

ARSHA, 2020

READING
(READING BETWEEN THE LINES)

Connecting to Comprehension
for Readers with ASD

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Disclosures

- Financial – Owner of Dynamic Resources. Materials from my company are used in this presentation to demonstrate strategies because I own the copyright. (Other materials will be discussed, but cannot be shown due to copyright restrictions)
- NonFinancial –Perspective article and numerous presentations on this topic as well as others related to language and literacy.
– ASHA BOD/Immediate Past President

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Learning Outcomes

1. Compare and contrast the development of reading for individuals who are typically developing and those with ASD in order to identify students on your caseload who may be at risk for reading comprehension deficits
2. Identify appropriate methods to identify potential comprehension deficits for readers with ASD
3. Implement evidence-supported strategies for facilitating comprehension for readers with ASD

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Who are we talking about today?

- Persons with ASD who are readers (they can decode words)
- Specifically targeting those who learned to read with little or no instruction at an early age (hyperlexia)

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Jenny

• ‘But, she learned to read all by herself when she was only three! I know Jenny has autism, but when she started Kindergarten her teachers said she was an advanced reader. Even though she sometimes struggled socially, schoolwork was always easy for her because she read so well. But, now in fourth grade, she just can’t seem to keep up. She gets discouraged and frustrated—and we do, too! We just don’t know what happened.’

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What's going on here?

A 3D white humanoid figure stands with hands on hips, looking thoughtful. Three red question marks are floating around their head, symbolizing confusion or lack of understanding.

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BUT....

- There is really nothing "sudden" or "unexpected" about this downturn in academic achievement and the accompanying frustration.
- The behaviors that predicted this outcome were identifiable from Jenny's first interactions with text.

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In fact...

- Those behaviors deemed as positive and desirable in a student with high-functioning autism—early, spontaneous reading—can predict substantial challenges in reading comprehension.

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This “comprehension crash” around 4th grade was predictable – but NOT inevitable!



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Simple View of Reading

- Two components of reading
 - 1) Decoding
 - 2) Comprehension
- Both components necessary to be an effective reader

Gough and Colleagues, 1986, 1990

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Hyperlexia versus General Reading Comprehension Disorder



Learning Outcome 1
Compare and contrast the development of reading for individuals who are typically developing and those with ASD in order to identify students on your caseload who may be at risk for reading comprehension deficits

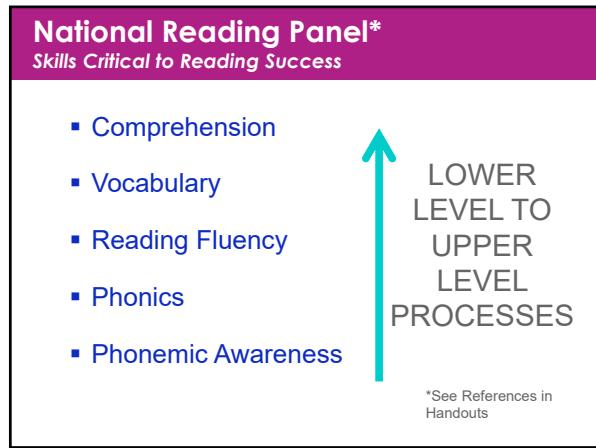
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General Reading Comprehension Disorder

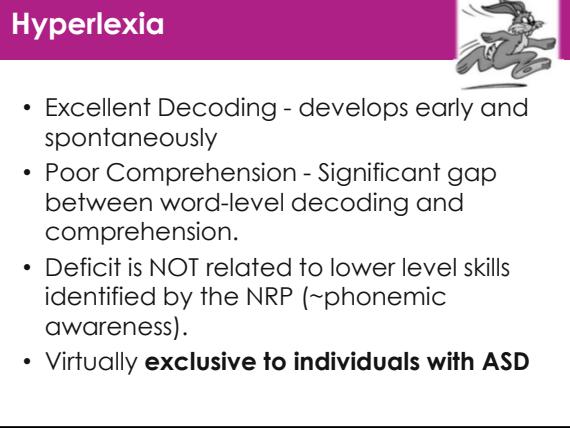
- Poor decoding
- Poor reading comprehension
- Likely includes deficits in all skills identified by the National Reading Panel as critical to reading success (and subsequently requires intervention in several/all of these areas).



