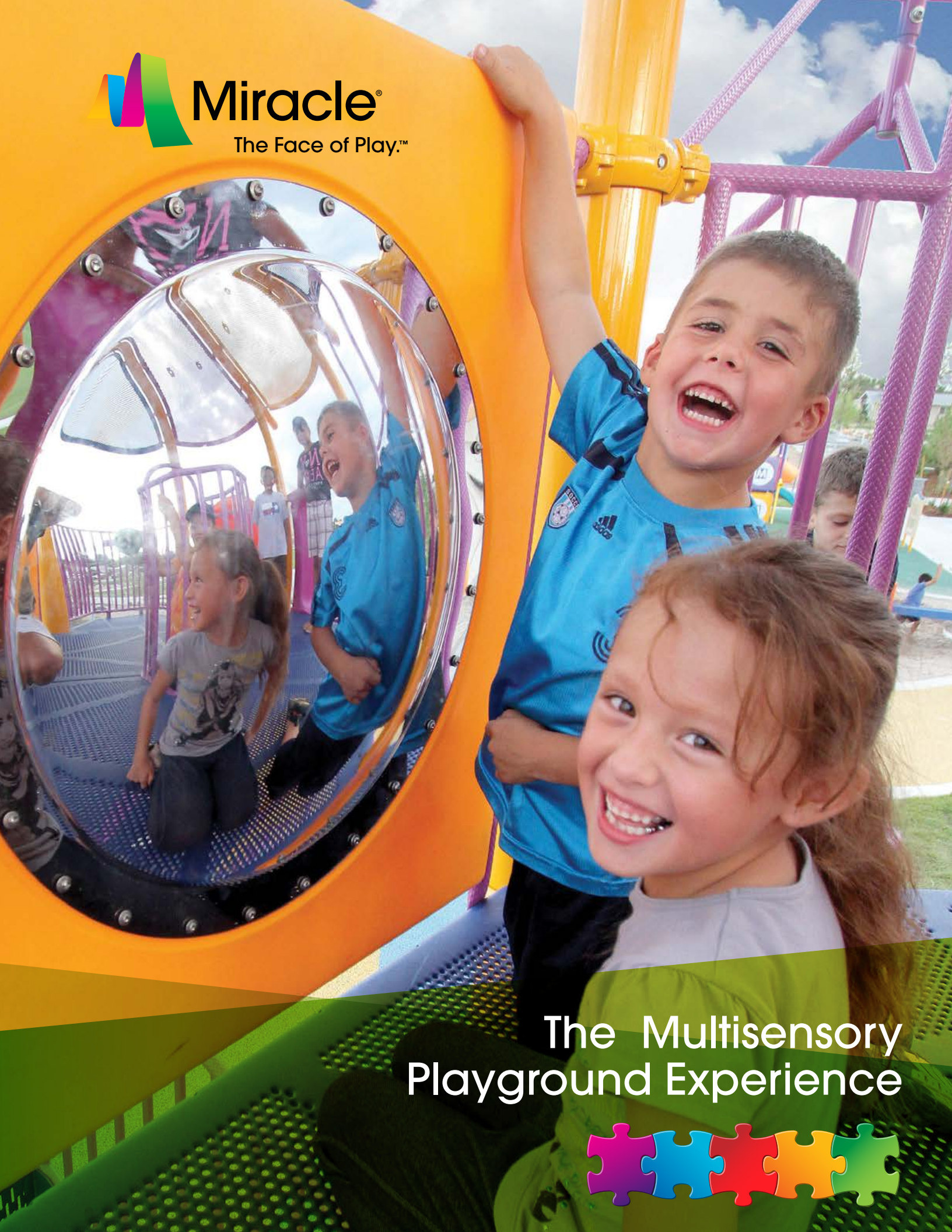




# Miracle®

The Face of Play.™



## The Multisensory Playground Experience







# The Many Faces of Play

At Miracle, we believe that playgrounds should be a welcoming place for children of all abilities, because play is a universal language.

