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# Puzzles–Toys...or Teaching Tools?

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Puzzles are games that help us learn and practice a multitude of skills like visual perception and analysis, fine-motor control, project completion, and patience. There are hundreds of types of puzzles. Some examples are old-fashioned wooden peg puzzles, jigsaw, hidden picture, word search, crossword, logic, cryptoquotes, and sudoku. Puzzles are engaging. They can be played alone or in a group, and they cover a wide variety of subjects and skill areas. What we may take for granted as a "toy" is actually a very valuable teaching tool!

Toddlers may begin with (wooden) puzzles consisting of two or three large pieces and then advance to more complex puzzles with more pieces that are smaller and more intricate. Some older adults use puzzles to keep their minds sharp. Putting together elaborate jigsaw puzzles (e.g., 1,000 tiny pieces) or completing crossword puzzles helps activate thoughts and recall. Educators often use puzzles to teach and review curriculum material as well as help develop logic and reasoning. Occupational therapists use puzzles to help patients develop fine-motor skills, hand-eye coordination, and spatial skills. Puzzles can also be an excellent social and "together-time" activity for the family. Here are just a few types of puzzles that help encourage visual perception, fine-motor skills, thinking, reasoning, and logic.

## Different Puzzles Teach Different Things!

***Old-Fashioned Wooden Peg Puzzles***—or puzzles with large plastic or foam pieces that each have a complete picture—are a great place to begin for toddlers and young children. These simple puzzles

typically have anywhere from two to 30 large pegged pieces that fit into specific individual spaces in a background tray. They help foster hand-eye coordination, spatial concepts, and problem solving. You can find puzzles like these to help teach shapes, numbers, letters, animals, home life, etc. Introduce a puzzle with the fewest pieces first, then gradually present puzzles with increased numbers of pieces and complexity. Encourage speech and vocabulary development while playing with puzzles by naming the pieces for the children and having them repeat the names—"This is a cow. A cow says 'Moo!' Now, you say 'cow'." If children try to fit pieces in the wrong spaces, let them at first. Give them the chance to explore the shapes of each piece and space. Help them look at the shape's features: straight edges, curves, and points. Use hand-over-hand help as necessary.

***Jigsaw Puzzles*** have pieces with random shapes that fit together in a specific way to make a larger picture. This type of puzzle helps develop spatial concepts and reasoning as players must analyze shapes

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more closely. Trial and error is essential in fitting shapes together. You can find puzzles with pictures, cartoons, geography, science, and other types of scenes on the front of the box. This helps guide players in sorting pieces by color or pattern as they try to logically fit them together to complete a scene.

***Hidden Picture Puzzles*** help develop visual skills as players use their eyes to find hidden pictures or subtle differences. With hidden picture puzzles, players "filter" through a detailed background picture to find a much smaller hidden picture. Hidden picture puzzles become more complex as the background picture becomes more detailed and the hidden pictures get smaller.

Another type of picture puzzle includes picture or photo hunt, when players must compare two almost identical pictures and identify the slight differences in them. As the differences become less obvious, the puzzle becomes more difficult. Occupational therapists will often use these types of puzzles in therapy to work on visual-perceptual skills.

***Word Search Puzzles*** require players to search through rows and columns of letters to find a specific word that is embedded vertically, horizontally, diagonally, backward, etc. This type of puzzle helps strengthen visual perception (like the hidden picture puzzle) and letter discrimination.

***Crossword Puzzles*** require players to use a clue to figure out a specific word and write each letter in the corresponding squares that overlap with other words in the puzzle. These puzzles can be helpful for developing and learning vocabulary (antonyms, synonyms, facts). Educators use crossword puzzles to review material, prepare for tests, or as an evaluation of facts students are learning in school. Crosswords are also useful in the development of reasoning and planning skills. Simpler crossword puzzles may have as few as five words, and more complex puzzles may have hundreds of words.

***Logic Puzzles*** present facts which players must piece together to solve the puzzle. These are difficult for many children whose reasoning, inferencing, and predicting skills are lacking. However, with instruction and practice, children can learn how to organize facts by plotting them on a grid and deducing—or working out—missing information to solve the puzzle.

***Cryptoquotes*** require players to decipher a famous quote by substituting letters for other letters. For example, "A equals W" means the player must write "A" wherever there is a "W," and so on. A frequent cryptoquote player eventually learns other strategies and clues over time to make the substitutions and solve the puzzle quickly (e.g., If one letter stands alone, it must equal either "A" or "I" because these are the only one-letter words in the English language).

***Sudoku*** requires players to plot numbers 1-9 in a square grid without using any digit twice within a certain area. Numbers 1-9 must be in each row, each column, and each 3x3 box without repetition. Players must have strong planning and inferencing skills to be good sudoku players, but again, trial and error is the teacher. Puzzles begin at the easy level where more digits are already in place in the grid and the player needs only to plot the remaining numbers. As the puzzle increases in difficulty, fewer numbers are in place.

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