

## SET Junior Skill Connections for Teachers

SET Junior is a game primarily played for fun and entertainment. The fact that it teaches, strengthens and exercises an abundance of skills makes it one of the best possible tools for your classroom. Because it is fundamentally a game people enjoy, SET Junior inspires an intrinsic motivation and desire to “play.” The repetition of playing again and again reinforces the skills that lead to success.

### SET Junior Strengthens

- **Cognitive Skills**
- **Interpersonal Skills**
- **Intrapersonal Skills**
- **Physical Development Skills**
- **Academic Connections**

**Ages:** 3+  
**Players:** 2 to 4



### About SET Junior

Start playing SET Junior with your students as early as age 3. SET Junior’s two-sided board is designed to grow with the students during this preoperational phase of development. Side 1: Match your tile to a square on the board. Start to recognize *SETs* while matching the color, number and shape. Receive one point chip for each *SET* made! Side 2: Now that you know what a *SET* is, it's time to flip the board and have fun racing to find as many *SETs* as you can! The thicker tile-like cards are easier for little hands to manipulate and the point chips make scoring fun. Just like the original SET game, SET Junior was made as a game of fun that also sharpens your mind as you play!

### How SET Junior Develops Skills

#### **Cognitive Development:**

- **Analytical Skills:** The process of learning these cognitive developmental skills are critical during the Preoperational (toddlerhood to early childhood) stage of development. SET Junior offers two games in one that guides children as they develop these skills. Players start on Side 1 of the board where they are introduced to what a *SET* is, and they are guided through the process of visualizing, conceptualizing, problem solving, and then communicating their answers to other players. Once players have mastered Side 1, they can move on to Side 2, where the challenge increases.
- **Attention/Sustained:** There are no turns on Side 2 of the SET Junior board, so all players must continually pay attention and keep focused on the tiles to find the most *SETs* and win. For kids who have difficulty staying on task, jump from project to project or have a lot of unfinished projects, SET Junior is a perfect way for them to practice this skill repeatedly, which is crucial for development.
- **Cognitive Flexibility (or Flexible Thinking):** The ability to shift from one concept to another is also improved while playing SET Junior because players must evaluate all three features, one at a time, to find *SETs*. These are just a few of the many methods of finding *SETs*:
  - looking for a *SET* that is all the same color,
  - sequencing through the 10 tiles, two at a time to see if the third tile that completes the *SET* is on the board,
  - looking for a *SET* that is all different in all 3 features.

Playing SET Junior increases the brain’s ability to make quick shifts in thinking.

- **Cognitive Processing Speed:** On Side 1 of the SET Junior board, players match their tiles to the tiles on the magic squares illustrated on the board. These magic squares show *SETs* in every direction. Players must process the information in the magic squares and decide the best time to play each of their tiles to earn the most points. On Side 2 of the SET Junior board, players must process information quickly to find a *SET* before the other players. Once they see a *SET*, they must respond appropriately by saying “*SET*”, pointing it out and allowing everyone to reflect on whether it is a correct *SET* or not before it is picked up. Players are intrinsically motivated to think as fast as they can to win point chips for each *SET* found. This process requires high mental efficiency and SET Junior allows players to practice this over and over until the skill is automatic and performed fluently. Well-developed processing speeds contribute to proficient executive functioning skills and problem solving.
- **Creative Thinking:** Creative thinking skills are necessary when playing SET Junior, because players will have to think in new ways when analyzing the three features of each tile -color, shape and number- and look at problems from a different perspective when applying the “One rule of SET”. To see these non-obvious patterns or *SETs*, players will have to think creatively.
- **Critical Thinking:** Critical thinking skills are necessary when playing Side 2 of SET Junior. Once a player finds a *SET*, they say “*SET*” and remove the tiles from play. The dealer then replaces those tiles with 3 new ones from the deck. Players must continually gather information about the features of the tiles in front of them and then creatively sort through the relevant information while relating the new information from new tiles. All the while they must apply their knowledge of the “One Rule of SET” to logically reason and draw reliable and trustworthy conclusions about if there is a *SET* on the board.
- **Higher Order Thinking:** Players must learn what makes a *SET*, distinguish *SETs* from non-*SETs* by analyzing and comparing the tiles on the board, and combining them into valid *SETs* all of which involves higher order processes of Bloom’s Taxonomy and Critical Thinking.
- **Left Brain - Right Brain Connectivity:** The SET Junior game involves learning a rule of logic, and so players must invoke “left brain” logical thinking skills. To find *SETs*, players must also examine the spatial array of tiles and locate the tiles that satisfy the rule – which exercises “right brain” spatial and intuitive thinking skills.
- **Logic & Reasoning:** Players practice their logical reasoning skills by applying the rule of SET to identify which tile combinations make a *SET*. For every two tiles, there is only one tile that completes the *SET*. Players must determine what the third tile is and if it is on the board. Logical deduction is often used to confirm if there are any *SETs* on the board.
- **Memory:** SET Junior requires all players to use working and long-term memory while playing. As new knowledge of the “One Rule of SET” is learned and absorbed, long-term memory brings up prior knowledge like colors, numbers, and shapes and then applies them to the rule.
- **Metacognition:** A mindful practice for SET Junior players is to consciously think about their thinking. After playing SET Junior, have players tell you in as much detail as they can the steps they took to find a *SET*. Older players can write out in detail their thinking process for finding *SETs* step by step. This allows players to retrace the cognitive process. Once done writing or telling it, pair players up and have them discuss their thought processes with each other. Players should note ideas that might help or improve their own thinking. Reflecting on one’s own thought process, allows players to take control of their own general and specific learning process.
- **Multiple Intelligences:** SET Junior requires the player to use many different intelligences while playing. Players use their Visual-Spatial intelligence to recognize the shapes, colors and analyze the spatial array of tiles. Players use their Interpersonal intelligence while observing their opponent’s behaviors, taking turns and playing in a group environment. Bodily-Kinesthetic intelligence is used when players are touching and handling the tiles. Lastly, players use their Logical-Mathematical intelligence to see and explore patterns and relationships between the images to successfully find *SETs*.
- **Organization:** SET Junior is great for players to practice their skills regarding sorting and organizing. While on Side 1, have young players organize their tiles by color, then by number and then by shape. This will help them to recognize the 3 features each tile contains and begin thinking in a manner that will help them find *SETs* on Side 2 of the board.