Stimulating multisensory environments promote not only physical, cognitive and social development in children, but also the appreciation of both similarities and differences among them. These experiences positively prepare them for the world beyond the playground.

We believe that multisensory play is a priority in our playground designs. We offer a wide variety of play experiences that provide sensory stimulation for children of all abilities. Our playgrounds are accessible and encourage learning, sharing and playing together in a fun, safe, inclusive and engaging environment.

Play has many benefits. Play activities geared toward fine and gross motor skills, sensory stimulation, and cognitive development can be integrated into the playground, allowing an outdoor setting to be both fun and rich in sensory experiences.

## Play helps children to:

- Develop new and creative solutions to problems.
- Develop respect and acceptance of self and others.
- Learn to experience and express emotion.
- Cultivate empathy and respect for thoughts and feelings of others.
- Learn new social skills and relational skills with family.
- Develop self-efficacy and thus a better assuredness about their abilities.

*(Association for Play Therapy, 2005)*





# SENSES AND SENSIBILITY

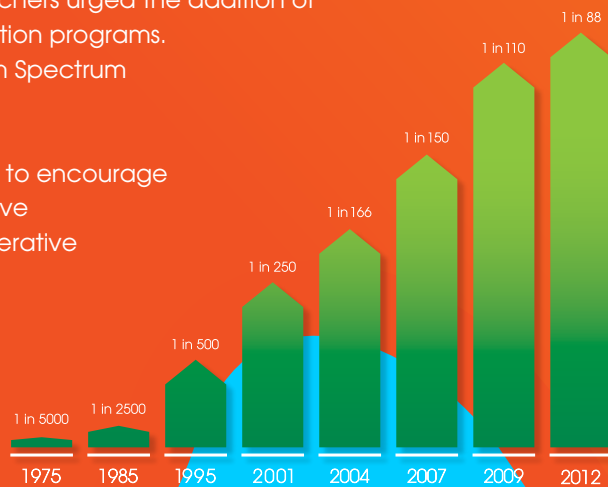
Sensory Processing Disorder (SPD), sometimes called Sensory Integration Dysfunction is a framework first described by occupational therapist, A. Jean Ayres, PhD, in the 1970s. It refers to the body's way of handling and processing sensory inputs from the environment. (American Academy of Pediatrics)

At least 1 in 20 children are affected by Sensory Processing Disorder. (Ahn, Miller, Milberger, McIntosh, American Journal of Occupational Therapy, 2004) Further research suggests that 1 in every 6 children experience sensory symptoms that may be significant enough to affect aspects of everyday life functions. (Ben-Sasson, Carter, Briggs-Gowan, Journal of Abnormal Psychology, 2009)

Autism spectrum disorders (ASD) are a group of developmental disabilities that can result in major social, communication, and behavioral challenges. Approximately 1 in 88 children have been identified with an autism spectrum disorder. (CDC, 2012)\*

Researchers studying toddlers and preschoolers with autism found that social and communication abilities closely tracked a child's motor skills. The researchers urged the addition of "adaptive physical education" in autism early intervention programs. (MacDonald, Lord, Ulrich, Journal of Research in Autism Spectrum Disorders, 2013)

Miracle playground equipment provides play activities to encourage multisensory play through vestibular input, proprioceptive input, tactile system input, motor planning, and cooperative play for children through stimulating activities and experiences.



\*Recent research has indicated that changes in diagnostic practices may account for at least 25% of the increase in prevalence\* over time, however much of the increase is still unaccounted for and may be influenced by environmental factors. (Autism Speaks, 2012)

# DESIGNING PLAYGROUNDS

## for Sensory Stimulation

Most people are familiar with the five basic sensory systems of smell, sight, touch, taste and sound. These basic senses or “far senses” respond to external stimuli from the environment. Our bodies also contain sensory systems known as “near senses,” that operate without conscious thought and that we cannot observe. (Kranowitz, *The Out-of-Sync Child*, 1998)

Sensory integration is “the organization of sensory input for use” (Ayres, 1986). It is the organization and processing of input information from different senses and manipulation of this information for an output response to the environment (Yack et. al, 1998). All children develop and learn at their own pace, and the acquisition of social and developmental skills is a process.

