Or do you like both – working alone but having a tutor or someone nearby to help you if you get stuck?

Clothing

Do you prefer to wear loose clothing when you learn math? Or is this not an issue? What are your favorite clothes for studying? What clothes make you feel successful and sure of yourself?

You can greatly enhance your ability to learn math if you remain aware of, and at times also manipulate, the factors that enhance your unique learning style.

Some other things to keep in mind:

*Give yourself time. You have a right to learn at your own pace.

*Stay current. Do not fall behind or the entire class will become a struggle. Be attuned to the cumulative nature of math. You can only understand new information if you understand and digest earlier information.

*Attend all classes. Successful students are more likely to attend all classes. Do not cut math. If you do miss be sure to go to your teacher to clear up anything you missed.

*Be bold; sit near the front. You are more likely to pay attention and concentrate on the lecture. It is much easier to get distracted by sounds or side discussions going on in the back of the room.

*Take full class notes. Your class notes and your text are like your bible in math. They indicate the essence of what you are learning. Studies show that successful students take fuller notes (about 64% more) than unsuccessful students.