

A3.3 ASD in Preschool Toolbox

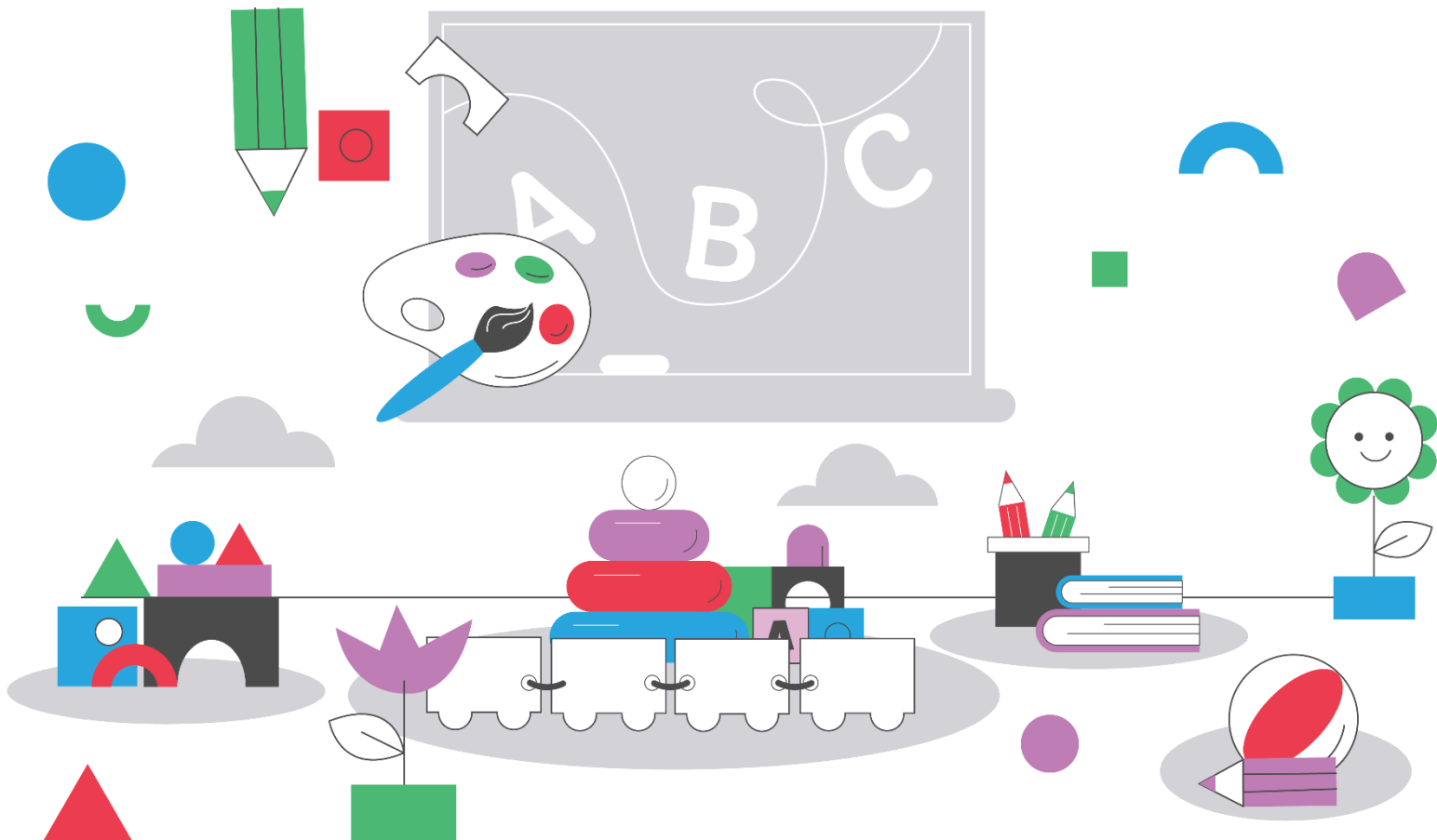
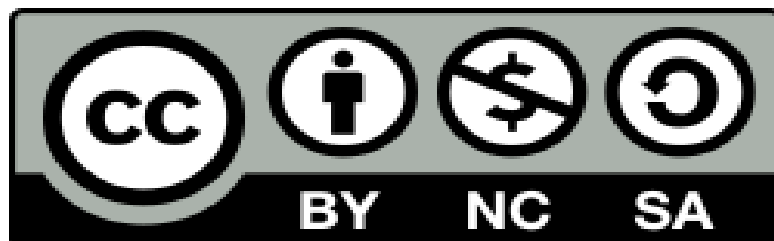


Table of Contents

Table of Contents.....	2
Introduction – Purpose and Overview of the Toolbox	3
The Purpose of This Toolbox	3
This Toolbox Will Help You:	3
<i>How to Use This Toolbox Effectively</i>	<i>3</i>
Overview of the Five Chapters	4
<i>Chapter Structure Based on Learning Domains</i>	<i>4</i>
<i>Chapter 1: Social Development</i>	<i>4</i>
<i>Chapter 2: Emotional Development</i>	<i>5</i>
<i>Chapter 3: Physical Development</i>	<i>5</i>
<i>Chapter 4: Cognitive Development</i>	<i>5</i>
<i>Chapter 5: Language and Communication Development</i>	<i>6</i>
Chapter 1: Social Development	6
Focus Areas	7
Chapter Objectives	7
Evidence Base	7
1. <i>Peer-Based Instruction and Intervention (PBII)</i>	<i>7</i>
2. <i>Structured Play Groups</i>	<i>7</i>
3. <i>Peer Modeling</i>	<i>7</i>
4. <i>Visual Supports</i>	<i>7</i>
5. <i>Joint Attention Training</i>	<i>7</i>
Tools Included in This Chapter	8
<i>Tool 1: “Pass the sparkle” game</i>	<i>8</i>
<i>Tool 2: Collaborative art project</i>	<i>8</i>
<i>Tool 3: Waiting hands</i>	<i>9</i>

<i>Tool 4: “Cooperation construction kit”</i>	10
Activity Plans	11
<i>Activity plan 1</i>	11
<i>Activity plan 2</i>	12
References and resources	13
<i>References</i>	13
<i>Resources</i>	14
Chapter 2: Emotional Development	14
Focus Areas	14
Chapter Objectives	14
Evidence Base	15
Tools Included in This Chapter	15
<i>Tool 1: Emotion Flashcards and Emotion Wheels</i>	15
<i>Gather and Prepare Images</i>	16
<i>How to Use</i>	16
<i>Tool 2: Story-Based Emotional Problem -Solving Cards</i>	16
<i>Gather and Prepare Images</i>	17
<i>How to Use</i>	17
<i>Tool 3: Sensory Calming Toolkit</i>	18
<i>Assembly Instructions</i>	19
<i>How to Use</i>	19
<i>Tool 4: Arts-Based Emotional Expression Templates</i>	19
<i>Gather and Prepare Materials</i>	20
<i>How to Use</i>	20
Activity Plans	21
<i>Activity 1: Emotion Clock</i>	21
<i>Activity 2: Bouquet of Emotions</i>	22
<i>Activity 3: Emotion Box (Feelings Jar)</i>	23
<i>Activity 4: Calm zone and Regulation Plan</i>	24
<i>Activity 5: Social Stories and Role-Play</i>	24
Board Game: “Emotion Path” Cooperative Game	25
Supporting Different Emotional Regulation Levels	25

Implementation Guidelines	26
Monitoring Progress	26
Expected Outcomes	26
References and Resources	27
Chapter 3: Physical Development	27
Focus Areas	28
Chapter Objectives	28
Evidence Base	28
Tools Included in This Chapter	30
<i>Tool 1: Gross Motor “Move Circuit” Cards + Floor Markers</i>	30
<i>Tool 2: Fine Motor Stations Toolkit “Hands Ready”</i>	31
<i>Tool 3: Pre-Writing & Two-hand Coordination Pack</i>	32
<i>Tool 4: Sensory-Motor Regulation Routine Cards “Body Ready”</i>	34
Activity Plans	35
<i>Activity Plan 1: Animal Walk Adventure</i>	35
<i>Activity Plan 2: Post Office Delivery</i>	37
<i>Activity Plan 3: Cut–Paste Road</i>	38
Board Game (cooperative): Move & Match Trail	40
Implementation Guidelines	42
Monitoring Progress	43
References and Resources	44
Chapter 4: Cognitive Development	45
Focus Areas	45
Chapter Objectives	45
Evidence Base	46
Tools Included in This Chapter	46
<i>Tool 1: “First–Next–Last” Sequencing & Routine Builder</i>	46
<i>Tool 2: Memory & Attention “Match and Find” Card Set</i>	47
<i>Tool 3: Categorization & Concept Sorting Trays (“Sort It!”)</i>	48
<i>Tool 4: Early Numeracy Manipulatives & Mini-Games (“Count, Build, Compare”)</i>	49

Activity Plans	49
<i>Activity 1: "Mini-Recipe Sequencing" (Snack or Art Routine)</i>	49
<i>Activity 2: "Memory Treasure Hunt" (Find, Remember, Match)</i>	50
<i>Activity 3: "Build & Count Challenge" (Construction + Early Numeracy)</i>	51
Board Game: "Think & Link" Cooperative Cognitive Adventure	52
Implementation Guidelines	53
References and Resources	53
Chapter 5: Language and Communication Development	55
Focus Areas	55
Chapter Objectives	55
Evidence Base	56
Tools Included in This Chapter	56
<i>Tool 1: Picture-Based Flashcards and Communication Boards</i>	56
<i>Tool 2: Storytelling Cards and Story Cubes</i>	57
<i>Tool 3: Role-Play Communication Games</i>	58
<i>Tool 4: Music, Rhyme, and Rhythm-Based Language Activities</i>	59
Activity Plans	60
<i>Activity 1: "What's in the Bag?" Vocabulary Game</i>	60
<i>Activity 2: "Build a Story" Collaborative Narrative Game</i>	60
<i>Activity 3: "Restaurant" Role-Play Communication Game</i>	61
Board Game: "Talk & Walk" Communication Adventure	61
Implementation Guidelines	62
References and Resources	63

Introduction – Purpose and Overview of the Toolbox

The Purpose of This Toolbox

This **Toolbox for Educators and Parents of Children with Autism Spectrum Disorder (ASD)** has one central goal:

To help you develop interactive, engaging materials that stimulate creativity, problem-solving, communication, and independence in children with autism.

Children with ASD often experience the world differently. They may process information visually, respond strongly to sensory input, prefer predictable routines, or show deep interest in specific topics. When we design learning experiences that respect these differences, we do more than support autistic children — we improve learning for all children.

Interactive materials that are clear, structured, and visually supported help children:

- Understand expectations
- Feel safe and confident
- Express ideas in multiple ways
- Explore creatively at their own pace
- Practice flexible thinking and problem-solving

Whether you are a teacher in a classroom or a parent supporting learning at home, your role is powerful. You create the environments, routines, and experiences that shape how children learn, connect, and grow. This toolbox respects your insight and experience while offering practical, adaptable strategies you can use immediately.

This Toolbox Will Help You:

- Design interactive activities that promote creativity and imagination
- Build problem-solving skills through structured play
- Adapt materials without separating children from peers
- Support communication using visual and hands-on tools
- Encourage independence and flexible thinking
- Create inclusive learning spaces at school and at home
- Strengthen collaboration between educators and families

How to Use This Toolbox Effectively

This toolbox is designed as a **practical, flexible resource** — not a book you must read from beginning to end.

You can:

- Turn directly to a specific chapter when facing a challenge
- Use activity templates and examples as ready-to-adapt models

- Modify materials based on the child’s developmental level and interests
- Start small — implement one strategy at a time
- Revisit sections as children grow and their needs evolve

Each chapter includes:

- Real-life scenarios (classroom and home settings)
- Step-by-step guidance for creating interactive materials
- Visual support ideas
- Adaptation tips for different learning styles
- Reflection questions to guide improvement

The focus is always practical: materials you can create using everyday classroom or household resources.

Overview of the Five Chapters

Chapter Structure Based on Learning Domains

The **ASD in Preschool Toolbox** is organized into five core chapters, each centered on a key developmental learning domain.

Every chapter provides practical, ready-to-use materials including activity plans, structured games, flashcards, visual tools, and interactive resources specifically designed to strengthen development within that domain.

The structure allows educators and parents to focus on one area at a time while maintaining a holistic, integrated approach to learning.

Chapter 1: Social Development

This chapter focuses on building the foundations of positive social interaction. Through structured and guided play, children practice turn-taking, joint attention, cooperation, and peer engagement.

Objectives include:

- Supporting meaningful social connections
- Encouraging shared play and collaborative problem-solving
- Teaching foundational social rules in predictable ways

Tools include:

- Cooperative board games
- Turn-taking card games
- Role-play and social scenario cards
- Group art and construction activities

Chapter 2: Emotional Development

This chapter supports children in understanding and managing emotions. It provides structured strategies to help children recognize feelings, express emotions safely, and develop self-regulation skills.

Objectives include:

- Identifying and labeling emotions
- Encouraging healthy emotional expression
- Building calming and coping strategies

Tools include:

- Emotion flashcards and emotion wheels
- Story-based emotional problem-solving games
- Sensory calming tools
- Arts-based emotional expression activities

Chapter 3: Physical Development

This chapter promotes motor development and sensory integration through purposeful, engaging movement activities. It supports both fine and gross motor skills in structured and playful ways.

Objectives include:

- Strengthening coordination and motor planning
- Supporting body awareness and movement control
- Integrating sensory input into learning experiences

Tools include:

- Movement-based board and floor games
- Fine motor task cards (cutting, threading, building)
- Sensory play kits
- Music and movement activities

Chapter 4: Cognitive Development

This chapter focuses on thinking skills, early reasoning, and flexible problem-solving. Activities are designed to strengthen memory, sequencing, categorization, and early numeracy in structured and interactive formats.

Objectives include:

- Encouraging logical and flexible thinking
- Developing attention and memory skills

- Supporting early mathematical understanding

Tools include:

- Sequencing and matching games
- Puzzle-based board games
- Memory cards and categorization tasks
- Creative construction and strategy games

Chapter 5: Language and Communication Development

This chapter supports both verbal and non-verbal communication skills. It provides structured tools to expand vocabulary, strengthen comprehension, and encourage expressive language through interactive play.

