



Crosswalk with Tennessee Early Learning Developmental Standards: Four-Year-Olds (TN-ELDS)

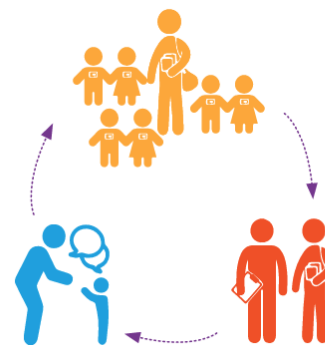
About LENA

LENA is a national nonprofit on a mission to transform children's futures through early talk technology and data-driven programs. LENA's early talk technology is the global standard for measuring early language environments, including conversational turns, back-and-forth vocal exchanges between adults and children. Visit LENA.org email info@LENA.org to learn more about how LENA Grow supports early childhood teachers' professional development.

How LENA Grow Supports Tennessee Early Learning Developmental Standards: Four-Year-Olds (TN-ELDS)

[LENA Grow](https://LENA.org) is an evidence-based professional development program that supports school readiness and complements the pre-kindergarten Tennessee Early Learning Developmental Standards (TN-ELDS) by equipping educators with tools to improve the classroom language environment (Tennessee Department of Education, 2018). Teachers participate in LENA Grow's five-week reflective feedback cycle. The cycle employs LENA's wearable device, data-rich feedback reports, and strengths-based coaching to measurably increase conversational turns, one of the most predictive metrics of child outcomes. Extensive peer-reviewed research has linked increased conversational turns to improvements in brain function (Romeo et al., 2018a), brain structure (Romeo et al., 2018b; Huber et al., 2023), executive functioning (Romeo et al., 2021), reading skills (Merz, 2018; Weiss et al., 2022), vocabulary acquisition (Duncan et al., 2022), emotional development (Gómez & Strasser, 2021), and even long-term cognitive outcomes such as IQ score (Gilkerson et al., 2018).

LENA Grow builds a reflective teaching practice that strengthens language development and fosters responsive relationships. Utilizing classroom and child-level data, teachers set intentional, measurable goals to increase interactive talk and support each child's developmental progress. These goals are aligned with TN-ELDS' domains and tailored to each child's needs, supporting differentiated instruction and developmental progress. Classrooms implementing LENA Grow have shown accelerated gains in TS GOLD® (Russo, 2025; Govoni, 2025a), DECA (LENA Foundation, 2022b), and kindergarten readiness assessments (Govoni, 2025b), reinforcing the program's impact on both academic and behavioral readiness for school. Classrooms implementing LENA Grow demonstrate measurable improvements in instructional quality, as reflected in higher CLASS® scores (LENA Foundation, 2023a; 2023b). Educators also report increased job satisfaction and self-efficacy (LENA Foundation, 2023c), reinforcing the program's dual impact on both child development and teacher effectiveness. Just as TN-ELDS serve teachers across a wide variety of settings, LENA Grow is implemented in a variety of early learning settings throughout the U.S., including child care centers, school districts, family child care homes, and Head Start programs.



1. A LENA Day. One day per week for five weeks, children wear the LENA device to measure their teachers' interactive talk.

2. Coaching and feedback. Teachers reflect on their talk data with strengths-based guidance from an instructional coach.

3. Practice days. Teachers work towards measurable improvement on their next LENA Day.

Core Elements of LENA Grow

These elements work together to provide a cohesive, empowering professional development experience for teachers that drives meaningful and lasting increases in interaction. This change leads to improved language environments, higher TS GOLD® and CLASS® scores, accelerated language development, and increased teacher job satisfaction and self-efficacy.