- **Pattern Recognition:** Pattern recognition is the ability to recognize order in chaos. Finding a general pattern about the tiles on the board helps players to quickly find a *SET*. For example, if most of the tiles are purple, then there is greater possibility that a *SET* exists that is all purple. The same can be said for a surplus of other features, such as shape and number.
- **Problem Solving:** Players will use both analytical and creative skills while playing SET Junior. A tactic of play during SET Junior is to use the rule “for every 2 tiles, there is only 1 tile that will make them a *SET*.” To test the rule a player selects any two random tiles from the face-up tiles on the board and compares their individual features to determine what features the third tile must have to make a *SET*. This process is repeated throughout the game.
- **Problem Finding:** Problem discovery. Players use their intelligence and insight to determine what is missing. By using the following tip: “for every 2 tiles, there is only 1 tile that will make them a *SET*.” A great strategy for play is to search the tiles in play, two-by-two, reviewing their features and determining what the last tile should be. Then survey the board to determine if the tile is there or not.
- **Reflection:** This skill is central to Problem Solving and Cognitive Development. SET Junior helps players build this skill because on Side 2 of the board all players peer review found *SETs* before they are cleared from the board. Therefore, every player is constantly reviewing the Rule of SET: that ALL three tiles must be either all the SAME or all DIFFERENT in each feature.
- **Visual & Spatial Processing:** Players use their ability to process tiles and their features, to understand the spatial relationship between tiles and to visualize the *SETs*.
  - **Form Constancy:** Players exercise this when they find *SETs*. Players learn that a *SET* may be:
    - all the same shape, but different in number and color or
    - all the same shape and all the same number, but different in color or
    - all the same shape and all the same color, but different in number.
  - **Spatial Reasoning:** Players practice spatial reasoning by mentally re-arranging or grouping the tiles on Side 2 of the board to find a *SET* without physically touching the tiles.
  - **Visual Discrimination:** To find *SETs*, players must be able to detect differences in three characteristics — color, number and shape.
  - **Visual Processing:** Players must think in visual images to conceptualize a *SET*.
  - **Visual Perception:** Every time a *SET* is found, three more tiles are dealt creating a new array of visual information. The 10 tiles on the board are never the same. Players repeatedly exercise their ability to interpret, analyze and give meaning to every new group of tiles, strengthening their visual perception skills.