Objectives include:

- Expanding functional vocabulary
- Supporting language understanding in context
- Encouraging alternative communication methods

Tools include:

- Picture-based flashcards and communication boards
- Storytelling cards and story cubes
- Role-play communication games
- Music, rhyme, and rhythm-based language activities

Together, these five domains provide a comprehensive, practical framework for supporting children with ASD in both preschool classrooms and home environments. Each chapter stands alone, yet all work together to support balanced, inclusive development across social, emotional, physical, cognitive, and communication growth.

Chapter 1: Social Development

Social development is a foundational pillar for preschool children with Autism Spectrum Disorder (ASD), directly impacting their ability to form meaningful connections and participate in inclusive environments. This chapter focuses on critical areas such as joint attention, turn-taking, and cooperation. These skills serve as the building blocks for shared play and collaborative problem-solving. By utilising evidence-based strategies such as Peer-Based Instruction and Intervention (PBII), structured play groups, and joint attention training, educators can move beyond simple observation to active facilitation. These tools are designed to support positive social engagement and establish foundational social rules, ensuring that every child has the support needed to interact successfully with their peers and adults.

Focus Areas

- Turn-taking

- Joint attention
- Cooperation
- Peer interaction

Chapter Objectives

1. Support positive social engagement with peers and adults
2. Encourage shared play and collaborative problem-solving
3. Build foundational social rules through structured play

Evidence Base

Building on the previous point, the following evidence-based strategies from the provided research support the tools and activities in Chapter 1:

1. Peer-Based Instruction and Intervention (PBII)

PBII is a focused intervention where peers promote social interactions and learning goals for a learner on the spectrum. It is recognized as an **evidence-based practice** with a robust foundation of 36 single-case design and 8 group design studies.

2. Structured Play Groups

These are adult-facilitated groups designed to promote social interaction through structured activities with clear expectations.

Key skills: This practice specifically targets sharing, cooperative play and problem-solving.

3. Peer Modeling

Peers are trained to demonstrate appropriate social or academic behaviors for learners on the spectrum.

Instructional Context: The target learner observes and imitates behaviors like joining an activity or waiting for a turn in natural settings.

4. Visual Supports

Visual displays support a learner in engaging in desired behaviors independently of verbal prompts.

Types of Support: Icons and pictures provide information on how to perform a target skill or follow a sequence.

5. Joint Attention Training

This involves the shared focus of two individuals on an object, which is a foundational skill for communication.

Evidence of Efficacy: Research indicates that targeting joint attention in preschoolers leads to improved social and communication outcomes.

Tools Included in This Chapter

Tool 1: “Pass the sparkle” game

Description: This is a fun game which promotes turn-taking and joint attention.

Materials needed:

- A coloured mat (with coloured zones) or colourful felt squares. Purpose:
 - It serves as a critical “spatial anchor” (for children with ASD)
 - The colours create a visual sequence (the child can visually track when their turn is coming)
- A sensory object to hold the children’s joint attention. Examples:
 - LED glow ball
 - Weighted plush toy
 - Textured sensory ball
- Music: songs with rhythm

How to play:

1. Before you start:
 - a. Explain to the children that the goal is to keep the “Sparkle” moving until the song ends.
2. Children sit in a circle.
3. The educator uses a visual timer.
4. When the timer flashes, the child holding the wand must make eye contact (or a gesture) with a peer and pass the wand. Example: “Sam, look at Leo. Pass the sparkle!”

Link to materials:

- Supportive printable visuals (flashcards) for turn taking:
 - [Resource 1](#)
 - [Resource 2](#)
- Visual timer: <https://toytheater.com/classroom-timer/>
- Suggested music: https://www.youtube.com/watch?v=Oz4ovCgq9n4&list=PLcuvrq5JxQiy3xu6brnhA-USlxZBrCr_d9

Tool 2: Collaborative art project

Description: Children engage in a shared activity, encouraging them to work together on a single visual goal promoting cooperation.

Materials needed:

- A long roll of paper
- Washable paints
- Sponges
- “Boundary tape”

Instructions:

1. Lay the paper across a large table or on the floor
2. Divide the paper into sections using tape.

3. Assign two children to one “border” where their sections meet
4. They must work together to paint a bridge or a rainbow that will connect their two sides

Adaptations:

- For children with sensory sensitivities to paint, you may provide stickers or large stamps instead.
- For simpler art projects, you may create the “Giant caterpillar”
 - Steps:
 - Print large circles (Template [here](#))
 - Each child decorates one circle
 - You put the “head” of the caterpillar on the wall and the children take turns attaching their circle to the body (allowing for turn-taking and sequencing).

Link to materials:

- Optional art templates
 - [Template 1](#)
 - <https://www.crayola.com/free-coloring-pages>
- Importance of collaborative art projects:
<https://playto.com/blog/improving-social-skills-with-collaborative-art-projects>

Tool 3: Waiting hands

Description: A visual communication system which makes the abstract social concept of “waiting” concrete and predictable.

Materials needed:

- Cardstock or stiff paper
- Lamination sheets (optional)
- Standard colours: bright green for “my turn” and red for “wait”
- Simple visuals
 - My turn side: A picture of an open hand reaching out or a “go” symbol
 - Wait side: A picture of two hands resting on a lap or a “stop” symbol
- Optional: A lanyard (to wear around the neck) or a small desktop stand to hold the card upright.

Instructions:

1. Place the “holding hands” in the center of the activity (e.g. between two children building a tower).
2. Before you start, explain the rules
 - a. Show the Green side and say: “Green means Go, it’s your turn”
 - b. Show the Red card and say: “Red means wait, hands on lap”
3. To play
 - a. Child A starts with the Green card. They place one block on the tower
 - b. The educator (or the child if they are ready) flips the card to Red.
 - c. Child A must now place their hands on their lap, while Child B receives their Green card to take their turn.
4. Provide reinforcement: Verbally label the action while pointing to the card: “I see Sam is waiting. Good waiting, now it’s Laura’s turn!”

Adaptations:

- Use a visual timer alongside the red card if children need to know how long the “wait” state will last.
- Provide a fidget strip or a piece of soft velcro to the “wait” side of the card, for children who are sensory seekers.

Link to materials:

- [Stop & Go symbols](#)
- [Hands in lap visual](#)

Tool 4: “Cooperation construction kit”

Description: This tool is an arts-based engineering activity that requires two children to work as a team to build a single structure, which creates a communication opportunity for the children.

Materials needed:

- **Divided resource trays:** Two trays or baskets.
- **Building components:**
 - Tray A: Contains the "bases" (e.g., large cardboard squares or flat Lego plates).
 - Tray B: Contains the "features" (e.g., cardboard tubes, recycled boxes, or colourful blocks).
- **Connectors:** Masking tape strips (pre-cut and stuck to the edge of the table) or clothespins.
- **Visual blueprint:** A simple drawing or photo of a finished structure (e.g., a "Castle" or "Robot") to provide a shared goal.
- **Communication icons:** Small cards with "Please," "Thank you," "Your turn," "I need"

Instructions:

- **Before you start**
 - Seat two children across from each other at a small table.
 - Give Child A the tray with the bases and Child B the tray with the features.
- Show the "Blueprint" and say, "Today, we are building a Castle together! You need to help each other."
- Because Child A has the floor and Child B has the walls, they must interact. The educator prompts Child A: *"Sam, you have the floor. What does Leo need next?"*
- As they build, the educator facilitates the exchange of materials. If Child B needs a base, they must use a gesture, a word, or a communication icon to ask Child A.
- Once the structure is complete, they take a "team photo" with their creation to reinforce the success of the interaction.

Adaptations:

- **For non-verbal pairs** use **"Trading cards."** Each child has a card showing what they have. To get an item from the other person, they simply hand over the corresponding card. This reduces the stress of verbalising while maintaining the peer-to-peer connection.
- **For high-energy children** move the trays to opposite sides of the room. The children must walk to their partner to "deliver" the building parts, incorporating movement and increasing the "joint attention" required to find their partner.

Link to materials:

- [Free downloadable cards for communication](#)
- [A guide on how to use low-cost items](#) like tubes, corks and boxes (as “construction kit” components”

Activity Plans

Activity plan 1

Title: “The mailbox exchange”

Learning objectives:

1. **Social:** The child will wait for a peer to complete an action before beginning their own.
2. **Cognitive:** The child will follow a two-step social sequence (Wait → Deliver).
3. **Communication:** The child will use a "transition signal" (ringing a bell or a verbal "Your turn") to end their turn.

Targeted learning domains:

1. **Language & Communication:** Functional requesting and gestural communication.
2. **Physical Development:** Fine motor (inserting objects) and Gross motor (walking to a destination).

Required materials:

- **Two "mailboxes":** Cardboard boxes with a slot cut in the top (one labeled for Child A, one for Child B).
- **The "mail":** 10 high-interest items (e.g., colorful postcards, stickers, or textured "sensory letters").
- **The "delivery satchel":** A small bag or basket to carry the mail.
- **A service bell:** A small desk bell (tap-bell) to signal a turn is finished.
- **Visual path:** A line of "Footprint" stickers on the floor connecting the two mailboxes.

Step-by-step instructions:

1. **Station setup:** Place the two mailboxes 5–10 feet apart. Place all the "Mail" next to Child A.
2. **The "wait" phase:** Child B sits at their mailbox and practices "Waiting Hands."
3. **The "delivery" phase:** Child A selects one piece of mail, puts it in the satchel, and walks along the footprint path to Child B's mailbox.
4. **The interaction:** Child A drops the mail into Child B's slot.
5. **The signal:** Child A rings the **Service Bell**. This is the concrete signal that their turn is over.
6. **The swap:** Child A now sits in the "Waiting" spot. Child B takes the satchel, walks back to the mail pile, and begins their turn to deliver back to Child A's mailbox.
7. **The goal:** The activity continues until all mail has been exchanged between the two boxes.

Adaption suggestions for different ability levels:

- For children with limited mobility: Place the mailboxes side-by-side on a table so the child only needs to reach over to the peer's box rather than walking across the room.
- For sensory seekers: Use "Heavy Mail"—small weighted envelopes (filled with rice or sand) to provide proprioceptive input during the walk.

- For emergent turn-takers: Use a Visual Schedule strip with three icons: *Pack Mail* → *Walk* → *Ring Bell*. This helps the child understand when the "waiting" part for their peer begins.
- For high-functioning peers: Give them a "Delivery Map" where they have to find a specific colored mailbox, increasing the cognitive challenge of the turn.

Expected learning outcomes:

1. **Wait-Time mastery:** The child will successfully wait for the "Bell Signal" before moving toward the mail pile.
2. **Reciprocal action:** The child recognises that the game requires two people to function.
3. **Reduced prompting:** Over time, the child will transition from educator-led prompts to following the "Bell" and "Path" cues independently.

Activity plan 2

Title: "The rescue mission" marble transport

Learning objectives:

1. **Social:** The child will coordinate their physical movements with a peer to achieve a common goal.
2. **Problem-Solving:** The children will adjust the angle or height of their tool in response to the "problem" (the marble rolling the wrong way).
3. **Shared Play:** The child will maintain joint focus on a moving object for at least 60 seconds with a partner.

Targeted learning domains:

1. **Social development:** Collaborative problem-solving and shared play.
2. **Physical development:** Gross motor coordination and hand-eye coordination.
3. **Cognitive development:** Spatial reasoning and cause-and-effect.

Required materials:

- **The "transport tube":** A large PVC pipe or cardboard wrapping paper tube cut in half lengthwise to create a "U" shaped trough.
- **The "rescue objects":** Large, colorful marbles or ping-pong balls.
- **Two handles:** Pieces of rope or tape attached to each end of the trough for the children to hold.
- **The "safety zone":** A bucket or basket at the end of a designated path.
- **Visual goal:** A "Finish Line" tape on the floor leading to the bucket.

Step-by-step instructions:

1. **The partnership:** Two children stand facing each other, each holding one end of the "Transport Tube" by the handles.
2. **The challenge:** Place a marble at one end. The children must work together to tilt and steady the tube so the marble rolls slowly toward the other end without falling off the sides.
3. **The movement:** Once they have the marble balanced, they must walk sideways together (like a crab) toward the "Safety Zone" (the bucket).
4. **The problem-solving:** If the marble stops, they must communicate (verbally or through gesture) to tilt one side higher. If it goes too fast, they must coordinate to "level out."

5. **The "rescue":** When they reach the bucket, they must carefully tip the tube together to drop the marble into the "Safety Zone."
6. **The reset:** They walk back to the start line together to rescue the next marble.

Adaption suggestions for different ability levels:

- **For Level 1 (physical support):** The educator holds the middle of the tube to provide stability, allowing the children to focus only on the "tilting" aspect rather than the walking.
- **For sensory seekers:** Use a "Weighted Ball" (like a beanbag) instead of a marble. This moves slower and provides more "feedback" through the tube, making it easier to feel the weight shift.
- **For advanced problem-solvers:** Add "obstacles" on the floor (like cushions or cones) that the pair must navigate around while keeping the marble in the tube.
- **For limited verbal skills:** Use directional arrows (Up/Down/Stop). The educator can hold up an "Up" arrow to prompt one child to lift their end, helping them visualize the solution to a stuck marble.

Expected learning outcomes:

1. **Increased social synchrony:** The children will begin to mirror each other's walking pace and physical height.
2. **Reduction in frustration:** By focusing on the "marble's problem" rather than their own, children often stay engaged longer in the face of a challenge.
3. **Collaborative success:** The children will share a "mutual gaze" and celebratory moment (clapping or cheering) upon successfully dropping the marble into the bucket.

References and resources

References

Manikiza, J. (2020). *Autism: A guide for early years settings*. Neurodivergence Wales; Welsh Local Government Association.

https://neurodivergencewales.org/wp-content/uploads/2020/08/A-Guide-for-Early-Years-Settings_Eng.pdf

Sam, A., & AFIRM Team. (2025). *Peer-Based Instruction & Intervention*. The University of North Carolina at Chapel Hill, Frank Porter Graham Child Development Institute, Autism Focused Intervention Resources and Modules. <https://afirm.fpg.unc.edu>

Steinbrenner, J. R., Hume, K., Odom, S. L., Morin, K. L., Nowell, S. W., Tomaszewski, B., Szendrey, S., McIntyre, N. S., Yücesoy-Özkan, S., & Savage, M. N. (2020). *Evidence-based practices for children, youth, and young adults with autism*. The University of North Carolina at Chapel Hill, Frank Porter Graham Child Development Institute, National Clearinghouse on Autism Evidence and Practice Review Team.