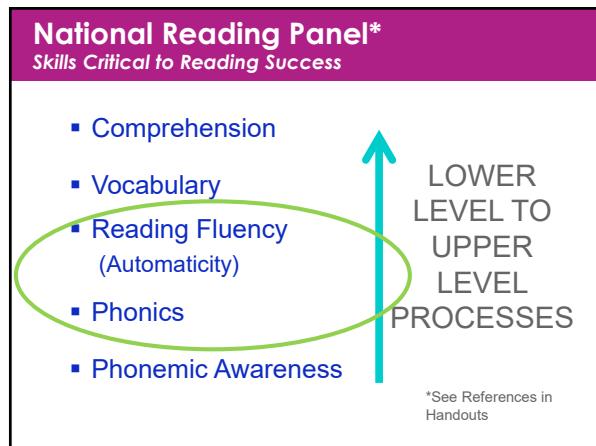
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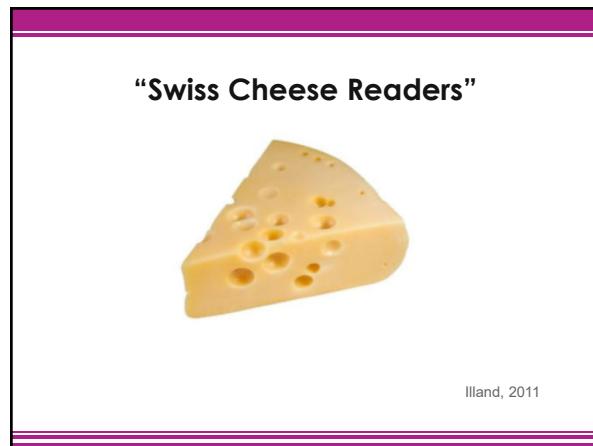
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- Because of their strong decoding skills, individuals with hyperlexia are typically regarded as “superstar readers” in the early years.
- But, the “holes” in their reading skills begin to affect comprehension around 4th grade.
- 4th grade is typically when independent comprehension of material becomes critical to academic success
- These students can “read,” but they don’t gain information from the text because they only have the decoding piece of reading.
- The reading shining stars “suddenly” develop a reading disability.

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- Negative Reading Spiral**
- Unfortunately, as students with ASD increasingly struggle to comprehend, anxiety and frustration levels rise while the motivation to read and participate in academics decreases (Montes & Halterman, 2006).
 - Further, as reading skills become weaker and weaker, the student disengages in reading, leading to a negative skill spiral affecting all areas of achievement.

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Effects of Developmental Differences of Individuals with ASD on Reading Comprehension

"Moving forward by looking back"

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Unique Profile of Learning

- The unique profile of learning that is characteristic of individuals with ASD has an enormous influence on the development of both oral and written language.
 1. Non-typical Socialization
 2. Restrictive and Repetitive Interests and Behaviors
 3. Narrow/Deep General Knowledge Base

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1. Socialization

- Limited/decreased quantity and quality of social conversations with adults (language is learned in the dyad)
- Lack of social play (where children learn to interact with others, learn new vocabulary, discover ideas, and learn about emotions of others)
- Difficulty forming cognitive schemas about beliefs or internal states (theory of mind)

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2. Restricted and Repetitive Interests and Behaviors

- Tend to have a much smaller range of interests despite exposure to a variety of experiences.
- Results in a "poverty of experience" (as if they had never been exposed)
- Limits general range of knowledge and the language and social relationships that go along with it
- Affects play, leisure, and academic activities

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Really Important Concept!