## Interpersonal Development (Social Skills)

- **Collaborative Learning:** SET Junior can be played as a class-wide challenge. Players can work collaboratively, as a group, competing against other groups to find the most *SETs*.
- **Cooperative Learning:** Players are divided by ability into mixed teams, where they teach, support and guide each other as they master finding *SETs*. Playing SET Junior in this manner can also help maintain social balance between the extroverted and introverted student.
- **Cultural Sensitivity:** Playing SET Junior allows you to put students with different backgrounds together. SET Junior has the same rules for everyone and is easy to learn for kids in Pre-K to 3<sup>rd</sup> Grade. SET Junior requires no prior knowledge, so it puts all players on an even playing field. SET Junior is religiously, politically and culturally neutral, making this an ideal situation for interaction between people of different age, race, sex, religion, politics and culture.
- **Peer Assessment:** When a player finds a *SET*, they call out “*SET*” and point out the *SET* they find. At that time all players can review the found *SET* and make sure it is valid. This helps players to improve their metacognitive skills as well as enhance their understanding of what is a *SET*.
- **Social Learning:** SET Junior is a social game where up to four players can play together. Players will learn through observing others’ behavior, attitude, and outcome of that behavior providing a perfect situation for social learning.

- **Social Skills:** Playing SET Junior provides multiple opportunities for learning and exercising proper social skills such as: *verbal and non-verbal communication; following rules; listening; using appropriate vocal volumes, words and touch; and coping with losing and proper behavior when winning.*
- **Teamwork:** Divide players into small groups that will work together to find as many SETs as possible before other groups in the class.

### **Intrapersonal Development (Emotional Growth)**

- **Adaptability:** SET Junior requires players to stay adaptable and flexible. For example, you may find a SET, but another player says “SET” first, and when they pick up their SET they end up taking one of the tiles you needed to make your SET. Since this tile is no longer available, you must start again and look for a different SET. Everyone needs practice in facing change. SET Junior provides a safe situation for players to remain adaptable throughout play.
- **Emotional Skills:** Each time a player finds a SET, his or her **confidence** grows. As players repeatedly play SET Junior their cognitive, physical, social and emotional skills continually develop increasing their overall self-confidence. Over time each player’s ability to find SETs increases dramatically. Excelling at something that was once difficult reinforces a **growth mindset**. Playing SET Junior is fun so players are **intrinsically motivated** to play again and again. This desire is reinforced in SET Junior by the point chips they win for each SET found. This repetition is key to developing skills. Each time a player finds a SET, he or she feels a sense of accomplishment, which creates an urge to find more. The enjoyment of playing and the feeling of success every time a SET is discovered, is found to naturally **enhance moods**. It’s purposeful play that impacts each player’s environment and **mindset** in a very positive way. Playing SET Junior increases a players' skills and abilities, which builds their confidence and improves their overall **self-esteem**.
- **Executive Functioning Skills:** The Preoperational phase of development is key to a developmental foundation that will help players become life-long learners in the future. While playing SET Junior, players will have to take part in the decision-making process that includes planning, organizing, sequencing, strategizing, response inhibition, sustained attention, time management, flexible thinking and working memory thus developing their executive functioning skills.
- **“Hot” Executive Function:** SET Junior is an exciting game that becomes competitive and fast paced on Side 2 of the board making it a situation that isn’t emotionally “neutral”. Players will have to manage their emotional reactions, so they can use their executive skills to find SETs.
- **Inhibitory Control (including Self-Control):** SET Junior is a great game for introverts and extroverts to play head to head. Players will have to ignore distractions and resist the temptation to blurt out “SET” when they really haven’t found one. False cries of SET, will cause them to lose points, which matters since the person with the highest points wins the game.
- **Intrinsic Motivation:** SET Junior is an addictive game that players want to play repeatedly because it’s just fun Triple Matching Mania™.
- **Non-Cognitive Skills:** While playing as a group, SET Junior players will work on their personality traits, such as agreeableness, conscientiousness, emotional stability, extraversion, and autonomy.
- **Self-Assessment:** As a player finds a SET they can review their SET and determine if the information they surveyed reflects their understanding of the rule of SET: that to make a SET, ALL the tiles must be all the SAME or all DIFFERENT in each of the 3 features.
- **Time Management:** Players must race to find a SET before their opponents, so focus, strategy and organization are a must to win.