Resources

Create visuals: <https://connectability.ca/visuals-engine/>

Free printable shapes: <https://www.firstpalette.com/printable-theme/shapes.html>

Autism and taking turns: <https://www.autismspeaks.org/expert-opinion/taking-turns>

Chapter 2: Emotional Development

Emotional development is a foundational component of early learning and social participation for preschool children with Autism Spectrum Disorder (ASD). Research indicates that many children with ASD experience differences in recognizing emotions, expressing feelings, understanding others' perspectives, and regulating emotional responses. These challenges can influence peer relationships, communication, classroom engagement, and overall well-being.

Targeted early intervention focusing on emotional awareness and regulation has been shown to improve social competence, reduce challenging behaviors, and enhance learning readiness. This chapter provides educators with structured, evidence-based, play-oriented tools designed to support emotional development in inclusive preschool environments.

The activities and materials are aligned with child-centered, strength-based, and multi-sensory learning principles and are designed to be flexible, engaging, and developmentally appropriate.

Focus Areas

This chapter supports emotional development across four key competencies:

- **Emotion Recognition:** Developing the ability to identify and understand emotions in oneself and others through visual, social, and experiential learning.
- **Self-Regulation:** Supporting children in recognizing emotional states and using appropriate strategies to manage strong feelings.
- **Expressing Feelings:** Encouraging children to communicate emotions using verbal language, gestures, visual supports, creative arts, and movement.
- **Empathy Development:** Helping children understand others' emotions, perspectives, and social responses.

Chapter Objectives

1. The activities and tools in this chapter aim to:
2. Help children identify and label emotions
3. Support safe and structured emotional expression
4. Promote calming and emotional self-regulation strategies
5. Encourage understanding of others' emotional experiences
6. Strengthen participation in social interactions and group activities

Evidence Base

The tools and activities in this chapter are informed by evidence-based practices commonly recommended in early ASD intervention:

- **Social Stories and Emotional Narratives:** Social stories support emotional understanding, social problem-solving, and behavior regulation by providing structured, predictable explanations of emotional and social situations.
- **Visual Supports for Emotional Learning:** Research demonstrates that visual tools such as emotion cards, schedules, and pictograms improve emotional comprehension and communication in children with ASD.
- **Sensory-Based Self-Regulation Strategies:** Sensory calming tools and structured regulation routines support emotional control and reduce anxiety and behavioral escalation.
- **Arts-Based Emotional Expression:** Creative arts activities have been shown to support emotional awareness, self-expression, and engagement in children with developmental differences.

Tools Included in This Chapter

Tool 1: Emotion Flashcards and Emotion Wheels

Visual resources supporting recognition, labeling, and communication of emotional states. Designed for flexible use during routines, games, storytelling, and emotional check-ins.

Description:

A structured set of visual emotional-literacy tools designed to help preschool and early-school children recognize, label, and communicate emotions. Suitable for use during routines, transitions, storytelling, and emotional check-ins.

Components:

Emotion Flashcards (40–60 cards):

Basic emotions (happy, sad, angry, scared, excited, tired, proud, worried, calm) shown through clear facial expressions and body language.

Intensity Cards (20 cards):

Visual scales showing emotional intensity (calm → frustrated → angry; content → excited → overwhelmed).

Emotion Wheels (3 versions):

- Basic 4-emotion wheel
- Expanded 8-emotion wheel
- Feelings + coping wheel

Mirror Cards:

Prompt cards encouraging children to copy facial expressions and identify feelings.

Check-In Board:

“I feel...” board with Velcro or magnets for daily emotional check-ins.

Gather and Prepare Images

Source images from one of these options:

- Free emotion icon databases (ARASAAC, Twinkl-style icons, SEL clipart)
- Photographs of real faces showing clear emotions

- Simple illustrations with consistent style

Ensure all images meet these criteria:

- Clear facial expression
- Plain or neutral background
- Consistent art style across all cards
- One emotion per card
- Large, readable label under image

How to Use

Step 1: Emotion Recognition

Adult shows one card and names the emotion.
Child points, repeats, or matches.

Step 2: Emotion Identification

Child chooses card that matches how they feel.

Step 3: Emotion Communication

Child uses card to express needs:

“I feel angry.”

“I feel tired.”

Step 4: Emotion Regulation Link

Pair emotion with coping card:

“Angry → squeeze ball.”

“Sad → ask for hug.”

Step 5: Daily Check-In Routine

Morning: child selects feeling card.

Midday: review feelings.

End of day: reflect on changes.

Tool 2: Story-Based Emotional Problem -Solving Cards

Short illustrated scenarios that support emotional understanding, empathy, and social decision-making through guided discussion and role-play.

Description:

Illustrated social-emotional scenario cards that help children develop empathy, perspective-taking, and decision-making through discussion, role-play, and guided reflection.

Components:

Scenario Cards (30 cards):

Short illustrated situations such as:

- A toy is taken
- Waiting for a turn

- Someone feels left out
- Loud noise causes distress

Emotion Perspective Cards (20 cards):

“What does each character feel?” visuals.

Solution Choice Cards (25 cards):

Possible responses (ask for help, wait, take a break, use words, share).

Role-Play Prompt Cards (15 cards):

Guided prompts for acting out scenarios.

Discussion Mat:

Visual board with sections:

What happened?

How do they feel?

What can we do?

Gather and Prepare Images

Use:

- Simple illustrated social scenes
- Real photos staged in classroom
- Consistent character style

Ensure:

- Minimal background detail
- Clear emotional cues
- One scenario per card
- Diverse characters

How to Use

Step 1: Introduce Scenario

Adult shows card and describes situation.

Step 2: Identify Emotions

Child selects emotion cards for characters.

Step 3: Predict Outcomes

Ask: “What might happen next?”

Step 4: Choose Solutions

Child picks from solution cards.

Step 5: Role-Play

Act out chosen solution with adult/peers.

Step 6: Reflection

Discuss:

“What worked?”

“How did they feel now?”

Use during:

- Social skills groups
- Circle time
- Conflict resolution moments

Tool 3: Sensory Calming Toolkit

A collection of sensory materials and visual strategy guides that help children develop emotional self-regulation and coping skills.

Description:

A structured collection of sensory supports and visual regulation guides that help children develop self-regulation, body awareness, and coping strategies during moments of stress or overstimulation.

Components:

Sensory Tools:

- Stress balls (3 types)
- Fidget toys (5–8 items)
- Weighted lap pad or soft toy
- Noise-reducing headphones
- Chewable sensory items (if appropriate)
- Soft fabric or tactile strips

Visual Regulation Cards (25 cards):

- Take deep breaths
- Ask for break
- Squeeze
- Count to 5
- Go to calm corner

Calm-Down Sequence Board:

Step-by-step visual routine for calming.

Calm Corner Visual Sign:

Indicates safe space for regulation.

Assembly Instructions

Create container:

Box or basket labeled “Calm Tools.”

Create calm-down board:

Top title: “I Can Calm My Body”

Add 4–5 step visual sequence.

Attach Velcro:
For removable strategy cards.

Create calm space:
Soft mat, cushion, low lighting.

How to Use

Step 1: Teach When Calm

Introduce tools during neutral moments.

Step 2: Model Use

Adult demonstrates calming strategy.

Step 3: Prompt During Distress

Offer 2 choices:

“Do you want squeeze ball or headphones?”

Step 4: Child Practices

Support independent selection.

Step 5: Reflect After

“What helped your body feel better?”

Use:

- During transitions
- After conflicts
- Before overload
- As daily routine

Tool 4: Arts-Based Emotional Expression Templates

Creative resources encouraging children to explore emotions through drawing, painting, movement, and music-based activities.

Description:

Creative expression resources that help children explore and communicate emotions through art, movement, music, and sensory-based creative activities.

Components:

Emotion Drawing Templates (20 pages):

Faces to complete, body outlines, “My feeling today” sheets.

Color-Emotion Charts:

Link colors to feelings.

Movement Prompt Cards (15 cards):

Move like:

- Angry storm
- Happy bounce



ASD in Preschool

- Slow turtle
- Calm breathing

Music Emotion Cards (15 cards):

Match music to feeling and movement.

Creative Choice Board:

Draw, paint, build, dance, or play.

Gather and Prepare Materials

Art supplies:

- Crayons
- Markers
- Paint
- Clay
- Paper
- Music player

Ensure:

- Open-ended materials
- Non-messy options available
- Visual prompts accessible

How to Use

Step 1: Emotion Prompt

Show emotion card or discuss feeling.

Step 2: Choose Art Form

Child selects drawing, movement, or music.

Step 3: Create

Allow free expression without correction.

Step 4: Label Emotion

Adult gently names feeling in artwork.

Step 5: Share (Optional)

Child explains creation if comfortable.

Step 6: Display or Store

Create personal emotion portfolio.

Use during:

- Calm time
- After big emotions
- Group SEL activities

- Therapy sessions

Activity Plans

Activity 1: Emotion Clock

Learning Objectives

- Recognize and label emotions
- Connect emotions to real-life situations
- Expand emotional vocabulary
- Develop emotional self-awareness

Targeted Learning Domains

Emotional Development
Communication and Language
Social Interaction
Cognitive Development

Required Materials

- Emotion worksheet with facial expressions
- Paper plate
- Crayons or markers
- Scissors
- Glue
- Pushpin
- Cork or modeling clay
- Clock hand template

Step-by-Step Instructions

1. Children color emotion faces on the worksheet.
2. Cut out the emotion faces.
3. Glue emotions around the paper plate to create a clock design.
4. With adult supervision, create a hole in the center of the plate.
5. Attach the clock hand using the pushpin.
6. Secure the pushpin with cork or modeling clay.
7. Use the emotion clock during daily emotional check-ins or discussions.

Adaptation Suggestions

- Use 2–4 basic emotions for emerging learners.
- Add complex emotions for advanced learners.
- Provide pre-cut materials for children with motor challenges.
- Allow pointing or AAC communication instead of verbal responses.
- Include textured emotion symbols for sensory engagement.

Expected Learning Outcomes

- Children identify and name emotions.
- Children associate emotions with personal experiences.

Children increase emotional communication skills.

Activity 2: Bouquet of Emotions

Learning Objectives

- Develop emotional awareness
- Strengthen empathy and perspective-taking
- Encourage collaborative and creative learning

Targeted Learning Domains

Emotional Development
Social Interaction
Creative Expression
Cognitive Development

Required Materials

- Emotion and situation worksheets
- Scissors
- Glue
- Paper sheets

Step-by-Step Instructions

1. Children cut out flower components representing emotions and social situations.
2. Flower centers represent emotions (e.g., happiness, sadness, anger, fear).
3. Petals represent situations connected to each emotion.
4. Children assemble and discuss each flower.
5. Completed flowers may be displayed or reused in discussions.

Adaptation Suggestions

- Provide pre-cut laminated materials.
- Use color-coded worksheets for support.
- Provide grayscale worksheets for higher difficulty.
- Support non-reading children through visual guidance or adult facilitation.

Expected Learning Outcomes

- Children connect emotions with social contexts.
- Children demonstrate improved emotional understanding.
- Children practice empathy and cooperation.

Activity 3: Emotion Box (Feelings Jar)

Learning Objectives

- Encourage safe emotional expression
- Promote emotional reflection
- Strengthen communication of feelings

Targeted Learning Domains

Emotional Development
Communication
Social Participation

Required Materials

- Container or jar
- Emotion cards, drawings, or symbols
- Optional art or writing materials

Step-by-Step Instructions

1. Introduce the emotion box as a safe communication tool.
2. Children select or create emotion symbols representing their feelings.
3. The child places the symbol into the container.
4. Educators may facilitate discussion individually or in groups.

Adaptation Suggestions

- Use pictograms or photos for children with limited language.
- Allow use of colors or symbols instead of words.
- Provide private sharing opportunities if group discussion is difficult.

Expected Learning Outcomes

- Children demonstrate increased emotional awareness.
- Children communicate emotions more independently.
- Children build emotional confidence.

Activity 4: Calm zone and Regulation Plan

Learning Objectives

- Support emotional self-regulation
- Develop coping strategies
- Increase independence in managing emotions

Targeted Learning Domains

Emotional Development
Self-Regulation
Sensory Integration

Required Materials

- Cushions or soft seating
- Sensory toys (stress balls, fidgets, sensory books)
- Visual calming strategy cards
- Emotional regulation step chart

Step-by-Step Instructions

1. Introduce the calm zone during relaxed classroom periods.
2. Demonstrate calming strategies such as deep breathing or sensory tool use.
3. Teach a simple emotional action plan:
 - I notice my feelings
 - I choose a calming strategy
 - I ask for help if needed
4. Encourage independent use of the calm zone.

Adaptation Suggestions

- Provide visual step-by-step calming guides.
- Offer multiple sensory choices.
- Use adult modeling and guided practice.

Expected Learning Outcomes

- Children recognize emotional triggers.
- Children independently apply calming strategies.
- Emotional escalation decreases over time.

Activity 5: Social Stories and Role-Play

Learning Objectives

- Improve emotional understanding
- Develop empathy
- Support social-emotional problem-solving

Targeted Learning Domains

Social Interaction
Emotional Development
Communication Skills

Required Materials

- Social story cards or books
- Puppets or role-play props
- Visual emotion cues

Step-by-Step Instructions

1. Present short social stories describing emotional situations.
2. Discuss characters' emotions and possible solutions.
3. Encourage children to role-play solutions using props.
4. Reinforce positive emotional and social responses.

Adaptation Suggestions

- Use real classroom scenarios.
- Simplify stories using pictures or visual sequences.
- Allow observation before active participation.

Expected Learning Outcomes

- Children identify emotions in others.
- Children practice appropriate social responses.
- Children develop perspective-taking skills.

Board Game: "Emotion Path" Cooperative Game

Emotion Path Cooperative Game

A visually structured board game where children progress through emotional recognition and regulation challenges. The game promotes turn-taking, cooperative play, and communication skills while reducing competitive stress.