Reading as a Restrictive/Repetitive Interest

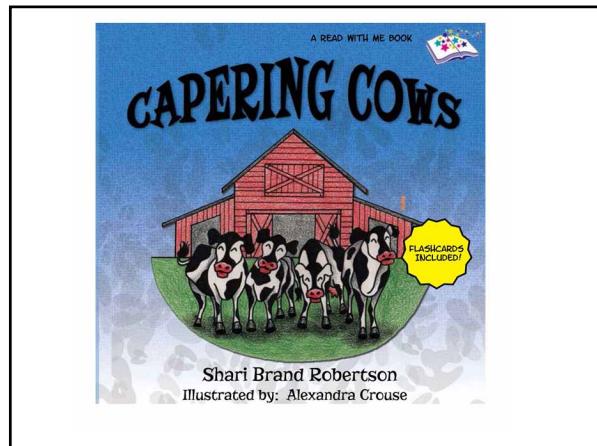


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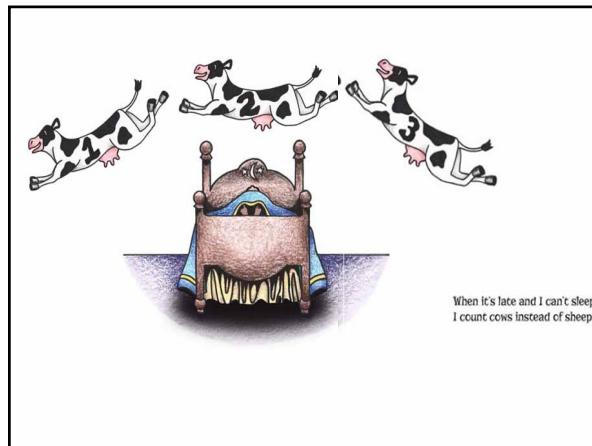
Typical Learners: Learning to read is a social experience (as is learning to talk)

- ✓ Joint attention
- ✓ Rich discussion about vocabulary/pictures/experiences
- ✓ Adults scaffolds the text to promote comprehension

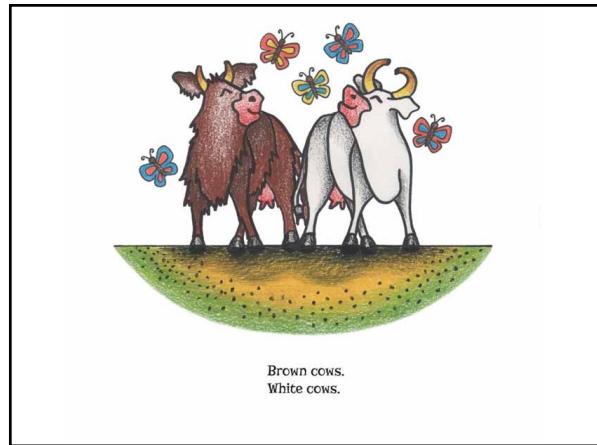
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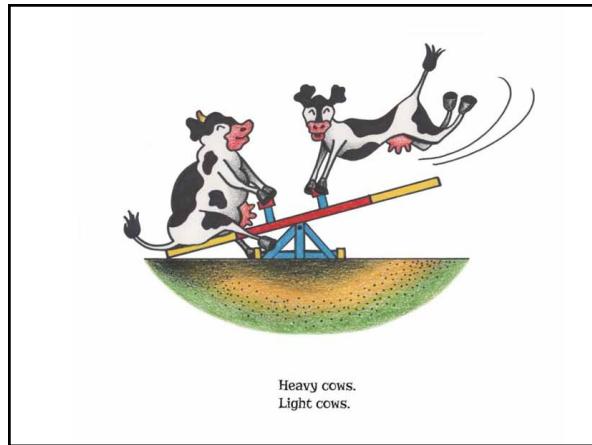
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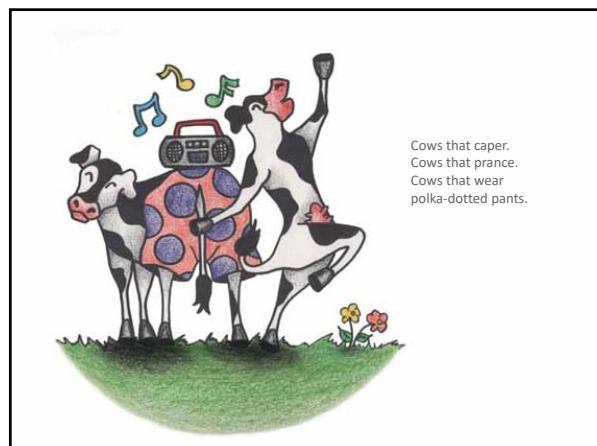
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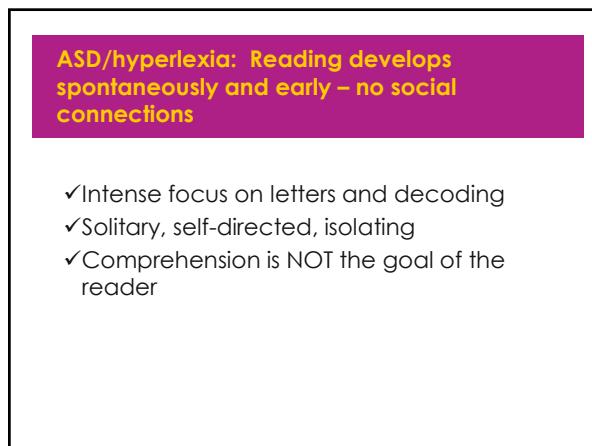
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When it's late and I
can't sleep.
I count cows
instead of sheep.

