TeachME Professional Development

Enriching Math Skills in the Lower Grades

- 1. The average preschool spends approximately how many seconds per day on math instruction?
- A. 58
- B. 109
- C. 12
- D. 62
- 2. If a child is able to rattle off the numbers from 1-100, what does this necessarily show?
- A. Numeric awareness
- **B.** Pattern recognition
- C. Mathematical competency
- D. Memorization skills
- 3. A young student looks at a group of four apples and informs you, without counting from one to four, that there are four apples present. What skill is the student demonstrating?
- A. Subtracting
- **B.** Synthesizing
- C. Subitizing
- D. Summing
- 4. When you use fun, recognizable objects such as stuffed toys in order to help children visualize the counting and operations problems you ask, what are you helping them do?
- A. Become more interested in the process of mathematics
- B. Connect the phonological idea of the name of a number to the number of objects they visually see
- C. Incorporate a memorable visual that can help them remember your lesson
- D. Provide motivation for getting the question right, as you'll give them the toy afterward

- 5. According to some experts, which of the following is potentially a better choice for introductory math activities than counting drills?
 A. Measurement
 B. Music
 C. Dancing in a group
 D. Drawing with shapes
- 6. One professor of child development noted that mathematics is the language of what higher-order brand of knowledge?
- A. Statistics
- **B.** Logic
- C. Scientific knowledge
- D. Categorizing
- 7. Each of us, 'math people' or not, operates with subconscious mastery of numeracy in our lives. Which one of these everyday actions is an example of numeracy in action?
- A. We can recognize numerical counts in songs we haven't heard in years
- B. We can recognize mathmatical concepts in the spoken word
- C. We can make a delicious recipe without using measurements
- D. We can populate missing segments of patterns
- 8. Brain scans of children who were doing simple math problems showed that many parts of the brain lit up during this activity, including which of the following?
- A. The right and left areas of the frontal lobe
- B. The vision and movement parts of the brain
- C. The brain stem
- D. The frontonasal zygmus
- 9. Which attribute of commonly-accepted structures for literacy development are modern scholars positing that we should extrapolate to numeracy development?
- A. Repetition
- **B.** Creation
- C. Composition
- D. Comprehension

- 10. When young students observe their caretakers move around their environments, talk about their schedules, or manage multiple children during preschool activities, what numeracy skill are they subconsciously learning?
- A. Phonological awareness
- **B.** Pattern repetition
- C. Representation
- D. Spatial problem-solving
- 11. Which of these is the most beneficial reason that a young child's gameplay is similar to early math problems?
- A. Both are repetitive
- B. Both are more effective when done with others
- C. Both involve interpreting and executing basic tasks
- D. Both involve higher level logic
- 12. Activities like hopscotch, blocks, quilting or origami can help with numeracy development. Why?
- A. They involve counting
- B. They help a child strengthen visual-spatial awareness
- C. They involve repetition
- D. They emphasize pattern development
- 13. Why does it help when teachers use visual aids during math lessons?
- A. It helps appeal to many learning modalities
- B. It helps the presentation be more dynamic
- C. It gives the lesson a real-life feel
- D. It helps kids who are artistic pay attention
- 14. Rote counting is a
- A. Good way to teach young students about numbers
- B. Good memorization drill
- C. Good substitute for subitization
- D. Good substitute for early addition
- 15. Experts propose that an effective numeracy educator:
- A. Incorporates math into activities throughout the day
- B. Models different numeracy strategies for students

- C. Has patience with struggling math learners
- D. Uses creative strategies to engage students in math
- 16. Several students have decided to play by pretending to be pirates. You have decided to help give their game an educational spin by asking them to draw a map to buried treasure. What skill have you helped your students strengthen?
- A. Their ability to recognize symbols and patterns
- B. Their imagination
- C. Their visual-spatial reasoning
- D. Their performance skills
- 17. Which of the following attributes about a student's classmates might be best to keep track of over time in order to learn measuring and graphing skills?
- A. Measuring height
- B. Graphing eye color among classmates
- C. Measuring shoe size
- D. Graphing hair color differences
- 18. When is likely the first time that a young student becomes aware of numbers?
- A. Through rote counting drills in school
- B. Through numeracy indicators in the home environment
- C. Through playing with blocks and other toys
- D. When they are read books that incorporate numbers
- 19. Research has shown that working to make math more of three specific qualities will make it more accessible and interesting for children. What are those qualities?
- A. Accessible, engaging, entertaining
- B. Easy, breezy, beautiful
- C. Strategic, sensible, silly
- D. Beautiful, useful, understandable
- 20. On a recent national math assessment, what percent of fourth-grade students achieved a proficient score?
- A. 40%
- B. 60%
- C. 30%
- D. 55%

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