Supporting Different Emotional Regulation Levels

Emotional Development Level	Characteristics	Support Strategies
Emerging Awareness	Limited emotional recognition or expression	Use visual supports, modeling, and sensory-based activities
Developing Awareness	Identifies basic emotions but needs support regulating	Introduce structured calming strategies and emotion communication tools
Expanding Emotional Skills	Recognizes complex emotions and begins empathy	Introduce social problem-solving and perspective-taking activities
Advanced Emotional Understanding	Demonstrates emotional awareness and flexible regulation	Encourage independent strategy use and peer support roles

Implementation Guidelines

Creating Emotionally Supportive Environments

- Display emotion visuals throughout classroom routines
- Provide accessible calming tools
- Model emotional language during interactions
- Integrate emotional learning into daily activities

Collaboration Recommendations

- Coordinate strategies with specialists when available
- Share emotional tools with families for consistency
- Document emotional development progress regularly
- Maintain consistent emotional support approaches across environments

Monitoring Progress

Educators may monitor development using:

- Emotional observation checklists
- Emotion journals or drawing reflections
- Review of self-regulation strategy use
- Reflection discussions following emotional situations

Expected Outcomes

Through consistent use of emotional development tools, educators may observe:

- Increased emotional awareness
- Improved emotional communication
- Greater independence in emotional regulation
- Strengthened empathy and social participation
- Increased engagement in preschool routines

References and Resources

Key References:

<https://www.autismawareness.com.au/navigating-autism/big-emotions-in-young-autistic-people>

<https://blossomchildrenscenter.com/understanding-emotional-development-and-asd/>

<https://earlyautismventures.in/emotional-regulation-in-children-with-autism/>

<https://www.behaviorfrontiers.com/blog/emotional-regulation-strategies-autism>

<https://linksaba.com/how-to-teach-autistic-children-to-understand-emotions/>

<https://www.thetreetop.com/aba-therapy/emotional-regulation-autism>

<https://www.discoveryaba.com/aba-therapy/helping-children-with-autism-understand-emotions>

Denham, S. A. (2006). Social-emotional competence as support for school readiness. *Early Education and Development.*

Gray, C. (2010). *The New Social Story Book.*

National Professional Development Center on Autism Spectrum Disorder. *Evidence-Based Practices for Children with ASD.*

Samson, A. C., Hardan, A. Y., & Gross, J. J. (2015). Emotion regulation in autism spectrum disorder.

Schreibman, L. et al. (2015). Naturalistic developmental behavioral interventions.

Chapter 3: Physical Development

Physical development in preschool is a key foundation for participation, learning, and well-being, especially for children with autism. Many everyday learning opportunities in early childhood education are “movement-based”: joining circle time, navigating transitions, engaging in play with peers, using materials at a table, and managing self-care routines. When a child’s motor or sensory-motor skills are still emerging, these situations can become tiring, frustrating, or overwhelming. Supporting physical development therefore does not only improve movement skills; it also increases access to learning activities, strengthens independence, and can reduce stress in daily routines by making tasks feel more predictable and manageable.

In preschool autism, physical development profiles can vary widely. Some children show differences in gross motor skills (balance, coordination, jumping, climbing), while others experience fine motor challenges that affect early writing readiness, tool use (e.g., scissors), and daily classroom tasks (e.g., opening containers, handling small objects). Motor planning and sequencing may be difficult, meaning that multi-step movement tasks (e.g., obstacle courses or “copy me” action games) require extra modelling and repetition. Many children also show sensory-motor differences: they may seek or avoid certain sensations, have reduced body awareness, or find it hard to regulate their level of alertness (“too high” or “too low”) for sitting, listening, or cooperating. Endurance, posture, and bilateral coordination (using both sides of the body together) can further influence participation across the preschool day.

This chapter provides play-based, classroom-friendly tools that help educators strengthen gross motor, fine motor, and sensory-motor integration skills while keeping activities structured, motivating, and adaptable. The goal is not “perfect performance,” but meaningful progress that supports children to participate more confidently in routines and play—step by step, at their own pace.

Focus Areas

- **Gross motor & coordination:** balance, jumping, climbing, ball skills, posture and stability, crossing the midline
- **Fine motor & pre-writing:** grip development, hand strength, in-hand manipulation, finger isolation, scissor skills, early line/shape practice
- **Motor planning & sequencing:** imitation of actions, starting and stopping on cue, obstacle courses, multi-step movement routines
- **Sensory-motor integration:** body awareness and regulation through proprioceptive (“heavy work”) input, vestibular movement, tactile exploration/tolerance within clear boundaries
- **Self-care motor routines:** functional motor skills for independence (buttons/zippers, dressing steps, handwashing routines and other daily classroom routines)

Chapter Objectives

1. Increase participation in play, movement activities, and daily classroom routines by reducing motor-related barriers.
2. Strengthen functional fine motor skills needed for early learning tasks (e.g., manipulating materials, using tools, pre-writing activities).
3. Develop gross motor coordination and motor planning to support safe, confident movement in indoor and outdoor environments.
4. Support body awareness and self-regulation through structured, sensory-motor activities embedded in everyday routines.
5. Build independence in motor-based routines, especially transitions and self-care (e.g., dressing steps, handwashing).

Evidence Base

Supporting physical development in preschool settings works best when motor learning is embedded in meaningful routines and play, while instruction remains clear, predictable, and motivating for children with autism. The approaches used in this chapter draw on three widely accepted foundations that are commonly recommended in early childhood and autism support contexts: (1) structured supports for understanding and independence, (2) naturalistic and play-based learning opportunities, and (3) routine-based sensory-motor strategies that help children stay regulated and ready to participate.

1) Visual supports, task analysis, and prompting with systematic fading

For many children with autism, motor tasks become more manageable when expectations are made visible and steps are broken down. Visual supports (e.g., cue cards, sequence strips, “first–then” boards) reduce language load and clarify what comes next. Task analysis helps educators identify the smallest functional steps within a routine (e.g., “wash hands”: turn on water → wet hands → soap → rub → rinse → dry). Prompts (gestural, visual, model, verbal) are then used to support success, with a clear plan to fade prompts over time so the child becomes more independent. This structure is especially helpful for multi-step motor routines (self-care, transitions) and for activities involving motor planning (obstacle courses, imitation sequences). In practice, the key is consistency: use the same cues, keep steps stable, and gradually increase independence by reducing support.

2) Structured teaching combined with naturalistic, play-based opportunities

Motor skills improve through practice—but practice is most effective when it is meaningful and motivating. Structured teaching principles (clear start/end, defined space, predictable routines, visual clarity, short instructions) can be combined with naturalistic/play-based learning (child choice, shared play, embedded teaching moments). This chapter therefore uses short “movement snacks,” station-based fine motor play, and game formats that create many repetitions without feeling like drills. Educators can increase engagement by building on children’s interests (vehicles, animals, delivery games, treasure hunts) and by offering choice within a clearly structured activity (e.g., “Choose 1 of 3 movement cards,” “Pick your tool: tongs or tweezers”). This balance supports both participation and generalization—children practice motor skills across different contexts rather than only in one set activity.

3) Sensory-motor strategies embedded in routines (supportive, not clinical)

Many children with autism experience differences in sensory processing and body awareness that affect attention, endurance, and emotional regulation. Within an educational setting, it can be helpful to include routine-based sensory-motor activities (often called “movement breaks” or “heavy work” activities) that support readiness to learn. Examples include pushing/pulling/carrying tasks, short, structured movement sequences, or tactile exploration with clear boundaries. The aim is not to “treat” sensory needs, but to provide practical supports that help children stay in a workable level of alertness for participation. These strategies are most effective when they are predictable (planned points in the day), brief, and paired with clear visual cues—and when adults observe the child’s response and adjust intensity accordingly.

Summary

In this chapter, the evidence base is translated into classroom-ready tools that: (a) make motor tasks clear through visuals and step-by-step structure, (b) increase meaningful practice through play and routines, and (c) support participation by embedding simple sensory-motor regulation strategies throughout the day. The guiding principle is functional impact: improvements should help children with autism access learning, play, and independence in daily preschool life.

Tools Included in This Chapter

Tool 1: Gross Motor “Move Circuit” Cards + Floor Markers

Purpose

A ready-to-use set to build short, structured movement circuits that strengthen gross motor skills, coordination, and motor planning while supporting participation and regulation for children with autism.

What the educator gets:

24 Movement Cards (printable set), grouped into 6 skill areas:

- Balance (e.g., “Stand on one foot,” “Walk heel-to-toe”)
- Jumping (e.g., “Jump forward 3 times,” “Jump over the line”)

- Crawling / climbing (e.g., “Bear crawl to the cone,” “Crawl under the rope”)
- Rolling / body control (e.g., “Log roll to the mat,” “Turtle turn”)
- Throw–catch / ball skills (e.g., “Throw into the basket,” “Catch the big ball”)
- Animal walks (e.g., “Frog jumps,” “Crab walk”)

12 Circuit Layout Templates (easy → advanced), showing:

- number of stations (3–6),
- suggested spacing,
- example station order and timing

Floor Markers Sheet (printable): feet, hands, arrows, “start/finish,” stop signs (for clear routes and boundaries)

Recommended age / setting / duration

- Preschool (3–6), adaptable for mixed groups
- 1:1, small group, or whole group
- 5–10 minutes (“movement snack”) or 10–15 minutes (full circuit)

How to use (simple routine)

- **Preview:** Show the circuit layout (visual), point to start/finish.
- **Choose:** Select 3–6 movement cards (or use a template).
- **Do:** Child completes stations with clear start/end cues.
- **Reinforce:** Immediate feedback + token/goal (optional).
- **Review:** “We did 4 stations!” (quick success summary)
- **Use cases:** transitions, outdoor play, pre-tablework movement, indoor rainy-day routine.

Adaptations (Level 1 / 2 / 3 – consistent format)

Level 1 (Emerging participation / high support):

2–3 stations only, short distances, use picture cues, model each action, simplify movements (e.g., step over line instead of jump).

Level 2 (Developing control / moderate support):

3–5 stations, introduce simple sequencing (“First → then”), use gestures instead of full modelling, repeat same circuit 2–3 times for fluency.

Level 3 (Expanding independence / higher challenge):

5–6 stations, add timing (“10 seconds”), combine two-step actions (“Jump then throw”), add peer roles (helper/timekeeper), encourage child choice of station order.

Expected outcomes

- Increased confidence and safety in movement
- Improved coordination and motor planning in structured play
- Better participation during transitions and group routines

Tool 2: Fine Motor Stations Toolkit “Hands Ready”

Purpose

A structured set of fine motor “station” activities that build hand strength, grip, bilateral coordination, and precision skills needed for everyday classroom tasks and early learning activities for children with autism.

What the educator gets:

- 20 Fine Motor Task Cards (printable set), covering:
 - Tongs / tweezers (pick-up & sort)
 - Clips / clothespins (clip to line, clip to cards)
 - Threading / lacing (beads, pasta, lacing cards)
 - Tearing & crumpling (tear paper strips, make “rain” or “snow”)
 - Pegboard / pushing-in (pegs, push pins with safety, “push-in” tasks)
 - Putty / playdough (roll, pinch, hide & find)
 - Sticker paths (place stickers on lines/shapes, “road” paths)
- Station Choice Board (printable): “Choose 1–3 stations” with picture placeholders
- “Finished” Labels (printable): pocket/box labels to support independence and clear end-points
- Quick Prep List (1 page): low-cost materials + substitutes (e.g., cotton balls instead of pom-poms, pasta instead of beads)

Recommended age / setting / duration

- Preschool (3–6), adaptable by difficulty
- Independent work corner, small group rotation, or 1:1 support
- 8–15 minutes total (e.g., 2–3 stations, 3–5 minutes each)

How to use (rotation stations / independent corner)

1. Set up 3–5 stations using task cards (repeat the same set for several days for fluency).
2. Preview with the choice board: child picks 1–3 stations (or educator assigns).
3. Do one station at a time; the task card stays visible as the “instruction.”
4. Finish routine: child places the card/token in the “finished” pocket to mark completion.
5. Reinforce & review (brief): “You finished 2 stations—hands ready!”

Adaptations (Level 1 / 2 / 3)

Level 1 (Emerging fine motor / high support):

- Use bigger items (large pom-poms, large pegs), fewer repetitions, thicker tools (easy-grip tongs), stabilise materials (non-slip mat).
- Offer pre-cut / pre-started options (half-threaded lace, sticker edges lifted).

Level 2 (Developing control / moderate support):

- Increase precision gradually (smaller items, longer threading, pattern copying).
- Fade prompts: model once, then point to card; use “first–then” if needed.

Level 3 (Expanding independence / higher challenge):

- Add simple rules (timed challenge, sorting by colour/size, pattern sequences).
- Include peer roles (partner checks, “station helper”), and encourage self-monitoring (“I finished 3 cards”).

Motor-access alternatives

- Switch between tongs/tweezers/hand scoops depending on ability
- Replace fine pinch tasks with push/press tasks (putty presses, peg pushing)
- Use vertical surfaces (clip to board) for children who benefit from shoulder stability

Expected outcomes

- Improved hand strength and precision for classroom tasks
- Increased independence in tabletop routines
- Better readiness for pre-writing and tool use (e.g., scissors)

Tool 3: Pre-Writing & Two-hand Coordination Pack

Purpose

A short, structured set of pre-writing and two-hand coordination activities that support the foundational skills for drawing, early writing readiness, and functional classroom tool use for children with autism.

Components:

What the educator gets

- 15 Pre-Writing Strip Cards (printable; “trace / copy” format), including:
 - straight lines (horizontal/vertical/diagonal)
 - curves (C, U shapes)
 - circles/loops (simple round paths)
 - crosses (+) and simple shapes
 - zigzags and “mountain/valley” patterns
- 10 Bilateral Coordination Task Cards (printable), featuring two-hand actions such as:
 - tear & paste (one hand stabilises, one hand tears)
 - hold & cut (paper stabilised with helper hand)
 - lace & pull (threading and pulling through)
 - twist & open (jar/container play)
 - hold & stamp / hold & draw (stabilise paper while working)
- Pencil Grip “Helping Hands” Visual Cues (printable): simple visuals for
 - “helper hand holds the paper”
 - “pinch grip” / “three fingers” cue (non-prescriptive, supportive)
 - “rest wrist / move fingers” cue

Recommended age / setting / duration

- Preschool (3–6), adaptable for mixed groups
- 1:1, small group, or quick whole-group warm-up
- 3–5 minutes daily (best as a consistent micro-routine)

How to use

- Choose one strip (or one bilateral card) per day—keep it short and repeatable.
- Preview with the visual cue: “Helper hand here.”
- Model once, then child traces/copies (or completes the bilateral task).
- Finish clearly (place strip in “finished” pocket or sticker reward).
- Generalise by pairing with favourite themes (cars, animals, letters of name, treasure maps): same motor pattern, motivating context.