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Brown Cows.
White Cows.

32



Heavy Cows.
Light Cows.

33



Cows that caper.
Cows that dance.
Cows that wear
polka-dotted
pants

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Effects on Comprehension

- Inflexible thinking
- Limited/poor vocabulary (except around topics of interest)
 - Shades of Meaning
 - Multiple meaning words
 - Figurative language
- Literal interpretations of text (cannot "read between the lines")
- Lack of comprehension self-monitoring

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3. General Knowledge Base Restrictions

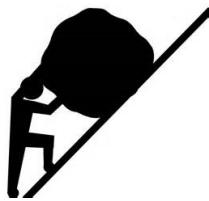
- Most people have a shallow and wide base of information across a range of topics (that is, we know a little about a lot of things)
- Individuals with ASD tend to have a narrow and deep base of information (know a lot about a few things).
- May have advanced, factual knowledge and vocabulary on a severely limited range of topics – but little or no knowledge about other topics.

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- Limits topics on which they can converse (social/vocabulary) which limits social conversation/experiences.
- Cannot draw connections between what is read (or heard) and what they know.
- Avoids or resists topics outside of interest area.
- Comprehension of both oral and written language is compromised.

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No wonder they struggle!



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Problem does NOT suddenly develop!

- The reading problem has been there all along – hiding in plain sight.
- Recognizable from first interactions with text, but is typically ignored/ not recognized.
- The very characteristics that parents and teachers often identify as “advanced” signal that the student is at risk for poor reading comprehension.
- .

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- Taken together, these developmental characteristics can have a debilitating effect on both oral and written language comprehension of readers with ASD.
- Assessment and intervention must be aimed at **unmasking** the problem and addressing the comprehension deficit as early as possible.
- Unfortunately, identification of the comprehension problems often are delayed due to a variety of factors.

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Factors that Mask Comprehension Difficulties/Delay Intervention



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“Blinded by Strengths”

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- ✓ Early “reading superstar” status
- ✓ Good visual memory
- ✓ Superficial comprehension/understanding of concrete facts – problems only become apparent as demands of reading increase
- ✓ Resistance from families or educators to investigate potential problems when the child appears to be/has a history of being so far ahead of his/her peers in reading.