## Physical Development:

- **Bilateral Coordination:** SET Junior helps with symmetrical and asymmetrical integration as well as crossing the midline.
  - **Symmetrical Integration:** Using both hands to hold the thick tile-like cards requires symmetrical integration.
  - **Asymmetrical Integration:** There are many opportunities for asymmetrical integration while playing SET Junior: holding the tiles in one hand while placing a tile on the board with the other hand, holding tiles with one hand while picking up a tile with the other, picking up point chips with one hand while holding tiles in the other hand.
  - **Crossing the Midline:** SET Junior constantly makes players practice this skill. On side one, players must cross their hand in front of themselves to place their tile down and make a correct match. On side two, because a *SET* can be anywhere in the 10 tiles on the board, players cross the midline each time they pick up a *SET*. If a player needs to work on this skill have them first point out the *SET* using one hand and then use the other hand to pick up the tiles.
- **Fine Motor Skills:** Playing SET Junior helps strengthen *finger isolation, in-hand manipulation, pincer grasp* and increases overall *dexterity* and *motor planning*. These skills are consistently used when mixing (or shuffling) the tiles, drawing a new tile, placing or replacing tiles on the board, picking up point chips and grabbing *SETs* from the board.
  - **Motor Planning:** On side two, the *SETs* on the board are constantly changing so the mind and body must perceive a *SET*, call out “*SET!*”, plan to grab the *SET* and finally take the correct 3 tiles from the board. Because side two is a racing game, there are no turns and no luck, so the players must have their hands ready to grab *SETs* at any given moment.

## Academic Connections:

- **Creative Writing:** The story of how two tiles found their third to make a *SET*. Players must compare the three features of color, shape and number to find the third tile. Depending on the age of the player, have them tell, draw or write simple sentences to describe the adventures of those two tiles looking for their third, or the sad lonely tile looking for his/her two friends. Or assign a tile to each player and have them say, draw or write a descriptive tale about the features on their tile. There are so many opportunities for narrative storytelling and descriptive writing.
- **Cross-Curricular Approach:** SET Junior can be used in any classroom with any subject. The skills and competencies it develops can be used in many areas across the curriculum. SET Junior teaches basic skills like identifying, categorizing, logic and sorting that are used in all subjects.
- **Differentiated Instruction:** SET Junior can be utilized as a choice in differentiated content for students to practice skills they are learning. Read above to find out what cognitive, interpersonal, and intrapersonal skills SET Junior reinforces.
- **Games-Based Learning:** SET Junior facilitates learning. SET Junior can be used at any level from preschool through elementary in a variety of learning situations, from behavior modification to supporting learning in complex domains such as evaluation or creativity.
- **Hidden Curriculum:** Players will be having so much fun, they won’t even realize the variety of skills they are mastering. SET Junior requires players to use many social and self-regulatory skills that they won’t even know they are practicing while playing the game.
- **Informational Text:** Use our SET Junior instructions to fulfill the Common Core requirement with lower age groups. Students can read, annotate, jigsaw, comprehend, discuss, and teach each other how to play SET Junior. The assessment is built in when you see which players understand the rules and can find *SETs*.
- **Kinesthetic Learning:** SET Junior is a great change of pace for players. It’s a great brain activity, that gives teachers and students a break from direct instruction time. Use SET Junior in a small group format or for a challenge for older children, give a tile to each player and have them go and find their *SET* among their classmates. Don’t worry about those who don’t find a *SET*, have the class work together to find a *SET* among their classmates that their card will work with. This challenge is very similar to how our game SET Dice plays.

- **Math Skills:** Use SET Junior tiles to make pictorial word problems for young children to begin learning basic addition, subtraction and beginning multiplication or division depending on the age and abilities.
- **Science:** Even though preoperational stages don't study science directly, all science is built on categorization. The basic skills learned while playing SET Junior are retained, allowing students to better understand the basic principles of science.
- **Writing Across the Curriculum:** Writing is a key competency skill. SET Junior can be used to develop word choice and sentence fluency skills even at this young age. Depending on the player's skill level or age, players can use the SET Junior tiles to practice writing or saying descriptive noun – adjective combinations. For example, use the features to help students get used to expanding their vocabulary. Many young children only see the color at first, so what may be described as "red" can become "one solid red oval." This activity not only supports learning sentence structure, but also can support color, shape, and number vocabulary and can be used for any English, Foreign Language or English Language Acquisition lesson. Use our Kinesthetic learning activity, or a collaborative or cooperative learning version of the game in a physical education class and then have students write or group share (depending on the age) about what it was like to work as a team. In beginning math lessons, use the color tiles to help students write out math problems. For example, two red diamonds plus three red diamonds equals five red diamonds. In science lessons, use SET Junior to help students begin categorizing tiles by writing a comparison on the features of a *SET* of tiles.

### **Sharing is Caring:**

Check out the Teachers' Corner at [setgame.com](http://setgame.com) for more ideas on how to use our games in your classroom. Have an idea you would like to share? Please email us your ideas, worksheets, and ways to play and we will add them to the Teachers' Corner.