1. **Research base:** LENA Grow is rooted in over a decade of peer-reviewed research linking conversational turns to improved language, brain, and social-emotional development. More than 400 researchers and clinicians in over 40 countries have used LENA technology to study early language development (LENA Foundation, 2025).
2. **Early talk strategies:** LENA's early talk strategies, the 14 Talking Tips, are research-based techniques for increasing early talk and supporting healthy language development. Three research-based "active ingredients" power the 14 Talking Tips: creating joint attention, increasing conversational turn-taking, and then recasting (Warren, 2015). During each coaching session, teachers receive research-based materials that utilize these tips to increase interactive talk. Areas of focus include personal care, transitions, indoor play, outdoor play, mealtimes, shared reading, early math, early literacy, and songs & rhymes.
3. **LENA Room Report:** At each coaching session, teachers review the Room Report, which provides objective interaction data on overall room averages and child-specific averages. It reports the number of conversational turns in the classroom across the day. (See attachment A)
4. **LENA Child Report:** The Child Report provides a detailed view of each individual child's experience across the day, including hourly counts of interactions and child vocalizations that highlight further engagement opportunities for teachers. This report is also used to engage families in a conversation about their child's early talk experiences and language development.
5. **Impact Report:** The LENA Grow Impact Report describes LENA Grow, defines turns, explains the importance of interactive talk, and displays the program's outcome data. Outcomes reported include the total number of children, teachers, and classrooms served, teacher sentiments about the program and its impact, and the numerical change in Conversational Turns from beginning to end of the sequence, including its statistical significance.
6. **Weekly strengths-based coaching:** LENA Grow coaches provide 30-60 minutes of coaching each week. The Coach Guide supports them in bringing a strengths-based lens to the data analysis and goal setting conversation with teachers.
7. **Weekly goal setting, documentation, and practice:** At each coaching session, the teacher sets a specific and measurable goal for the coming week. The teacher then documents progress toward that goal as they practice integrating early talk strategies throughout the week, including the next LENA Day.
8. **Family Engagement:** A Family Talk handout is provided each week for teachers to send home. Teachers also spend one coaching session developing a family engagement strategy and making plans for how they will engage families in extending quality interactions into the home setting.

How LENA Grow Supports Tennessee Early Learning Developmental Standards: Four-Year-Olds (TN-ELDS)

LENA Grow supports the domains of the TN-ELDS by improving the early talk environment for children, focusing specifically on the quantity and quality of adult-child interaction. LENA Grow's detailed child-level data helps teachers individualize instruction.

Tennessee Early Learning Developmental Standards: Four-Year-Olds (TN-ELDS)		How LENA Grow Supports
Domain	Strand	
Approaches to Learning	Creativity	<p>LENA Grow supports the Approaches to Learning domain by fostering children's creativity, communication, and collaboration through responsive adult-child interactions, while equipping educators to promote self-regulation and critical thinking during everyday routines. Teachers receive LENA's 14 Talking Tips, which offer practical, research-based guidance for fostering joint attention, recasting, and responsive talk across daily routines. Areas of focus include mealtimes, transitions, and indoor and outdoor play. As children experience more responsive interactions, they build the mental flexibility and self-regulation needed for executive functioning and early academic success.</p> <p>Peer-reviewed research has linked early conversational experiences to brain structure (Romeo et al., 2018a), brain function (Romeo et al., 2018b), and executive functioning (Romeo et al., 2021), as well as long-term outcomes such as IQ and language skills in adolescence (Gilkerson et al., 2018), underscoring the critical role of language-rich environments in cognitive development.</p>
	Self-Regulation	
	Critical Thinking	
	Communication	
	Collaboration	
Social and Personal Competencies	Self-Awareness	<p>LENA Grow supports the Social and Personal Competencies domain by enhancing children's self-awareness, self-management, and relationship skills through intentional, responsive interactions that build trust, emotional security, and a sense of belonging. Child and classroom-level data help teachers foster each child's confidence and sense of self through consistent, individualized interactions. Teachers receive research-based resources that support recognizing and responding to children's emotional cues, with practical strategies for engaging young children during potentially stressful moments such as personal care routines and transitions. As children gain confidence and increase their vocalizations, they become more capable of expressing their feelings and needs.</p> <p>Peer-reviewed research has established a causal link between increased conversational turns and improved emotional development in the first three years of life (Gómez & Strasser, 2021). Additionally, participation in LENA Grow has been associated with improved DECA scores (LENA Foundation, 2022b) and TS GOLD® (Russo, 2025) scores, indicating enhanced resilience and emotional development.</p>
	Self-Management	
	Social Awareness	
	Relationship Skills	