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Learning Outcome 2
Identify appropriate methods to identify potential comprehension deficits for readers with ASD

Assessment Considerations

Hyperlexia itself should be considered a red flag for future comprehension difficulties.



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Early Identification is Critical

- Educators may see the relevant behaviors during the early grades (e.g., early acquisition of reading without explicit teaching, resistance to reciprocal reading interactions with others), they but may not understand the implications of these behaviors until the student falls substantially behind their peers.
- Given this, many argue that hyperlexia in young children is a red flag for future reading comprehension difficulties rather than a sign of advanced reading proficiency (e.g., Ostrolenk et al.)



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Initiating appropriate assessment and intervention as soon as the nontypical behaviors in the social and behavioral aspects of learning to read are observed is an important first step toward minimizing reading comprehension deficits.

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**Standardized tests
are NOT the answer**



Camerock 7715861

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Why not standardized tests?

- Individuals with ASD can achieve test scores within the average range by tapping into strengths that mask the underlying deficits.(e.g., tend to do well on isolated tasks)
- Formal/standardized tests are not particularly helpful in identifying appropriate intervention targets.

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- Goal is to unmask weaknesses to determine appropriate intervention.
- Informal assessment more appropriate for this purpose.

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Suggestions for Assessment

- ✓ Reading Prosody Check
- ✓ Contrastive Stress Questions
- ✓ Heteronym read-alouds
- ✓ Passage Retell
- ✓ Compare skills to state standards
- ✓ College placement testing

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Reading Fluency Check

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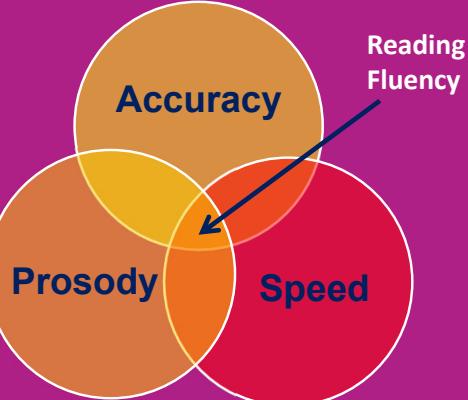
- Reading Fluency is made up of 3 key elements.

Reading text aloud:

- With a high degree of **accuracy**
- At an efficient **rate**
- With appropriate **prosody**



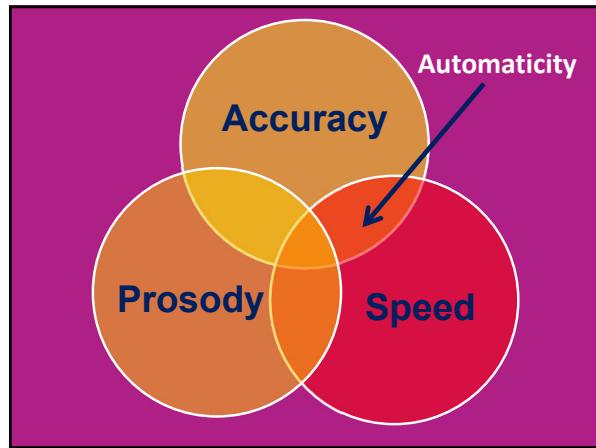
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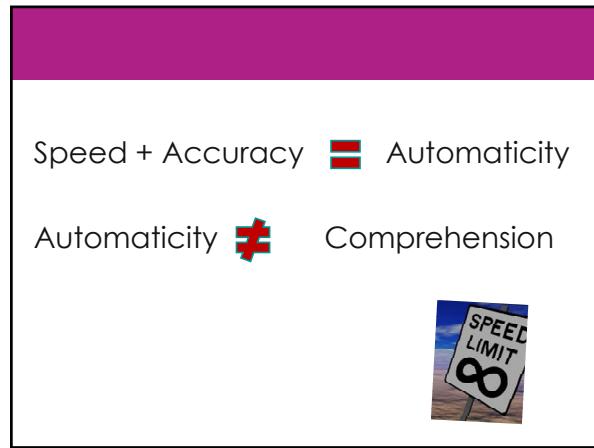
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**Reading Fluency is NOT the same as
Reading Automaticity**

