




Rote Memory Good - Bad - Suggestions - Ideas

Rote memory involves repeating a concept or idea over and over again until you remember it. This concept can be repeated orally or written out.

	What is GOOD about rote memory? Rote memory is widely used in education. A recent survey found that 70% of the teachers surveyed felt that rote memory worked well for most students. You don't need to purchase anything.
	What is BAD about rote memory? Research has show that rote memory is one of the least effective ways of memorizing. Rote memory takes a giant commitment in time and effort.
	What do we suggest? Use another method. There are methods that work much better for a greater number of students. If you still want to use rote memory, read through some of the suggestions that follow.




Some teachers use the analogy of your brain being like a library. The books in the library are the concepts. Each time you review the concept it's like putting another 'book' into your 'library.' If you put enough 'books' into your 'library,' every place you look in the library will contain a copy of the book.

Some ideas that help teaching the multiplication facts using rote memory:

- Practice, Practice, Practice
 - Have students practice the facts you are on during every free minute of class time.
 - Take it slow. Have students learn one or two facts each day.
 - Start with the hard facts first. 7×8 , 8×8 , 6×8
- Flash Cards
 - Make two copies of flashcards for each student. Have them keep one at school and keep the other at home.
 - Suggestions for practicing alone
 - As students go through the flash cards have them make a pile of the ones they know and a pile of the ones they don't know. Have them spend most of their time practicing the ones they don't know.
 - Have them write down how long they practice each day. Give rewards to those that spend time practicing.
 - Suggestions for practicing with a partner
 - Students like being the 'teacher.' Give them time to practice with their peers. Allow the students that don't know their times tables to be the 'teacher' some of the time.
 - Suggest that students practice with their parents, brothers, sisters, grandparents, or friends.
 - Suggest that students practice while riding in the car or bus.
 - Students can keep the flashcards next to them while watching TV. During commercials they can practice.
- Test students often - Quiz students daily or every other day.

Music - Good - Bad - Suggestions - Ideas - Products

Many teachers that use music and singing to teach the times tables purchase a commercial tape with a song for each fact family.

	<p>What is GOOD about using music? Many teachers have had varying amount of success with music. Most students enjoy singing along with the tape or CD. This method works better than rote memory. There are tapes that are inexpensive.</p>
	<p>What is BAD about using music? It doesn't work well with all students. After students have 'learned' the song for a fact family, some need to sing the entire song to remember a certain fact. (Do you need to sing the entire alphabet song to remember what comes before the letter h?)</p>
	<p>What do we suggest? Use music in combination with another method or choose another method.</p>

Using music to help teach the multiplication facts is a fairly simple process.




Some ideas that help teaching the multiplication facts using music:

- Repetition
 - Have students listen to the tapes as often as possible.
 - Playing the tape for the whole class works well when you start teaching the fact.
 - As more students learn a series of facts, switch to small group instruction. Use headphones or use a corner of the room for the instruction.
- Order extra copies of the cassettes to send home with students. (Avoid the temptation to make your own copies of the musical multiplication tapes.)
- Don't get in a hurry. Take one set of facts at a time and don't be afraid of over-teaching each fact.

There are many commercial products available that use music to teach the times tables.

Pictures Good - Bad - Suggestions - Ideas

Using pictures to remember the times tables has become a popular method of teaching the times tables. Instead of remembering the numbers, a student remembers a picture that reminds them of the multiplication fact.

	What is GOOD about using pictures to teach the times tables? Teachers are having a high degree of success with the picture method. Research tends to support this form teaching the times tables is widely used in education.
	What is BAD about using pictures to teach the times tables? This method works better when combined with other strategies. Unless you are a creative artist you need to purchase this system.
	What do we suggest? Pictures combined with music or rhyming is very effective. <u>Memorize in Minutes: The Times Tables</u> , uses this method. <u>Teachers</u> have found it VERY effective.

Research has shown that pictures are easier to remember than numbers. The problem comes with associating numbers with a pictures. There are a few products that have done this.

Some ideas that help teaching the multiplication facts with pictures:




- Have students make pictures out of the numbers one through nine. Using a certain multiplication fact, they draw a picture with the answer as part of the picture.

Products - There are a few excellent commercial products available that use pictures to teach the times tables. See how teachers rate them.

★ If you are interested in using pictures to teach the times tables, you might want to look at Memorize in Minute: The Times Tables.

Rhyming - Good - Bad - Suggestions - Samples

Most teachers that use music and singing to teach the times tables purchase a commercial tape with a song for each fact family.

	What is GOOD about using rhymes? A number of teachers use rhymes for some of the multiplication facts with excellent results. Good when used in combination with other methods. Works well with verbal learners.
	What is BAD about using rhymes? It doesn't work well with all students and with all multiplication facts.
	What do we suggest? Use rhymes for a few of the problem facts or in combination with another method.

Here are some sample rhymes that teachers have shared.

- $2 \times 2 = 4$
Two shoes kicked the door, two times two equals four.
- $3 \times 4 = 12$
One - two - three - four, One-two is three times four.
- $3 \times 8 = 24$
A tree on skates fell on the floor, three times eight is twenty-four.
- $5 \times 5 = 25$
Two fives jump off the high dive, five times five is twenty-five.
- $6 \times 8 = 48$
Six asked eight for a date, six times eight is forty-eight.
Six times eight is forty eight
- $7 \times 7 = 49$
7x7 is 49, you are cool, you are fine!
- $7 \times 8 = 56$
Five - six - seven - eight, Fifty-six is seven times eight.
- $8 \times 8 = 64$
Eight times eight is sixty-four, close your mouth and shut the door!
He ate and ate and sticks in the door, eight times eight is sixty-four.
Eight times eight fell on the floor, eight times eight is sixty-four.
Skate, skate, figure eight's all the way to the shore, eight times eight is sixty-four.
Eight times eight is sixty-four, Shut your mouth and say no more.
- $9 \times 9 = 81$
He stood in line and ate a ton, nine times nine is eighty-one.