Tennessee Early Learning Developmental Standards: Four-Year-Olds (TN-ELDS)		How LENA Grow Supports
Domain	Strand	
English Language Arts	Reading Standards	<p>LENA Grow supports English Language Arts by emphasizing oral language development, a foundational skill that underpins phonological awareness, fluency, and reading comprehension. LENA's 14 Talking Tips, rooted in the active ingredients of joint attention, conversational turn-taking, and recasting (Warren, 2015), provide teachers with practical, evidence-based strategies to foster rich language experiences. Teachers receive research-based resources that provide strategies, with a focus on shared reading, early literacy, and songs & rhymes. Supported by strength-based coaching, teachers review classroom and child-level data, set measurable goals, and practice new strategies, enhancing teachers' ability to scaffold children's literacy skills.</p> <p>Peer-reviewed research has linked increased conversational turns to stronger reading skills (Merz, 2018; Weiss et al., 2022) and higher vocabulary scores (Duncan et al., 2021; 2022). Children in LENA Grow classrooms have shown increases in TS GOLD® language and literacy scores (Dynia, 2022; Heilmann & Moyle, 2022; Govoni, 2025a; Russo, 2025), LENA Developmental Snapshot scores (LENA Foundation, 2022a), and improved performance on kindergarten readiness assessments (Govoni, 2025b).</p>
	Foundational Literacy Standards	
	Speaking and Listening Standards	
Mathematics	Counting and Cardinality	<p>LENA Grow supports mathematical thinking by helping teachers embed math talk into everyday routines and interactions. Through strengths-based coaching and data-informed goal setting, educators practice strategies that promote early math concepts such as counting, patterns, and spatial awareness. Research-based resources guide teachers in increasing interactive talk during indoor and outdoor play, mealtimes, and transitions, creating meaningful opportunities to build children's mathematical understanding throughout the day.</p>
	Operations and Algebraic Thinking	
	Number and Operations in Base Ten	
	Measurement and Data	
	Geometry	

Tennessee Early Learning Developmental Standards: Four-Year-Olds (TN-ELDS)		How LENA Grow Supports
Domain	Strand	
Creative Arts	Visual Arts	<p>LENA Grow supports the creative arts by encouraging rich, interactive talk that nurtures children's imagination and self-expression. Teachers receive practical strategies to spark creative thinking during songs and rhymes and indoor and outdoor play. These responsive interactions help children develop confidence in expressing ideas and engaging with the world in creative, meaningful ways.</p>
	Music	
	Creative Movement & Dance	
	Theatre/Dramatic Play	
	Cultural Differences	
Physical Development	Personal Health & Safety	<p>LENA Grow supports personal health and safety by helping teachers embed interactive talk into care routines, promoting children's independence and self-care skills. Teachers receive research-based strategies for engaging children during mealtimes, transitions, and personal care, turning routine moments into opportunities for connection and learning. Children who complete LENA Grow show significantly greater gains in self-help skills, as measured by LAP-BK outcomes (LENA Foundation, 2024).</p>

*The Domain of Social Science and Science and Writing is not explicitly addressed in the LENA Grow program.

How LENA's 14 Talking Tips Support the Language Development Domain

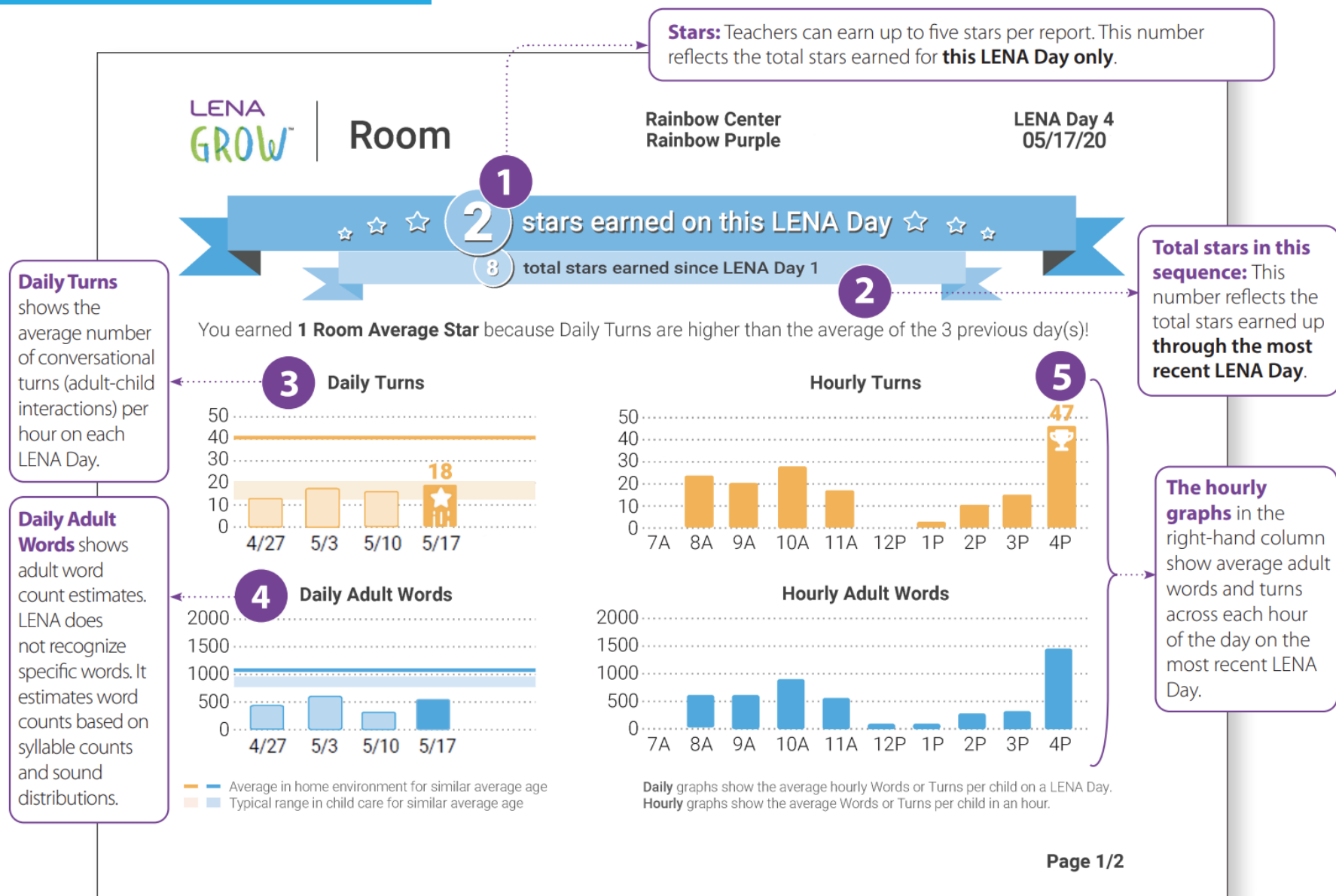
LENA's early talk strategies, the 14 Talking Tips, are research-based techniques for increasing early talk and supporting healthy language development. Three research-based "active ingredients" power the 14 Talking Tips: creating joint attention, increasing conversational turn-taking, and then recasting (Warren, 2015). This chart dives deeper into the English Language Arts domain to illustrate how LENA's 14 Talking Tips align with specific oral language goals.

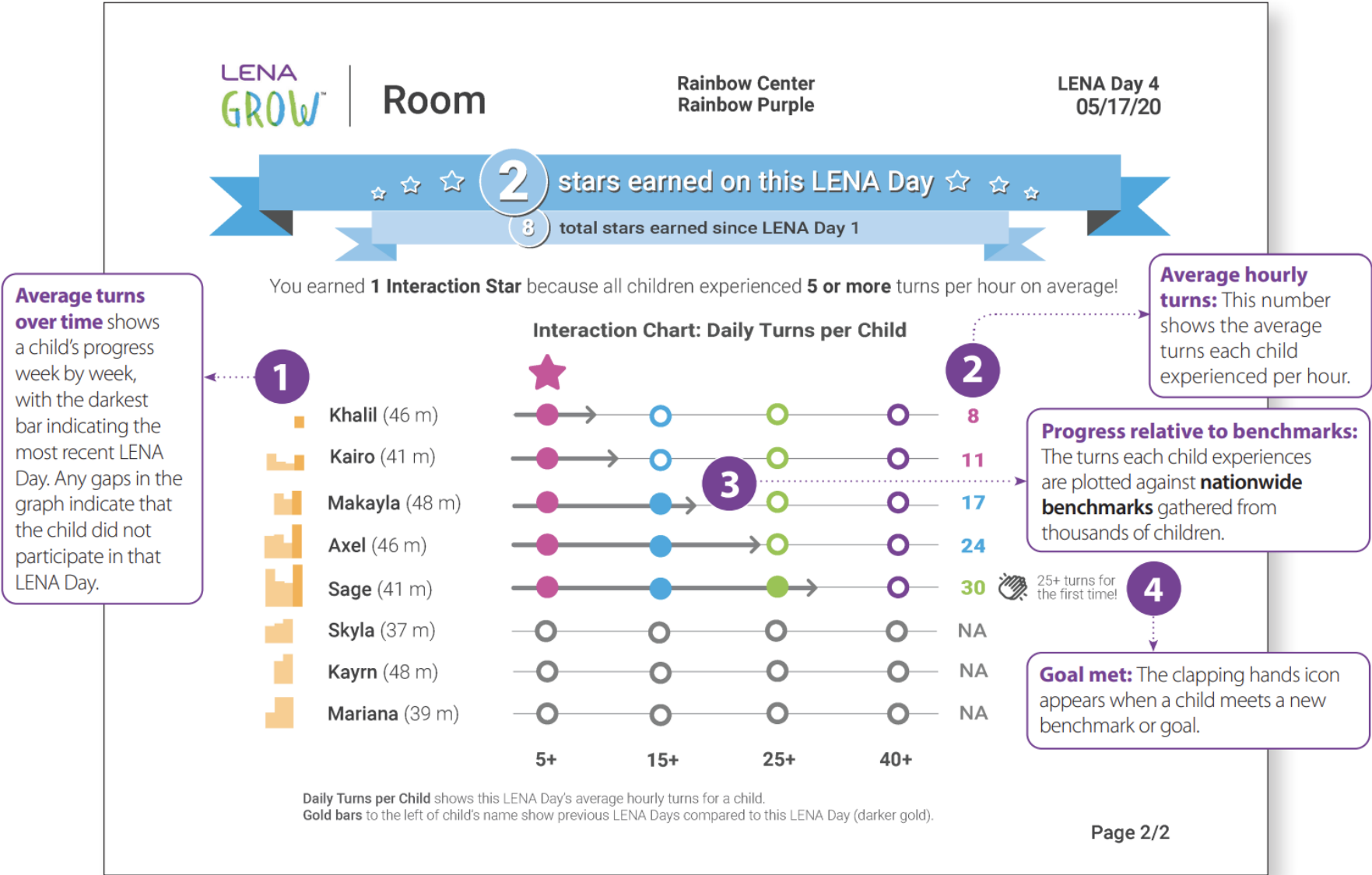
	14 Talking Tips													
	1: Talk about what you're doing and thinking.	2: Comment on what they're doing or looking at.	3: Name things that they're interested in.	4: Get down to their level: face to face.	5: Touch, hug, hold.	6: Tune in and respond to what they look at, do, and say.	7: Wait for their response.	8: Imitate them , and add words.	9: Make faces, use gestures.	10: Take turns — don't do all the talking.	11: Repeat and add to what they say and do.	12: Follow their lead , do what interests them.	13: Encourage them , be positive.	14: Be silly! Relax and have fun!
English Language Arts														
Foundational Literacy Standards: Phonological Awareness			✓			✓		✓			✓			✓
Foundational Literacy Standards: Vocabulary Acquisition		✓	✓					✓		✓	✓			
Speaking and Listening Standards: Comprehension and Collaboration			✓	✓			✓			✓		✓	✓	
Speaking and Listening Standards: Presentation of Knowledge and Ideas	✓	✓				✓		✓	✓		✓			

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Average Hourly Adult Words: The average adult words spoken near the child plotted against nationwide benchmarks gathered from thousands of children.

Average Hourly Turns: The average back-and-forth interactions between the child and adults week by week.

Average Hourly Child Vocalizations: The average number of vocalizations expressed by the child, indicating opportunities for adult engagement.

Hourly counts for adult words, conversational turns, and child vocalizations for the highlighted day.