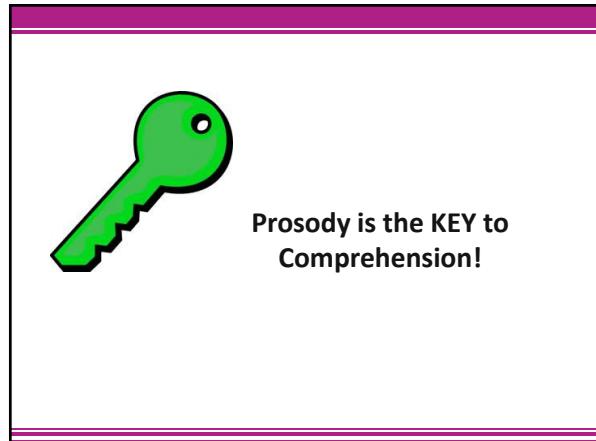
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- Automaticity is mostly a reflection of a students' ability to decode words (lower level processes).
- An illustration of a white sheep standing on a patch of green grass, holding a red book and reading it.
- Students who read aloud with appropriate **prosody** demonstrate that they are actively engaged with the meaning of the text (comprehension).

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Reading Prosody Check	
<ul style="list-style-type: none"> Ask students to read passages of text at grade level. Usually demonstrate excellent reading automaticity (speed X accuracy). This provides a rough estimate of decoding. However prosody, word stress, phrasing is often deficient or absent. These features of reading fluency provide information about comprehension. 	

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		National Assessment of Educational Progress
	Score	Description of Oral Reading Fluency
FLUENT	4	Reads primarily in larger, meaningful phrase groups. Although some regressions, repetitions, and deviations from the text may be present, these do not appear to detract from the overall structure of the story. Preservation of the author's syntax is consistent. Some or most of the story is read with expressive interpretation. Reads at an appropriate rate.
	3	Reads primarily in three- and four-word phrase groups. Some smaller groupings may be present. However, the majority of phrasing seems appropriate and preserves the syntax of the author. Little or no expressive interpretation is present. Reader attempts to read expressively and some of the story is read with expression. Generally reads at an appropriate rate.
NON-FLUENT	2	Reads primarily in two-word phrase groups with some three- and four-word groupings. Some word-by-word reading may be present. Word groupings may seem awkward and unrelated to the larger context of the sentence or passage. A small portion of the text is read with expressive interpretation. Reads significant sections of the text excessively slow or fast.
	1	Reads primarily word-by-word. Occasional two-word or three-word phrases may occur – but these are infrequent and/or they do not preserve meaningful syntax. Lacks expressive interpretation. Reads text excessively slow. <u>A score of 1 should also be given to a student who reads with excessive speed, ignoring punctuation and other phrase boundaries, and reads with little or no expression.</u>

<http://nces.ed.gov/nationsreportcard/studies/ors/scale.asp>

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Contrastive Stress

Can the student use stress to convey meaning?

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Grandpa is sleeping in the chair.

Child reads the sentence.

Then **reads the sentence again** in response to the following questions.

- Who is sleeping in the chair?
- Where is Grandpa sleeping?
- What is grandpa doing in the chair?

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- Students who are unable to demonstrate appropriate stress in response to questions most likely are not engaging with the meaning of the text effectively.
- Can use this same activity as an intervention strategy to help improve comprehension.

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For older students

- Consider using headlines from news sources.
- Student reads back headline in response to questions.



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"Florida to host youth baseball tournament over Memorial Day Weekend"

1. What state will host the youth baseball tournament?
2. On which weekend will the youth baseball tournament occur?
3. What kind of sports event will be hosted by Florida?
4. What is the age of the players that will compete in the tournament?

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Heteronym Read-Alouds

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- Blood vessels **contract** when it's cold outside.
- A good **sewer** must be able to make straight seams in a garment.
- