

Mathematics Worksheets Don't Grow Dendrites

20 Numeracy Strategies That Engage the Brain

AGENDA

Rituals/Expectations

Activity: Mathematics Alphabet Book

“Less is More”: Math NCTM Focal Points

Six Brain Facts

- **I Like the Way You Move**
- **Read Any Math Lately?**
- **Games People Play**
- **Think Graphically**
- **Listen to the Music**
- **It's a Math, Math, Math, Math World!**

Brain-compatible Mathematics Lesson Plan

Summary/Celebration

Dr. Marcia L. Tate
Developing Minds, Inc.
www.developingmindsinc.com
Marciata@bellsouth.net
(770) 918-5039



MATHEMATICS ALPHABET BOOK

A	B	C	D	E	F
G	H	I	J	K	L
M	N	O	P	Q	R
S	T	U	V	W	X
Y	Z	<p style="text-align: center;"><u>Rules of the Game</u></p> <ol style="list-style-type: none">1. Must have 60 or more words.2. Can provide 20 words yourself.3. Must get remaining words from at least 8 people outside your "family."4. Must complete game within 8 minutes.			

Instructional Implications of



Research

Brain  Facts	 Concepts to Remember
<p>Instructional situations that involve movement necessitate more sensory input than do those requiring only paper and pencil. (Gregory & Parry, 2006)</p>	
<p>After a period of intense learning, storytelling enables the brain to relax and facilitates the retention of newly acquired material. (Jensen, 2000)</p>	
<p>Students not only learn more when playing a game, but their participation in class and motivation for learning math increase. (Posamentier & Jaye, 2005)</p>	
<p>Graphic organizers enable English language learners to organize words and ideas in a way that helps them see patterns and relationships in math. (Coggins et. al, 2007)</p>	
<p>Of all the content areas, mathematics appears to be the one most closely aligned with music. (Sousa, 2006)</p>	
<p>Problem-based instruction enables students to learn math content as they solve the same problems that people in the real world (architects, scientists, engineers) solve. (Ronis, 2006)</p>	

BRAIN-COMPATIBLE *Mathematics* LESSON PLAN

Lesson Objective(s): *What do you want students to know and be able to do?*

Assessment (Traditional/Authentic): *How will you know students have mastered essential learning?*

Ways to Gain/Maintain Attention (Primacy): *How will you gain and maintain students' attention? Consider need, novelty, meaning, or emotion.*

Content Chunks: *How will you divide and teach the content to engage students' brains?*

Lesson Segment 1:

Activities:

Lesson Segment 2:

Activities:

Lesson Segment 3:

Activities:

Brain-Compatible Strategies: *Which will you use to deliver content?*

- | | |
|---|--|
| <input type="checkbox"/> Brainstorming/Discussion | <input type="checkbox"/> Music/Rhythm/Rhyme/Rap |
| <input type="checkbox"/> Drawing/Artwork | <input type="checkbox"/> Project/Problem-based Learning |
| <input type="checkbox"/> Field Trips | <input type="checkbox"/> Reciprocal Teaching/ Cooperative Learning |
| <input type="checkbox"/> Games | <input type="checkbox"/> Role Plays/Drama |
| <input type="checkbox"/> Graphic Organizers/Semantic Maps/Word Webs | <input type="checkbox"/> Pantomimes/Charades |
| <input type="checkbox"/> Humor | <input type="checkbox"/> Storytelling |
| <input type="checkbox"/> Manipulatives/Experiments Labs/Models | <input type="checkbox"/> Technology |
| <input type="checkbox"/> Metaphors/Analogies/Similes | <input type="checkbox"/> Visualization/Guided Imagery |
| <input type="checkbox"/> Mnemonic Devices | <input type="checkbox"/> Visuals |
| <input type="checkbox"/> Movement | <input type="checkbox"/> Work Study/Apprenticeships |
| | <input type="checkbox"/> Writing/Journals |