The senses provide us with information about our body and the environment around us. They provide us with information about where our body is in space, how our body is moving, what impact the environment is having on our body and assist us in knowing how to respond to task and environmental demands.

### THE NEAR SENSES

#### A. Vestibular Input

The primary function of the vestibular system is responding to the position of the head in relation to gravity. The neck, eyes and body adjust constantly with movement of the body (Ayres, 1986).

#### B. Proprioceptive Input

The proprioceptive system is the unconscious awareness of one’s own body position relative to other body parts and to the environment (Yacks et. al, 1998). This system provides information that helps children integrate touch and movement (Kranowitz, 1998).

### THE FAR SENSES

#### C. Touch, Site & Sound Inputs

The tactile, visual and auditory systems refer to stimuli reaching the central nervous system from the receptors of the skin, eyes and ears.

### DEVELOPMENTAL

#### D. Motor Planning

Motor planning allows children to conceive, organize, and carry out unfamiliar sequences of movement in a coordinated manner.

#### E. Social & Cooperative Play

Opportunities for imaginative play, taking turns, and conversation are vital to a child’s development, as well as assisting them in nurturing their relationships with others.





A



### Ten Spin

Provides vestibular input with its spinning motion, providing children with balance, motor coordination, and eye and body adjustment while using the equipment.

B



### Pull Along

Allows children to slide back and forth, providing deep-muscle pressure and beneficial proprioceptive input as well as providing upper body challenges.



C

E



### Puppet Stage Panel

Encourages social interaction, pretend play, and moral development by incorporating group play into the space.

D



### Power Pedaler

Requires children to plan their movements as they fine-tune their coordination by moving the arm and leg mechanisms.

### Butterfly Play Panel

Promotes tactile and visual stimulation, encourages imaginative and interactive play. Offered in several nature and animal themes.

- A Pull Along #632-5
- B Ten Spin #304
- C Butterfly Play Panel #602-1
- D Power Pedaler #823
- E Puppet Stage Panel #713-2B



Kids learn to think and relate to the world around them by scanning their surroundings: touching wood, metal, rubber or concrete surfaces, grasping and releasing hand-holds, changing body positions, maintaining equilibrium, and experimenting with different movement patterns. They are having fun, and “fun,” Dr. Ayre wrote, “is the child’s word for sensory integration.” (Carol Stock Kranowitz, *The Out-Of-Sync Child*, 2006)

Swinging, spinning, jumping, balancing, sliding, crawling, climbing, rocking, touching, seeing and listening are important for fun, discovery and exercise, but also for a child’s sensory system. The body’s vestibular system is the sensory system that provides input about movement, balance, spatial awareness and positioning. It helps us with posture, balance, vision, composure and assists us in regulating our own behavior.



# Swinging

Swinging involves both the vestibular and proprioceptive inputs. Balance, eye movement, and body position are a big part of the activity. On the playground, children learn to recognize how their movements affect the speed in which they swing, the timing of the activity, as well as where the body goes as a result of these movements.

Miracle offers multiple types of swings to enhance your playground and promote the five elements of sensory play.

- 1 Swing Seats #28413
- 2 Tire Assembly with Coated Chain #976-082
- 3 Therapeutic Seat with safety restraint system #2720





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“Life is sensory experience. During every moment of our lives we experience the world through our varied sensory systems. Sensory experiences drive our behavior and contribute to the organization of our thoughts and emotions.”

*(Coren, Porac, & Ward, 1984).*



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# Spinning

Spinning involves balancing and body positioning while stimulating a child’s sensory and gross motor skills. The movement experienced in spinning engages the vestibular, proprioceptive, and visual senses. Miracle offers a variety of spinning activities to promote different core movements providing fun and interaction for kids.

- 4 Saddle Seat #945-1
- 5 Ten Spin #304
- 6 Maypole #753
- 7 Whirl #303
- 8 Pirouette #593-201





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# Sliding

Sliding is an important aspect of the playground. It provides children with sensations of movement and speed without requiring any additional effort. Sliding down the slide offers vestibular input because of movement, while the hard or textured surface of the slide provides proprioceptive input.

Different types of slides provide a variety of sensations, including those brought on by twists, waves, and different textures. Incorporating slides with multiple bed-ways and climbers helps children develop physical skills and muscle tone, along with cognitive skills such as problem solving and memory, by visualizing where and how to position their body.

- 9 Typhoon Slide #748
- 10 Chameleon Slide #850
- 11 Flippo™ Slide #770-6S
- 12 Side-by-Side Slide #700
- 13 Groove II slide with PVC Steps #638-5



# Climbing

Climbing and its related activities help to develop the vestibular and proprioceptive inputs, improving muscle tone and balance. Fine motor skills and gross motor skills are developed simultaneously when traversing climbing walls. (Autism Society of America, 2009) Miracle's large selection of climbing products help children enhance their spatial awareness, coordination, and body management skills by offering a variety of different types climbing challenges.



- 14 Mountain Trail with Log Climber #885
- 15 Bongo Steps with Hand Support #774-41
- 16 Tensile Tough Horseshoe Climber #767
- 17 Gravity Cube #477-4
- 18 Boulder Ridge Rock Wall #819-D



# Rocking

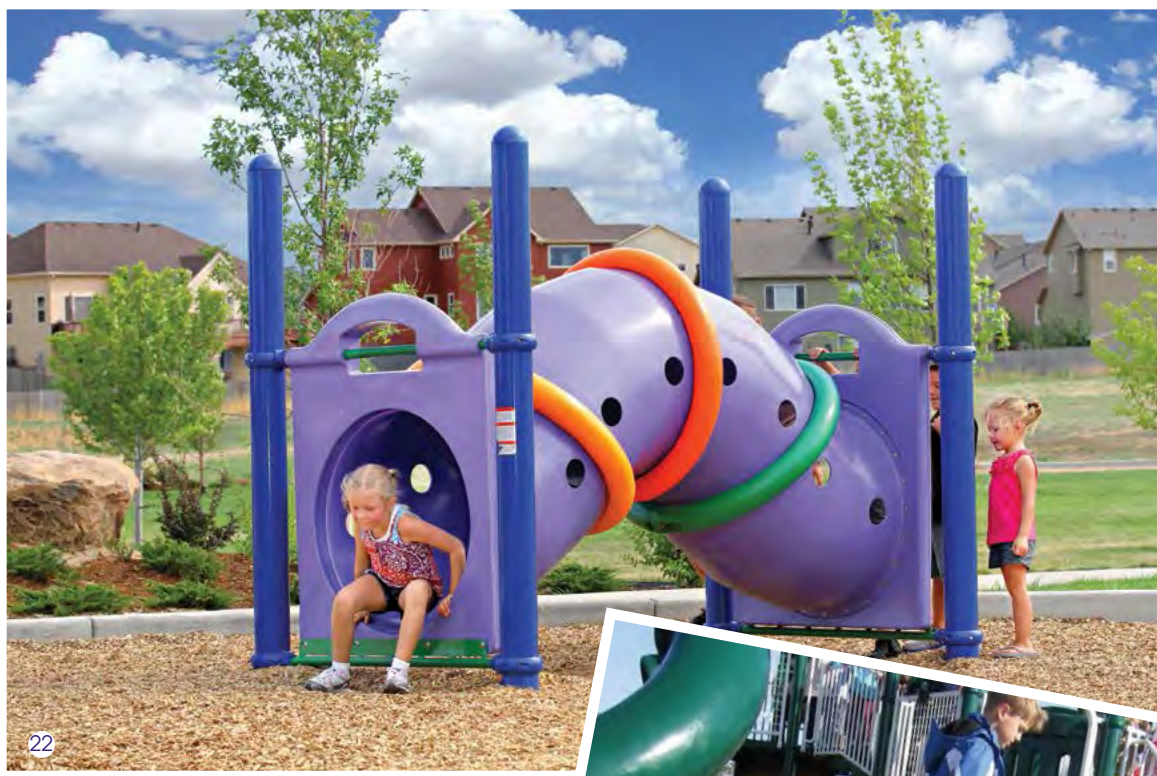
Rocking stimulates the vestibular system while also helping to develop muscle tone. The rocking motion helps establish a sense of timing that is stimulating for a child's sensory system.

Miracle offers an assortment of rocking activities for individual and group play for children of all ages.



- 19 Twin Rider #608-1
- 20 Flippo™ Offspring Rider #953
- 21 Multi-Pondo #150-060





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# Crawling

Crawling helps to develop balance, strengthen muscle tone and to develop eye-hand coordination. The crawling movement is repetitive and this stimulates brain activity to develop cognitive processes such as concentration, memory, comprehension and attention. (Occupational Therapy for Children, 2012)

Miracle offers an assortment of crawling tubes and even a product that combines climbing and crawling for the ultimate challenge.

- 22 Hip Crawl Tube (30" Dia) #872H
- 23 Boulder Climbing Tunnel #8181



# Balancing

The sense of balance uses both vestibular and proprioceptive inputs along with visual and motor skills. Balance and coordination help children gain awareness of their own body by supporting the development of gross motor skills. They also support children's awareness of their center of gravity and equilibrium, essential for physical skills. On the playground, children use their sense of balance to maneuver while developing muscle tone and using problem-solving skills.

Miracle has an extensive line of balancing activities that will provide a fun and memorable play experience for children of all ages.



- 24 Chunky Trekker #631
- 25 Surfer #946-1
- 26 Curved Balance Beam # 714-913S
- 27 Balance Beam #718-913





# Bouncing & Jumping

Bouncing offers vestibular and proprioceptive inputs along with the use of gross motor skills. The stimulating and repetitive motion provides an exhilarating experience for children.

Miracle offers an assortment of colorful and fun bouncing and jumping activities for kids of all ages.

- 28 Jumping Bean #944
- 29 Wake Rider #608-5
- 30 Hoppy Grasshopper #962

# Touch, Sight & Sound

Sensory stimulation occurs when children explore and discover using touch, sight and sound on the playground. This exploration uses a child's cognitive, tactile, visual, auditory, motor, language and social skills. The tactile system regulates a child's sense of touch through the receptors of the skin. Touch, visual and auditory senses are closely connected as children play.

Miracle offers touch, sight and sound play components and panels for tactile, auditory and visual stimulation, engaging children with music, sounds, colors, patterns and textures. Contrasting colors provide visual input while encouraging both cognitive development and imaginative play. Our Sound and Music play components allow children to create their own music on the playground, providing sensory stimulation with the different tones produced.