Adaptations (Level 1 / 2 / 3)

Level 1 (Emerging control / high support):

- Use thicker lines, shorter paths, larger paper, and stabilising tools (clipboard, non-slip mat).
- Offer “trace over highlighted path” or “dot-to-dot” versions; pre-start the first 1–2 strokes if needed.

Level 2 (Developing control / moderate support):

- Move from tracing → copying next to model; increase length slowly.
- Add simple bilateral routines (tear small strips; cut along thick line; lace 3–5 holes).

Level 3 (Expanding independence / higher challenge):

- Combine two patterns in one strip (line + curve), add simple shape sequences, introduce controlled speed (“slow pencil”).
- Use bilateral tasks with higher precision (cut on thinner line, lace 6–8 holes) and encourage self-check (“Did my helper hand hold?”).

Motor-access alternatives

- Replace pencil with marker/crayon for easier grip; use short tools (“golf pencil”) to support grasp
- Offer vertical tracing (whiteboard) for children who benefit from shoulder stability
- Provide adaptive scissors or pre-cut slits where needed

Expected outcomes

- Improved readiness for drawing and early writing-related tasks
- Stronger “helper hand” use and two-hand coordination
- Increased independence and reduced frustration during tabletop activities

Tool 4: Sensory-Motor Regulation Routine Cards “Body Ready”

Purpose

A predictable, routine-based set of short sensory-motor activities that support body awareness and readiness to participate in learning and play for children with autism. The focus is on classroom-safe, educator-led movement routines that can be embedded in the day.

What the educator gets

- 12 “Heavy Work” Cards (printable): simple push/pull/carry activities that can be done safely in a classroom or corridor, such as:
 - wall pushes / desk pushes
 - chair push-ins / chair pulls
 - carry-and-deliver (books, beanbags, “mail”)
 - tug with a resistance band (if available)
 - “push the box” / “pull the rope” (lightweight, supervised)
- 8 Vestibular-Safe Movement Cards (printable): short movement options with clear start/end, such as:
 - slow marching, step-ups, side-steps
 - controlled “turn and stop”
 - gentle rocking on both feet, “airplane arms” balance
 - “spin-free” movement games that avoid prolonged rotation
- Mini Visual Routine (3–5 steps): “My body is ready → I can learn” (printable strip), e.g.:
 1. Check my body (too fast / just right / too slow)
 2. Choose one card
 3. Do it for a short time (e.g., 30–60 seconds)
 4. Breathe + hands ready
 5. Back to learning (sit spot / table)

Recommended age / setting / duration

- Preschool (3–6), adaptable for individual needs
- 1:1, small group, whole-class “movement snack”
- 2–5 minutes per routine (short and predictable)

How to use

- Before table work: “Body Ready” as a transition into sitting/attention tasks
- After recess/outdoor play: “reset routine” before returning to class
- Preventive use during early signs of escalation: offer a structured choice (“Choose 1 card”) to support regulation before difficulties intensify
- Daily scheduled use: same time each day increases predictability and effectiveness

Adaptations (Reduced intensity / Standard / Extension)

Reduced intensity (low arousal / sensitive days):

- gentle wall press, slow marching, short carry tasks, 20–30 seconds; fewer repetitions; more calm breathing cue

Standard (everyday routine):

- 1 heavy work card + 1 movement card, 30–60 seconds each; finish with “hands ready” cue and return to task
- Extension (higher challenge / higher needs for movement):
- 2–3 cards in sequence (e.g., push → carry → balance), up to 3–5 minutes; add simple counting or “first–then” strip; include peer helper role

Expected outcomes

- Improved readiness for learning transitions
- Better body awareness and participation in routines
- Reduced frequency of motor-related restlessness when routines are predictable and brief

Activity Plans

Activity Plan 1: Animal Walk Adventure

(Gross motor + imitation)

Learning Objectives:

- Strengthen gross motor skills (coordination, balance, core strength).
 - Practice imitation of actions and simple motor sequencing.
 - Increase participation in group movement play for children with autism.
- Targeted Learning Domains:** Cognitive Development, Communication, Independence/Adaptive Skills

Domains

- Physical development: gross motor, coordination, motor planning
- Social/communication (secondary): joint attention, turn-taking, following a cue

Recommended age / setting / duration

Preschool (3–6) | whole group or small group | 8–12 minutes

Materials

- 6–10 “animal” picture cards (or simple drawings): frog, bear, crab, snake, bunny, penguin
- Floor markers (tape line, feet/hands/arrows)
- 4 cones or objects to mark a short path (optional)
- “Start” and “Finish” sign (optional)
- Reinforcer (optional): sticker/token, “animal stamp” sheet

Steps (How to run it)

1. Preview (1 min): Show 3–5 animal cards you will use today. Name + demonstrate each movement once (10 seconds per animal).
2. Set the path (1 min): Mark a short route (3–5 meters) with a clear start and finish.
3. Model & do together (3–5 min):
 - Pick one animal card.
 - Say: “First frog, then stop.”
 - Everyone does the animal walk to the finish marker, then “freeze.”

4. Imitation round (2–3 min):
 - Adult models silently (or with minimal words) and children copy.
 - Use a clear stop signal (hand up / stop sign).
5. Choice round (2–3 min):
 - Child chooses the next animal card (or two options).
 - Repeat the route once more.
6. Finish & review (30 sec): “We did 4 animals today! Frog, bear, crab, penguin.”

Adaptations (Level 1 / 2 / 3)

Level 1 (Emerging participation):

- Use only 2–3 animals; very short path; adult models right next to child.
- Offer “walk like a bear” instead of full bear crawl; allow breaks.
- Use visual “my turn / stop” cue; reinforce any attempt.

Level 2 (Developing control):

- Use 4–5 animals; add “first–then” (“First frog, then penguin”).
- Repeat the same 3 animals across several days for fluency.

Level 3 (Expanding independence):

- Add sequencing: “Pick two animals” or “Do animal A then animal B.”
- Add a simple rule: “Go to the cone and back” or “Follow the arrows.”
- Peer role: one child holds up the animal card (“leader”).

Expected outcomes

- Child participates in movement play for longer periods.
- Improved imitation of actions (copies adult movement with fewer prompts).
- Increased coordination and smoother transitions between movements.

Activity Plan 2: Post Office Delivery

(Heavy work + carrying + transitions)

Objective(s)

- Support body awareness and readiness to participate through proprioceptive (“heavy work”) activities.
- Practice functional carrying, pushing/pulling, and simple motor planning.
- Strengthen transition skills (moving from one routine to another with a clear purpose and structure) for children with autism.

Domains

- Physical development: sensory-motor integration, gross motor, endurance
- Executive functioning (secondary): following a routine, completing a sequence, beginning/ending a task.

Recommended age / setting / duration

Preschool (3–6) | 1:1, small group, or whole class helper routine | 6–10 minutes

(Can also be 1–2 minutes as a quick transition routine.)

Materials

- Small bag/box labeled “Post Office” (lightweight)
- 6–12 “letters” (paper envelopes/cards) or beanbags
- 4–8 delivery targets around the room (mailboxes): baskets, folders, shelves, teacher desk, group tables

Visuals:

- “Post Office” sign + “Delivery” sign
- Simple route strip (3–5 steps) or “First–Then” card
- Optional: delivery badges (“Post Worker”), token/sticker sheet

Steps

1. Preview (30 sec): Show the route strip:
 - “1) Pick up mail → 2) Deliver → 3) Return → 4) Finished.”
2. Assign the mission (30 sec): Give the child 1–3 “letters” and show the matching mailbox picture (or point to the target).
3. Delivery round (3–6 min):
 - Child carries the mail bag/box (or single items) to each target.
 - At each target: place item in the mailbox/basket → adult gives brief cue: “Delivered!”
 - Return to the Post Office station to collect the next item.
4. End clearly (30 sec): Child puts the bag/box in the “finished” spot and gets a quick success summary: “All delivered. Body ready.”

Adaptations (Level 1 / 2 / 3)

Level 1 (Emerging participation / high support):

Deliver 1 item at a time to a single target close by.

Adult walks with the child; use pointing + picture cue; simplify to 2-step routine (“Take → Put in”).

Use very light items; allow breaks; keep total time 2–4 minutes.

Level 2 (Developing control / moderate support):

Deliver 3–5 items to 2–3 targets; introduce a simple route strip.

Fade prompts: show the picture, then let the child lead.

Add “return to Post Office” routine for structure.

Level 3 (Expanding independence / higher challenge):

Deliver 6–10 items to 4–6 targets; include one push/pull task (e.g., “push the box” to the next station).

Add sequencing: “First table 1, then teacher desk.”

Peer role: one child sorts mail, one delivers; child can check off deliveries.

Expected outcomes

- Improved transition readiness (child moves between activities with fewer prompts).
- Increased ability to carry/transport objects safely and purposefully.
- Better regulation after heavy work (more “ready” for sitting/learning tasks).

Activity Plan 3: Cut–Paste Road

(Scissors + bilateral coordination + pre-writing)

Objective(s)

- Strengthen scissor skills (open/close, cutting along a line).
- Improve bilateral coordination (helper hand stabilises while the working hand cuts/pastes).
- Build pre-writing readiness through line-following and simple path making for children with autism.

Domains

- Physical development: fine motor, bilateral coordination, hand strength
- Early learning (secondary): pre-writing, visual-motor integration, following a sequence

Recommended age / setting / duration

Preschool (4–6; adaptable younger with modifications) | 1:1 or small group | 10–15 minutes

Materials

- Printable “road” template options (straight, curved, zigzag) or draw roads with thick marker
- Pre-drawn shapes to cut (short strips, “road pieces,” bridges, traffic signs)
- Glue stick (preferred for control)
- Child-safe scissors (adaptive scissors if needed)
- Non-slip mat or clipboard (optional)
- Visual cue: “Helper hand holds” + “Cut → Paste → Finished” strip
- Optional: toy car/animal to “drive” the finished road

Steps

1. Preview (1 min): Show the finished example and the 3-step visual: Cut → Paste → Drive (or Cut → Paste → Finished).
2. Set up (1 min): Give the child one road base sheet and 3–6 cut pieces (start small).
3. Cutting round (4–6 min):
 - Adult models once: “Helper hand holds the paper.”
 - Child cuts along thick lines (start with straight short strips).
 - After each cut, place the piece in a small “ready to paste” pile.
4. Pasting round (3–5 min):
 - Child places pieces on the base sheet to form a continuous road.
 - Glue and press (adult supports glue amount if needed).
5. Finish & celebrate (1–2 min):
 - “Drive test”: child drives a small car along the road (or traces the road with finger).
 - Quick review: “You cut 4 pieces. You used helper hand!”

Adaptations (Level 1 / 2 / 3)

Level 1 (Emerging scissor skills / high support):

Use pre-cut slits or “snip cards” (short snips on thick lines).

Provide spring-loaded/adaptive scissors if available.

Reduce to 2–3 pieces; use straight lines only; adult helps stabilise paper.

Offer alternative: tear paper strips instead of cutting, then paste.

Level 2 (Developing control / moderate support):

Cut along thicker curved lines; increase pieces to 4–6.

Fade prompts: point to the “helper hand” cue instead of verbal reminders.

Add a simple rule: “Road pieces must touch.”

Level 3 (Expanding independence / higher challenge):

Introduce zigzags, corners, and “stop line” markers; 6–10 pieces.

Add pre-writing extension: trace the finished road with marker; add simple shapes (circle for traffic light).

Peer role: one child cuts, one child places pieces, then swap.

Expected outcomes

- Child uses scissors with improved control (more accurate snips/cuts).
- Increased use of helper hand to stabilise materials.
- Improved visual-motor control through line-following and path construction.

Board Game (cooperative): Move & Match Trail

(Gross motor + fine motor + pre-writing + body-ready routines)

Game purpose

A cooperative board game that motivates repeated practice of physical development skills in a playful, structured way. Children work as a team to complete short challenges and move along the trail together.

Game Components

1) Game Board (1 page, printable)

A path from START → FINISH divided into 4 color zones (repeat in sequence):

- Gross motor zone
- Fine motor zone
- Pre-writing zone
- Body-ready zone

Include on the board:

- START / FINISH markers
- a small “token tracker” area (e.g., 0–10 circles)
- simple icons matching each zone (jumping figure / hand / pencil / “body ready”)

2) Spinner (1 page, printable; predictable)

Spinner outcomes (simple and classroom-safe):

- Move 1
- Move 2
- Move 3
- Token (collect a token after completing the card)

(Alternative: a 1–3 die if spinner is not possible.)

3) Challenge Card Sets (40 cards total)

- 10 Gross Motor cards
- 10 Fine Motor cards
- 10 Pre-writing cards
- 10 Body-Ready cards

Card design:

- Title + picture cue space
- “What to do” (1–2 lines)
- “How long” (e.g., 10 seconds / 5 reps)
- Level options (L1/L2/L3) in one small box

4) Team tokens + character pieces

- 1–4 character pieces (team moves together)
- 10 tokens (stars, footprints, etc.)
- Optional: “helper badge” card for turn-taking roles

Setup

1. Print board + spinner + cards + tokens.
2. Place the board in the middle, tokens nearby.
3. Shuffle each card set and place by matching zone color.
4. Put the team piece(s) on START.

Rules (6–8 steps)

1. Team play: Everyone is on the same team. The goal is to reach FINISH or collect X tokens (recommended: 8 tokens).
2. Take turns: The active player spins (or rolls).

3. Find the zone: Look at the color of the space your team is on. Draw the top card from that zone.
4. Do the challenge together:
 - The active player does the task (others can copy or help).
 - Keep tasks short: 5–30 seconds or 3–10 repetitions.
5. Choose the right level: Adult/educator selects Level 1 / 2 / 3 based on the child's needs (success first).
6. Success = move + token option:
 - If the challenge is completed (or attempted with support), move the team the number of spaces from the spinner.
 - If spinner landed on Token, collect one token after completing the challenge.
7. If it's too hard: Use the Level 1 version or offer a choice between two cards. Still allow the team to move (keep it cooperative and positive).
8. Win: The team wins when they reach FINISH or collect 8 tokens. Celebrate with a short "review": "We practiced gross motor, fine motor, pre-writing, and body-ready!"

Example challenges (one per zone)

- Gross motor: "Frog jumps – 5 jumps to the line."
- Fine motor: "Tweezer pick-up – pick 5 pom-poms into the cup."
- Pre-writing: "Trace a zigzag strip with your finger (or marker)."
- Body-ready: "Wall pushes – 10 pushes."

Adaptations (for inclusivity)

- Use the team-moves-together rule to reduce pressure and support mixed ability groups.
- Keep a "choice card" option: pick 1 of 2 cards in the same zone.
- Use visual cues and minimal language.
- For children with limited stamina, shorten all tasks (e.g., 3 reps instead of 10).

Implementation Guidelines

Embed micro-movement throughout the day

Plan 2–3 short "movement snacks" (5–10 minutes) daily. These can be built into natural transitions rather than added as an extra lesson (e.g., before table work, after recess, before circle time). Repeating the same short routines for several days helps children with autism anticipate what will happen and increases independence.

Use a consistent loop: Preview → Do → Review

Follow a simple, predictable cycle (aligned with the approach used in other toolbox chapters):

- **Preview:** show the visual (card/sequence strip), point to start/finish, clarify "how long" (e.g., 30 seconds / 5 repetitions).
- **Do:** keep instructions minimal, model once if needed, support success with prompts.
- **Review:** short success statement ("You did 4 stations"), place card in "finished," and link to the next routine ("Now hands ready → table").

Start small and repeat for fluency

Choose a small set of familiar cards (e.g., 3–5 movement cards) and repeat them across the week. Increase difficulty gradually by changing only one variable at a time (distance, repetitions, precision, or number of steps).

Safety and comfort

- Ensure clear space and boundaries (floor markers, cones, start/finish).
- Maintain active supervision during movement activities.
- Adapt intensity for sensory sensitivities: reduce noise, shorten duration, avoid high-risk movements, and observe each child's response (stop if discomfort increases).
- Prefer predictable, controlled movement; avoid prolonged spinning or unsafe climbing.

Generalise across contexts

Use the same skills in different places: indoor/outdoor, circle time transitions, independent work corner, and play routines. Children learn faster when skills appear in real routines, not only in one activity.

Optional home link

If helpful, provide families with a simple “Try at home” page: 3–5 safe, low-prep activities (e.g., wall pushes, carry-and-deliver, tweezer pick-up, tracing strips), with “keep it short” guidance and a note that routines should be adjusted to the child's comfort and energy level.

Monitoring Progress

Tool: 1-page observation checklist (8–12 indicators)

Use brief observations during normal routines (not extra testing). Aim to review once every 2–4 weeks to see trends.

Suggested indicators (tick + short note)

- Participation: joins movement activity (yes/with support/no)
- Prompt level: independent / visual prompt / model / physical guidance
- Endurance: sustains activity for 2–5 minutes / 5–10 minutes (as appropriate)
- Gross motor coordination: balance/jumping/climbing actions improve (examples)
- Motor planning: follows 2-step movement sequence (e.g., “jump then stop”)
- Crossing midline / bilateral use: uses both sides of body appropriately
- Grip & hand strength: holds tool with improved control (crayon/tongs)
- In-hand manipulation: can pick/place small items with increasing accuracy
- Scissor skills: snips / cuts along thick line / cuts with fewer errors
- Pre-writing control: traces/copies lines/shapes with improved accuracy
- Self-care motor routine: completes steps (e.g., handwashing) with fewer prompts
- Regulation readiness: after “Body Ready,” returns to table/routine more smoothly

Rating suggestion

- 0 = not yet / rarely
- 1 = emerging (with support)
- 2 = developing (some independence)

- 3 = independent / consistent

Photo evidence (optional)

Use “before/after” sequences (with your setting’s consent rules):

- a cut line sample (start of term vs later)
- a pre-writing strip
- a photo of the child completing a 3-step routine (e.g., delivery route)
- Keep photos focused on the task/product, not the child’s face where possible.

References and Resources

Key References:

Department of Children, Equality, Disability, Integration and Youth. (2024). Introductory guidelines to support the meaningful inclusion of autistic children in early learning and care and school-age childcare settings. AIM (Access and Inclusion Model).

<https://aim.gov.ie/app/uploads/2024/10/91746-Department-of-Children-Equality-Autism-Guidelines-Booklet-v5-online-1.pdf>

National Council for Special Education. (2020). Using visuals to support communication.

<https://ncse.ie/wp-content/uploads/2021/06/Using-Visuals-to-Support-Communication.pdf>

National Autism Implementation Team. (2020). Guides to using home visual supports: A collection of practical “how to” guides for social partners. Third Space Scotland.

<https://www.thirdspace.scot/wp-content/uploads/2020/03/Home-Visual-Support-guides-for-Social-Partners.pdf>

The Autism Toolbox. (n.d.). Templates and resources (downloadable visuals and classroom templates). <https://www.autismtoolbox.co.uk/resources/templates-and-resources/>

Dunlop, A. W., et al. (2009). The Autism Toolbox (Part 2). Scottish Government / partners.

https://www.argyll-bute.gov.uk/sites/default/files/migrated_files/theautismtoolbox_tcm4-629041.pdf

South Gloucestershire Council. (2019). Autism toolkit for early years.

https://sites.southglos.gov.uk/safeguarding/wp-content/uploads/sites/221/2020/07/early_years_autism_toolkit.pdf

South Gloucestershire Council. (2019). Autism toolkit for primary schools.

https://sites.southglos.gov.uk/safeguarding/wp-content/uploads/sites/221/2020/07/autism_toolkit_primary_sg_version_07_03_19.pdf

CALL Scotland. (n.d.). AAC modules (free online professional learning modules).

<https://www.aacscotland.org.uk/modules/>

Sam, A., & AFIRM Team. (2024). Visual supports: EBP brief packet. Autism Focused Intervention Resources & Modules (AFIRM).

<https://afirm.fpg.unc.edu/wp-content/uploads/Visual-Supports-Brief-Packet.pdf>

Chapter 4: Cognitive Development

Cognitive development in preschool is the foundation for learning, independence, and participation in classroom life. For children with autism, cognitive skills may develop unevenly: some children show strong visual reasoning, pattern detection, or specific interests, while experiencing challenges with flexible thinking, working memory, generalization, and understanding sequences or categories in everyday situations. High-quality early support in cognitive skills—embedded in play and routines—can strengthen problem-solving, attention, early reasoning, and readiness for later academic learning.

This chapter provides practical, classroom-friendly, and engaging tools to support problem-solving, memory, sequencing, categorization, and early numeracy for children aged 3–6. The activities can be used in individual, small-group, or whole-group settings, and include small adaptations for children with emerging language or who use AAC.

Focus Areas

- **Problem-solving:** finding solutions, planning, trying different strategies, learning from errors
- **Memory:** working memory, recall, and attention to relevant information
- **Sequencing:** understanding order (first–next–last), routines, and cause–effect
- **Categorization:** sorting by features (shape, color, function), grouping, and concept-building
- **Early numeracy:** counting, quantity, number sense, simple comparisons, and patterning

Chapter Objectives

1. Encourage logical thinking and flexible problem-solving
2. Develop memory and attention skills through structured, playful practice
3. Support early mathematical and reasoning concepts in meaningful classroom routines

Evidence Base

The tools and activities in this chapter are informed by evidence-based practice reviews and current intervention research supporting cognitive learning for autistic children in early childhood settings:

- **Evidence-based practices in autism intervention** highlight the effectiveness of strategies that are directly relevant to cognitive development—such as visual supports, task analysis, prompting, reinforcement, modeling, naturalistic interventions, peer-mediated approaches, and structured teaching (Wong et al., 2015; Hume et al., 2021). These approaches support access to learning goals linked to problem-solving, sequencing, categorization, and early academic concepts when implemented systematically within early years education (Steinbrenner et al., 2020).
- **Structured, visual, and routine-based teaching** supports cognitive processing by reducing uncertainty and clarifying expectations (Steinbrenner et al., 2020). In practice, tools like visual sequences, consistent activity formats, and explicit rules help children focus on problem-solving and learning rather than interpreting what is required in the moment (Hume et al., 2021).
- **Research increasingly emphasizes that executive functions (EF)**—including working memory, attentional control, inhibition, planning, and cognitive flexibility—are important early learning foundations in autism during the preschool years (Christoforou et al., 2023).

Play-based and naturalistic developmental approaches, when they are structured and motivating, can support children’s learning across domains including play, communication, and cognition (Schreibman et al., 2015; Crank et al., 2021).

- **For early numeracy**, studies suggest that autistic children may show specific profiles of strengths and needs across early numerical skills and mathematics domains, and that foundational early numerical skills can help explain variability in later mathematics outcomes (Bejarano-Martín et al., 2024). This supports the use of hands-on, structured, and conceptually clear teaching with manipulatives, repeated practice, and generalization across everyday preschool routines (Bejarano-Martín et al., 2024; Steinbrenner et al., 2020).

Tools Included in This Chapter

Tool 1: “First–Next–Last” Sequencing & Routine Builder

Description: A flexible sequencing tool using photos or simple images to help children understand order, routines, and cause–effect. It can be used for daily classroom routines (arrival, handwashing, snack) and playful sequences (planting a seed, making a simple collage, building a tower).

Components:

- Sequencing strips (laminated): 3-step and 4-step options
- Routine picture cards (classroom routines + play routines)
- “First / Next / Then / Last” cue cards
- Optional: “What comes next?” question card; “Finished” card

Gather and Prepare Images

- Use real classroom photos (highly recommended) OR simple pictograms
- Laminate cards and add Velcro (optional) for easy rearranging
- Keep sequences in labeled envelopes or small boxes by routine (e.g., “Snack”, “Art”, “Bathroom”)

How to Use:

1. **Preview:** Show the full sequence and name each step briefly.
2. **Build:** Mix the cards and ask the child to place them in order (start with 3 steps).
3. **Do it:** Follow the sequence in real time (during the routine).
4. **Review:** After completion, reorder the cards again and retell what happened.
5. **Generalize:** Use the same sequence language (“first–next–last”) across the day.

Adaptations (3 levels):

- **Level 1 – High support:** Use only **2–3 steps**, provide a model, reduce visual clutter, offer forced-choice (“Is this first or last?”).
- **Level 2 – Medium support:** Use **3–4 steps**, fade prompts, add “what comes next?” questions.
- **Level 3 – Extension:** Ask the child to **create** a new sequence (e.g., “How do we get ready for the playground?”), add a “problem card” (missing item) and plan solutions.

Small sensory tips:

If transitions are hard, preview the routine earlier and keep the cards on a portable board that can travel to the sink/snack table.

Tool 2: Memory & Attention “Match and Find” Card Set

Description: A set of memory and matching games designed to build attention, recall, and visual discrimination. It includes standard memory pairs, “odd one out,” and “find the same” challenges.

Components:

- Memory pairs (30–40 pairs total, separated into themes): classroom objects, animals, actions, emotions, numbers (1–5)
- “Find it!” prompt cards (e.g., “Find something you can wear”)
- “Odd one out” sets (3 cards: two same-category + one different)
- Optional: a simple turn-taking visual (“My turn / Your turn”)

Gather and Prepare Materials:

- Choose clear, low-clutter images (consistent style)
- Use thicker card or laminate for durability
- Store by difficulty: *easy (6–8 pairs)*, *medium (10–12 pairs)*, *advanced (12–16 pairs)*

How to Use:

- **Memory Pairs (classic):** Start with 6 cards (3 pairs), increase gradually.
- **Find the Same:** Spread cards face-up; child finds matches quickly (attention training).
- **Odd One Out:** Child identifies which card “doesn’t belong” and explains with words/pointing/AAC.

Adaptations (3 levels):

- **Level 1 – High support:** Face-up matching, fewer pairs, allow pointing/eye gaze, use a visual “look–find–match” cue.
- **Level 2 – Medium support:** Mix face-up and face-down; use category hints (“Find another fruit”).
- **Level 3 – Extension:** Add a strategy rule (“Remember where you saw it”), or ask for a simple explanation (“Why is it different?”).

AAC / emerging language:

Offer response options: “same”, “different”, “again”, “help”, plus category icons (food / toys / animals).

Tool 3: Categorization & Concept Sorting Trays (“Sort It!”)

Description: A hands-on categorization tool using small objects or picture cards to build concepts (same/different, group membership, function). Great for table work, learning corners, and circle time sorting games.

Components:

- 3–5 sorting trays or bowls (colored or labeled)
- Sorting sets (objects or cards), e.g.:
 - **By feature:** color, size, shape
 - **By category:** food / animals / transport / clothes

- **By function:** “things we eat with”, “things we wear”, “things we play”

- “Sorting rule” cards (icon + word): *color, shape, size, function*
- Optional: “Category detective” badge (for motivation)

Gather and Prepare Materials:

- Use real objects when possible (more meaningful, supports generalization)
- Keep sets in small labeled containers
- Start with categories that are relevant to daily routines (snack, dressing, play)

How to Use:

1. Present a sorting rule (show the rule card).
2. Model sorting 2–3 items.
3. Child sorts the remaining items.
4. Review together: “These are all…” and celebrate success.
5. Switch the rule (same items, new sorting rule) to promote flexibility.

Adaptations (3 levels):

- Level 1 – High support: Use 2 trays only, reduce items, model heavily, provide hand-over-hand only if needed and fade quickly.
- Level 2 – Medium support: Use 3 trays, add “check your work” step, prompt with questions.
- Level 3 – Extension: Child chooses the sorting rule, or sorts by two features (e.g., red AND big), then explains using AAC/words.

Small sensory tips:

If tactile sensitivities exist, offer card-based sorting instead of real objects, or use smooth, odor-free toy replicas (e.g., plastic food, play utensils) to reduce sensory discomfort while keeping the concept meaningful. You can also allow gloves or tongs as a fun “tool.”

Tool 4: Early Numeracy Manipulatives & Mini-Games (“Count, Build, Compare”)

Description: A set of simple, structured numeracy activities using manipulatives and mini-games to support number sense, counting, quantity comparison, and early reasoning.

Components:

- Number cards 1–10 (focus 1–5 for most preschoolers; extend as appropriate)
- Counting manipulatives: blocks, buttons, pom-poms, natural objects (stones, pinecones)
- Quantity cards with dot patterns (dice-style 1–6)
- Comparison cards: **more / less / same**
- Simple pattern strips (AB, AAB, ABB) using objects/colors

Gather and Prepare Materials:

- Choose manipulatives that are safe, washable, and motivating
- Store in a small “math box” accessible during centers
- Use consistent language: *one more, one less, how many, show me*

How to Use:

- **Count & Match:** Match number card to the correct quantity of objects.

- **Build the Tower:** Build a tower with “3 blocks”, then “5 blocks”; compare.
- **Dot Match:** Match dot cards to number cards (visual number sense).
- **Pattern Maker:** Copy and continue patterns with objects.

Adaptations (3 levels):

- **Level 1 – High support:** Start with 1–3, use dot patterns, count together, use “hand to object” counting support.
- **Level 2 – Medium support:** Extend to 1–5, ask “how many?” without immediate modeling, introduce simple comparisons.
- **Level 3 – Extension:** Add story problems (“We have 2 apples, add 1 more”), introduce simple games with rules and turn-taking.

Links for extra printable resources (optional):

- NRICH Early Years maths tasks (free classroom ideas):
https://rich.maths.org/early-years-foundation-stage-activities?utm_source=chatgpt.com
- Teacher-made numeracy visuals can also be supported with symbol libraries such as ARASAAC (for icons) and similar platforms used across Europe:
https://beta.arasaac.org/?utm_source=chatgpt.com

Activity Plans

Activity 1: “Mini-Recipe Sequencing” (Snack or Art Routine)

Learning Objectives:

- Practice sequencing (first–next–last)
- Improve attention to steps and routine completion
- Support flexible problem-solving (what if something is missing?)

Targeted Learning Domains: Cognitive Development, Communication, Independence/Adaptive Skills

Setting: Small group (2–5) or individual; can also be modeled in whole-group circle time

Materials Required:

- Tool 1 sequencing cards (3–4 steps)
- Real materials for snack (e.g., banana + plate) OR simple art task (collage materials)
- “Finished” card (optional)

Step-by-Step Instructions:

1. Show the sequence cards and name each step (briefly).
2. Ask children to place cards in order (support as needed).
3. Do the routine together following each step.
4. After completing, reorder the cards and retell the routine (“First we..., next we..., last we...”).
5. Add a simple “problem moment” (e.g., spoon missing) and guide children to choose a solution.

Adaptations (3 levels):

- Level 1: Use 2–3 steps; offer two-card choice; reduce distractions; model each step.
- Level 2: Use 3–4 steps; pause before each step so the child points to the correct card.
- Level 3: Child creates the sequence, adds a “problem card,” and proposes solutions (verbal/AAC/gesture).

Expected Outcomes:

Children increase understanding of order in routines, show improved attention to steps, and begin to anticipate “what comes next.”

Activity 2: “Memory Treasure Hunt” (Find, Remember, Match)

Learning Objectives:

- Strengthen working memory and visual attention
- Practice matching and recall through movement-based play
- Support cooperative participation

Targeted Learning Domains: Cognitive Development, Social Interaction, Communication

Setting: Small group or whole class (works well as a learning station)

Materials Required:

- Tool 2 memory/matching cards (8–12 pairs depending on level)
- Small “treasure” tokens (stickers, stars, or classroom points)
- Turn-taking visual (optional)

Step-by-Step Instructions:

1. Place pairs of cards face-down on a table or carpet area.
2. Explain the rule with a visual: “Turn two cards. If same—keep. If not—turn back.”
3. Children take turns. Adults model “thinking out loud” (“I remember this was here”).
4. Add a cooperative goal: “Let’s find all pairs together.”
5. End with a short recap: “How did we remember? What helped?”

Adaptations (3 levels):

- **Level 1:** Start with face-up matching; fewer pairs; allow pointing or partner assistance.
- **Level 2:** Face-down with fewer pairs; provide “look carefully” cue; remind of locations.
- **Level 3:** Add category rules (e.g., find all “food” pairs first) or timed team challenges with low pressure.

Small sensory tips:

If sitting is difficult, place cards on the wall or across tables and let children walk to flip cards (movement + engagement).

Expected Outcomes:

Improved attention to detail, increased recall of locations, better turn-taking participation, and emerging strategy use.

Activity 3: “Build & Count Challenge” (Construction + Early Numeracy)

Learning Objectives:

- Build number sense (counting, quantity, comparison)
- Practice planning and problem-solving through construction
- Support flexible thinking (try a new strategy if it falls)

Targeted Learning Domains: Cognitive Development, Fine Motor, Social Interaction (if group)

Setting: Individual or small group (construction corner / table station)

Materials Required:

- Blocks or construction toys (e.g., LEGO Duplo-style), recycled materials (cups, boxes)
- Tool 4 number cards (1–5 or 1–10) and dot cards
- “More / Less / Same” cards

Step-by-Step Instructions:

1. Child chooses a number card (e.g., 4).
2. Build a structure with exactly that number of blocks/items.
3. Count together and check accuracy.
4. Add a comparison: “Build one that is more / less.”
5. Optional team version: one child draws the number, another builds, another checks.

Adaptations (3 levels):

- **Level 1:** Use 1–3; count with adult; use dot cards to support quantity; stable materials.
- **Level 2:** Use 1–5; ask child to count independently; introduce “same as” matching.
- **Level 3:** Add simple story challenges (“We need 2 more blocks”), or pattern-building (AB/ABB) combined with counting.

Expected Outcomes:

Children demonstrate improved counting accuracy, better understanding of quantity, and increased persistence in problem-solving during construction play.

Board Game: “Think & Link” Cooperative Cognitive Adventure

Description:

A simple, visually structured cooperative board game that combines **sequencing, categorization, memory, early numeracy, and problem-solving**. Children work as a team to reach the “Finish” by completing mini-challenges. The cooperative format reduces competitive stress and supports peer learning.

Game Components:

- Game board with a clear path and 4 color-coded spaces (one for each mini-skill)
- Spinner (recommended for predictability) or dice
- Challenge card sets (picture-based):
 - **Sequence Cards** (put 3 pictures in order)
 - **Category Cards** (sort or choose “which belongs”)
 - **Memory Cards** (“Remember where...” or quick match tasks)

- **Number Cards** (count, compare, match dots to numbers)
- Player pieces (characters) + “team tokens” (earned together)

How to Play:

1. Each child takes a turn spinning and moving.
2. When landing on a color space, draw a matching challenge card.
3. Children can respond verbally, by pointing, or using AAC.
4. The team earns a token for completing the challenge (helping is encouraged).
5. Game ends when all players reach the finish OR when the team collects a target number of tokens.

Design Principles:

- Minimal visual clutter; clear icons
- Predictable rules and turn-taking structure
- Multiple response modes accepted (speech, gesture, pointing, AAC)
- Built-in chances for adult scaffolding and peer support

Implementation Guidelines

1) Embed tools into everyday preschool routines: Use sequencing during arrival and transitions, categorization in tidy-up time, memory games in learning corners, and numeracy in snack distribution (“How many plates do we need?”).

2) Use clear structure + playful flexibility:

- Preview → do → review (short, consistent cycle)
- Provide choices (materials, themes) while keeping the task goal stable

3) Support different ability levels (3-tier approach):

- **Level 1 (High support):** fewer items/steps, strong visual cues, model first, reduce sensory load
- **Level 2 (Medium support):** guided practice, faded prompts, small-group peer support
- **Level 3 (Extension):** child-led rules, generalization across settings, add a “problem to solve”

4) Small sensory tips (as-needed):

- Reduce background noise during memory tasks; offer a quiet corner
- Provide a visual transition cue before changing activities
- Offer alternate materials (cards instead of objects, or tongs instead of hands)

5) Collaboration recommendations:

- Coordinate with classroom support staff and specialists for consistent prompting/fading
- Share key tools (sequence language, “more/less/same”) across staff to maintain consistency

6) Monitoring progress (simple classroom-friendly options):

- Quick observation notes: attention duration, prompt level needed, independent attempts
- Photo documentation of completed sequences or constructions

- Short checklists for each focus area (e.g., “sorts 2 categories,” “counts to 5 with 1:1 correspondence”)

References and Resources

Key References:

Apanasionok, M. M., Alallawi, B., Grindle, C. F., Hastings, R. P., Watkins, R. C., Nicholls, G., Maguire, L., & Staunton, D. (2021). *Teaching early numeracy to students with autism using a school staff delivery model. British Journal of Special Education, 48*(1), 90–111.

<https://doi.org/10.1111/1467-8578.12346>

Bejarano-Martín, Á., Casado-Vara, R., Magán-Maganto, M., Díez, E., Jenaro, C., Flores, N., Orrantia, J., & Canal-Bedia, R. (2024). *Early numerical skills and mathematical domains in autistic students in primary school. Frontiers in Psychiatry, 15*, 1509137. <https://doi.org/10.3389/fpsyt.2024.1509137>

Christoforou, M., Jones, E. J. H., White, P., & Charman, T. (2023). *Executive function profiles of preschool children with autism spectrum disorder and attention-deficit/hyperactivity disorder: A systematic review. JCPP Advances, 3*(1), e12123. <https://doi.org/10.1002/jcv2.12123>

Crank, J. E., Sandbank, M., Dunham, K., Crowley, S., Bottema-Beutel, K., Feldman, J., & Woynaroski, T. G. (2021). *Understanding the effects of naturalistic developmental behavioral interventions: A Project AIM meta-analysis. Autism Research, 14*(4), 817–834. <https://doi.org/10.1002/aur.2471>

Faja, S., Clarkson, T., Gilbert, R., Vaidyanathan, A., Greco, G., Rueda, M. R., Combata, L. M., & Driscoll, K. (2022). *A preliminary randomized, controlled trial of executive function training for children with autism spectrum disorder. Autism, 26*(2), 346–360. <https://doi.org/10.1177/13623613211014990>

Hume, K., Steinbrenner, J. R., Odom, S. L., Morin, K. L., Nowell, S. W., Tomaszewski, B., Szendrey, S., McIntyre, N. S., Yücesoy-Özkan, Ş., & Savage, M. N. (2021). *Evidence-based practices for children, youth, and young adults with autism: Third generation review. Journal of Autism and Developmental Disorders, 51*(11), 4013–4032. <https://doi.org/10.1007/s10803-020-04844-2>

Petrolo, E., Guerrera, S., Logrieco, M. G., Casula, L., Vicari, S., & Valeri, G. (2025). *The role of executive functions in preschool children with autism spectrum disorder: A short narrative review. Research in Developmental Disabilities, 157*, 104905. <https://doi.org/10.1016/j.ridd.2024.104905>

Schreibman, L., Dawson, G., Stahmer, A. C., Landa, R., Rogers, S. J., McGee, G. G., Kasari, C., Ingersoll, B., Kaiser, A. P., Bruinsma, Y., McNerney, E., Wetherby, A., & Halladay, A. (2015). *Naturalistic developmental behavioral interventions: Empirically validated treatments for autism spectrum disorder. Journal of Autism and Developmental Disorders, 45*(8), 2411–2428. <https://doi.org/10.1007/s10803-015-2407-8>

Steinbrenner, J. R., Hume, K., Odom, S. L., Morin, K. L., Nowell, S. W., Tomaszewski, B., Szendrey, S., McIntyre, N. S., Yücesoy-Özkan, Ş., & Savage, M. N. (2020). *Evidence-based practices for children, youth, and young adults with autism. The University of North Carolina at Chapel Hill, Frank Porter Graham Child Development Institute, National Clearinghouse on Autism Evidence and Practice.*

Wong, C., Odom, S. L., Hume, K. A., Cox, A. W., Fettig, A., Kucharczyk, S., Brock, M. E., Plavnick, J. B., Fleury, V. P., & Schultz, T. R. (2015). *Evidence-based practices for children, youth, and young adults*

with autism spectrum disorder: A comprehensive review. *Journal of Autism and Developmental Disorders*, 45(7), 1951–1966. <https://doi.org/10.1007/s10803-014-2351-z>

Additional practical resources:

- **NCAEP Evidence-Based Practices overview** (practice summaries and definitions): <https://ncaep.fpg.unc.edu/research-and-resources/>
- **AFIRM Modules** (step-by-step implementation guides with downloadable handouts): <https://afirm.fpg.unc.edu/afirm-modules/>
- **IRIS Center** (educator training on ASD evidence-based practices): <https://iris.peabody.vanderbilt.edu/module/asd2/cwrap/>
- **ClinicalTrials.gov** (search pre-set: autism + preschool + executive function + play-based): <https://clinicaltrials.gov/search?cond=Autism%20Spectrum%20Disorder&age=child&term=preschool%20executive%20function%20play>

Free Online Resources:

- **The National Autistic Society (UK) – Early years and education resources:** <https://www.autism.org.uk/advice-and-guidance/topics/education/early-years>
- **Autism Speaks – Tool Kits** (practical guides for home/school routines and learning): <https://www.autismspeaks.org/tool-kit>
- **CAST (Center for Applied Special Technology) – UDL Guidelines** (planning learning with multiple means of engagement/representation): <https://udlguidelines.cast.org/>
- **Understood – Executive Functioning resources** (practical strategies and examples for educators): <https://www.understood.org/en/topics/executive-functioning>
- **NRICH – Early Years Maths** (classroom tasks and reasoning activities): <https://rich.maths.org/early-years>
- **TOPMARKS – Early Years Maths Games** (interactive number, counting, and patterning games): <https://www.topmarks.co.uk/maths-games/3-5-years/counting>
- **Do2Learn – Educational resources** (visual supports, sequencing, and learning activities): <https://do2learn.com/>
- **ARASAAC (English) – Pictograms and materials for visual supports:**
Pictograms: <https://beta.arasaac.org/pictograms?locale=en>
Materials: <https://beta.arasaac.org/materials?locale=en>

Chapter 5: Language and Communication Development

Language and communication development is a critical area for preschool children with Autism Spectrum Disorder (ASD). Research indicates that 40-70% of children with ASD experience some level of speech and language delay, making targeted intervention essential during the early years. This chapter provides educators with practical, evidence-based tools and activities designed to support

vocabulary building, expressive and receptive language, and non-verbal communication in an inclusive preschool setting.

Focus Areas

- **Vocabulary Building:** Expanding functional vocabulary through meaningful, contextual learning experiences
- **Expressive Language:** Supporting children to communicate their needs, wants, and ideas
- **Receptive Language:** Enhancing understanding of spoken language, instructions, and questions
- **Non-verbal Communication:** Encouraging gestures, facial expressions, and alternative communication methods

Chapter Objectives

1. Expand functional vocabulary relevant to daily routines and interests
2. Support understanding and use of language in meaningful contexts
3. Encourage alternative and augmentative communication methods for children with limited verbal abilities
4. Foster communication initiation and social interaction through structured play
5. Build narrative and storytelling skills through creative activities

Evidence Base

The tools and activities in this chapter are informed by evidence-based practices recognized by the National Professional Development Center for Autism Spectrum Disorders and peer-reviewed research. Key approaches include:

- **Picture Exchange Communication System (PECS):** A behaviorally-based AAC system developed by Frost and Bondy (1994) that teaches functional, independent communication through picture exchange
- **Naturalistic Language Strategies:** Child-centered approaches that promote communication through environmental arrangement and responsive interactions
- **Visual Supports:** Use of graphic symbols, photographs, and visual schedules to support comprehension and expression
- **Music and Rhyme-Based Intervention:** Leveraging rhythm, melody, and repetition to enhance language learning

Tools Included in This Chapter

Tool 1: Picture-Based Flashcards and Communication Boards

Description: A comprehensive set of visual communication tools based on the Picture Exchange Communication System (PECS) principles, designed for preschool children with ASD to express basic needs, make requests, and engage in simple conversations.

Components:

- Core Vocabulary Cards (50 cards): Common nouns (food, toys, objects), verbs (eat, play, go), adjectives (big, small, happy), and social words (hello, please, thank you)
- Daily Routine Cards (20 cards): Activities such as circle time, snack, outdoor play, bathroom, wash hands
- Sentence Strips: Detachable strips for constructing simple sentences (I want + object)

Gather and Prepare Images

1. Source images from one of these options:
 - Free PECS-style image databases (Boardmaker, PictoSelector, ARASAAC)
 - Photographs of actual items from the classroom
 - Simple line drawings (hand-drawn or digital)
2. Ensure all images meet these criteria:
 - Single object on plain background (white or light gray)
 - No distracting details or patterns
 - Consistent style across all cards (all photos OR all illustrations)

How to Use:

Phase 1 (Physical Exchange): Child learns to pick up a picture and hand it to a communication partner in exchange for the desired item.

Phase 2 (Distance and Persistence): Child practices using cards across different settings and with different people.

Phase 3 (Picture Discrimination): Child selects from multiple pictures to make specific requests.

Phase 4 (Sentence Building): Child uses sentence strips to combine pictures (I want + cookie).



Source: <https://icoloring.ai/>

Tool 2: Storytelling Cards and Story Cubes

Description: Creative storytelling tools that help children develop narrative skills, vocabulary, and sequential thinking through imaginative play.

Components:

- Story Sequence Cards (3 sets of 15 cards): Simple 3-4 step visual narratives depicting everyday scenarios (getting dressed, making a snack, going to the park)
- Character Cards (20 cards): People and animals that can be story protagonists
- Setting Cards (15 cards): Locations such as home, school, playground, shop
- Action Cards (20 cards): Common verbs illustrated for story building
- Story Cubes (adapted version): 6 foam dice with simple, clear images suitable for preschoolers



Assembly Instructions:

1. **Create header:** Write "MY DAY" in large, clear letters at top
2. **Attach vertical Velcro strip:** 2" wide, running from 3" below header to 3" above bottom
3. **Create time markers:** Small cards with clock faces showing approximate times
4. **Add "Finished" pocket:** Envelope or folder at bottom for completed activities
5. **Attach daily routine cards:** In sequence from top to bottom each morning

Daily Use Protocol:

Morning Setup (Teacher/Caregiver):

1. Review day's schedule
2. Attach relevant cards in correct order
3. Add any special activities (field trip, visitor, etc.)
4. Remove cards for activities not happening today

Throughout the Day (With Child):

1. Point to current activity card when transitioning
2. Say activity name clearly: "Now it is SNACK TIME"
3. When complete, help child move card to "Finished" pocket
4. Point to next activity: "Next is OUTDOOR PLAY"
5. Use "First/Then" language: "First wash hands, then snack"

How to Use:

Basic Level: Use sequence cards to practice identifying what comes first, next, and last. Encourage children to name each picture.

Intermediate Level: Roll story cubes and create simple sentences about each image. Use the somebody-wanted-but-so-then framework.

Advanced Level: Combine character, setting, and action cards to create collaborative stories with peers.





Source: <https://www.canva.com/ai/dream-lab>

Tool 3: Role-Play Communication Games

Description: Interactive games that practice functional communication skills in simulated real-life scenarios, supporting both verbal and non-verbal communication.

Components:

- Shop Role-Play Kit: Play money, shopping list cards with pictures, food/item cards
- Restaurant Role-Play Kit: Picture menus, order pad, food item cards
- Doctor's Office Kit: Simple body part cards, expression cards for indicating pain/discomfort
- Visual Scripts: Step-by-step picture guides for each role-play scenario

Target Communication Skills:

Requesting: I want..., Can I have..., Please give me...

Responding to questions: What do you want? How many? What color?

Social exchanges: Hello, Thank you, Goodbye

Turn-taking in conversation

Tool 4: Music, Rhyme, and Rhythm-Based Language Activities

Description: A collection of songs, rhymes, and musical activities specifically selected and adapted to promote language development in children with ASD. Music provides structure, predictability, and multi-sensory engagement that particularly benefits children on the autism spectrum.

Components:

- Song Visual Cards (20 songs): Picture cards with lyrics broken into simple phrases for familiar songs
- Action Song Props: Simple instruments (shakers, bells), scarves, puppets for interactive songs
- Song Choice Board: Visual board for children to select preferred songs
- Rhythm Cards: Visual prompts for clapping patterns and movements

Recommended Songs for Language Development:

Song	Language Target	Adaptations
Wheels on the Bus	Verbs, sound words, body parts	Use visual cards for each verse; pause for fill-in
Old MacDonald	Animal names, sounds, requesting	Use animal picture cards; child chooses next animal
Head, Shoulders, Knees and Toes	Body part vocabulary, following directions	Slow tempo; visual body diagram
If You're Happy and You Know It	Emotions vocabulary, actions	Emotion face cards; movement visuals
Five Little Ducks	Counting, concepts (away, back)	Finger puppets; counting visuals

Activity Plans

Activity 1: "What's in the Bag?" Vocabulary Game

Learning Objectives:

- Expand vocabulary of common objects
- Practice labeling and requesting
- Support turn-taking in a group setting

Targeted Learning Domains: Language/Communication, Social, Cognitive

Materials Required:

- Opaque bag or mystery box
- 10-15 common objects (e.g., ball, car, cup, spoon, brush)
- Corresponding picture cards
- Visual turn-taking board

Step-by-Step Instructions:

1. Gather children in a circle. Use visual schedule to show the activity.
2. Model reaching into the bag, pulling out an object, and naming it: "I found a ball!"
3. Use the turn-taking board to indicate whose turn is next.
4. Each child reaches into the bag, retrieves an object, and attempts to name it.
5. Provide prompts as needed (show picture card, give first sound, model the word).
6. Celebrate each attempt with positive reinforcement.

Adaptations:

- *For non-verbal children:* Accept pointing to matching picture card or eye gaze
- *For children with sensory sensitivities:* Use a clear container instead of opaque bag
- *For advanced learners:* Ask "What is it?" and "What do we do with it?"

Expected Outcomes: Children will increase vocabulary of common objects; practice turn-taking; experience successful communication attempts.

Activity 2: "Build a Story" Collaborative Narrative Game

Learning Objectives:

- Develop sequential thinking and narrative structure
- Practice sentence construction
- Encourage creative expression and imagination

Targeted Learning Domains: Language/Communication, Cognitive, Social

Materials Required:

- Story cubes or picture cards (characters, settings, objects)
- Story map visual (Beginning - Middle - End)
- Sentence starter strips
- Large paper for drawing story

Step-by-Step Instructions:

6. Present the story map visual showing Beginning, Middle, End.
7. Roll story cubes or draw picture cards to determine story elements.
8. Use sentence starters: "Once upon a time there was a...", "Then...", "At the end..."
9. Support children to add one sentence each, building the story collaboratively.

10. Draw or place picture representations on the story map as you go.
11. Retell the complete story together at the end.

Adaptations:

- *For children with limited verbal abilities:* Allow pointing to pictures or using AAC device
- *For children who struggle with creativity:* Provide multiple choice options for each story element
- *For individual work:* Create personal story books using selected cards

Expected Outcomes: Children will understand basic story structure; increase sentence length; practice creative thinking within a structured framework.

Activity 3: "Restaurant" Role-Play Communication Game

Learning Objectives:

- Practice functional requesting vocabulary
- Develop conversational turn-taking
- Learn social scripts for common situations

Targeted Learning Domains: Language/Communication, Social, Cognitive

Materials Required:

- Picture menu with food items
- Order pad with picture/word options
- Play food items
- Visual script cards for waiter/customer
- Role identification props (apron, notepad)

Step-by-Step Instructions:

1. Set up a simple restaurant area with table and chairs.
2. Introduce the visual scripts: Waiter says "What would you like?" Customer says "I want [food], please."
3. Model the interaction with another adult or puppet first.
4. Assign roles (rotate frequently) and support children through the script.
5. Gradually fade prompts as children become familiar with the routine.
6. Add complexity: "Would you like something to drink?" "Here is your food. Enjoy!"

Adaptations:

- *For non-verbal children:* Use PECS-style picture ordering system
- *For anxious children:* Start with familiar peer as waiter; practice 1:1 before group
- *For advanced learners:* Add problem-solving scenarios ("We don't have pizza, would you like something else?")

Expected Outcomes: Children will learn functional requesting vocabulary; practice conversational exchanges; develop confidence in social scripts.

Board Game: "Talk & Walk" Communication Adventure

Description: A simple, visually clear board game designed to encourage communication while practicing various language skills. The game incorporates cooperative elements and multiple ways to participate.

Game Components:

- Game board with colorful path and picture spaces
- Picture spinner (instead of dice for clearer expectations)
- Category cards: Animals, Food, Actions, Objects, Colors
- Communication challenge cards (picture-based)
- Character game pieces
- Reward stickers/tokens

How to Play:

12. Each player spins the spinner to determine how many spaces to move.
13. Land on a colored space and draw a card from the matching category pile.
14. Complete the communication task shown on the card (name the picture, answer a question, make a request).
15. All players can earn tokens for helping others or cheering.
16. Game ends when all players reach the finish (cooperative) or celebrate individual milestones.

Communication Tasks Examples:

- **Naming:** "What is this?" (show picture)
- **Requesting:** "Ask a friend for the [object]"
- **Actions:** "Show us jumping" or "What is the person doing?"
- **Social:** "Say hello to the person next to you"
- **Questions:** "What color is the apple?"

Design Principles:

- Visually clear with minimal visual clutter
- Cooperative format to reduce competition stress
- Multiple response modes accepted (verbal, pointing, gestures, AAC)
- Predictable structure with clear turn-taking
- Frequent positive reinforcement opportunities

Implementation Guidelines

Creating a Language-Rich Environment:

- Label classroom areas and objects with both pictures and words
- Ensure communication tools are accessible at all times
- Create multiple opportunities for communication throughout the day
- Model language use consistently and naturally

Supporting Different Communication Levels:

Level	Characteristics	Support Strategies
Pre-verbal	Limited or no spoken words; may use gestures, sounds, or behavior to communicate	Focus on PECS training; accept all communication attempts; use high-interest items as motivation
Emerging verbal	Single words or word approximations; may echo	Expand single words to phrases; provide sentence starters; model correct forms without correcting

Phrase level	Uses 2-3 word combinations; may have limited social use of language	Introduce narrative activities; practice conversational exchanges; expand vocabulary categories
Sentence level	Speaks in sentences; may have difficulty with pragmatics or advanced vocabulary	Focus on storytelling; work on wh-questions; practice social scripts and conversation skills

Collaboration Recommendations:

- Coordinate with speech-language pathologists when available
- Share communication tools and strategies with families for home practice
- Document progress and share observations across team members
- Ensure consistency in communication approach across settings

References and Resources

Key References:

Bondy, A., & Frost, L. (2001). *The Picture Exchange Communication System*. *Behavior Modification*, 25(5), 725-744.

Charlop-Christy, M. H., Carpenter, M., Le, L., LeBlanc, L. A., & Kellet, K. (2002). *Using the Picture Exchange Communication System (PECS) with children with autism: Assessment of PECS acquisition, speech, social-communicative behavior, and problem behavior*. *Journal of Applied Behavior Analysis*, 35(3), 213-231.

Ganz, J. B., Davis, J. L., Lund, E. M., Goodwyn, F. D., & Simpson, R. L. (2012). *Meta-analysis of PECS with individuals with ASD: Investigation of targeted versus non-targeted outcomes, participant characteristics, and implementation phase*. *Research in Developmental Disabilities*, 33(2), 406-418.

Hampton, L. H., & Kaiser, A. P. (2016). *Intervention effects on spoken-language outcomes for children with autism: A systematic review and meta-analysis*. *Journal of Intellectual Disability Research*, 60(5), 444-463.

Paul, R., & Norbury, C. (2012). *Language Disorders from Infancy through Adolescence (4th ed.)*. Elsevier.

Simpson, K., & Keen, D. (2011). *Music interventions for children with autism: Narrative review of the literature*. *Journal of Autism and Developmental Disorders*, 41, 1507-1514.

Yoder, P. J., & Stone, W. L. (2006). *Randomized comparison of two communication interventions for preschoolers with autism spectrum disorders*. *Journal of Consulting and Clinical Psychology*, 74(3), 426-435.

Free Online Resources:

- **AFIRM Modules** (Evidence-based practice training): <https://afirm.fpg.unc.edu>
- **Indiana Resource Center for Autism**: <https://iidc.indiana.edu/irca>
- **The Autism Helper** (free resources and blog): <https://theautismhelper.com>
- **Songs for Teaching** (music resources): <https://www.songsforteaching.com/autisticchildren>
- **Raising Children Network Australia** (AAC guides): <https://raisingchildren.net.au/autism>



Co-funded by
the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.
Project Number: KA220-SCH-B925D639