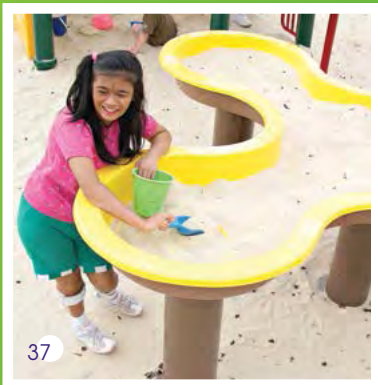


31 Calypso 3 Drum Panel #715-13

32 Fun Fone #994



# Stop, Look, Listen... and Touch



- 33 Paint Easel Panel #435
- 34 Water & Sand Table #762B
- 35 Custom Music Center
- 36 Calypso 2 Drum 1/2 Panel #715-13HB
- 37 Clover Leaf Therapeutic Sandbox #418-154-1
- 38 Xylophone #975-4B





# Motor Planning

Not only does sensory integration allow us to respond appropriately to incoming sensations, it also guides the way that we act on the environment. (Ayres,1972) Motor planning involves having an idea about what to do, planning an action, and carrying out that action. The tactile, proprioceptive, and vestibular senses are particularly important in providing knowledge about how the body moves and how it can be used to act on the environment. When preschoolers see a swing for the first time, and are able to figure out how to get on and off without any instruction, they are using these senses.

Miracle playgrounds offer many motor planning experiences and challenges for children of all ages.

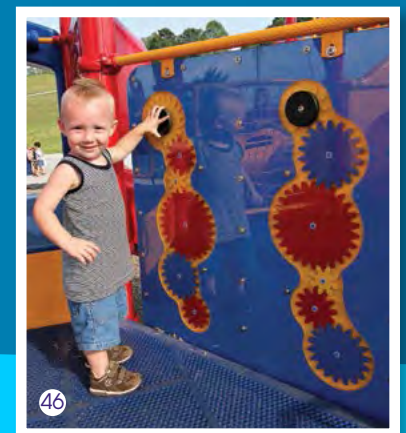
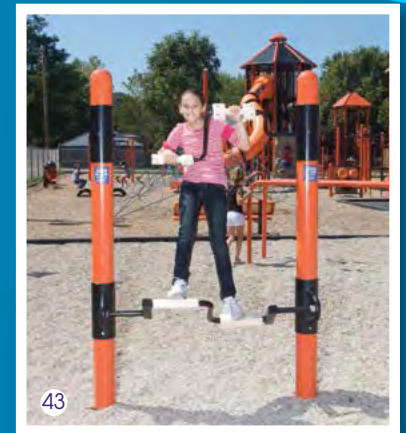
- 39 Gravity Cube #447-4
- 40 DNA Climber #661-6
- 41 Bongo Jungle Climber #733
- 42 Curved Balance Beam #714-913S
- 43 Power Pedaler # 823
- 44 Finger Maze Panel #982-3
- 45 Magic Ball Popper Panel #760
- 46 Gear Panel #761-3



# Ready. Set. Go!



Contact your local Sales Representative to customize a new or existing playground with products that promote sensory integration.





# Social & Cooperative Play

The playground is an important place for kids to develop their social and cooperative skills. Playground time offers children both physical and mental benefits including building muscle tone, refining motor skills and mastering an activity. On the playground, children learn to play and interact with each other as they communicate, share and take turns.

Playgrounds create a platform for a child's imagination, with shapes, colors, structures and activities that challenge their creativity and encourage pretend play. Miracle has a wide variety of play experiences that create a welcome and social environment for children.







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Children of all abilities enjoy discovery and experiencing play. Children with Sensory Processing Disorders have challenges in areas that would seem easy to most. Socialization, communication, touch and play can be the hardest of tasks for an autistic child or any child with a sensory deficiency.

At Miracle, our goal is to provide an inclusive and welcoming environment for kids to explore, discover and grow with diverse play experiences that provide sensory stimulation, interaction, communication and creative play.

We recognize that there are many faces of play and we have created a line of sensory play products that fit the way kids play and bring children of all abilities together.



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- 47 Fun Tunnel #282-200
- 48 Buzzy Bumble Bee #961
- 49 OrbX Climber #466-500
- 50 School Bus #460-1
- 51 JAX Web #477-210
- 52 Balance Chain #911-T
- 53 Rodeo #640
- 54 Lean Out Enclosure # 830-6
- 55 Big Kahuna® Climber #752-2





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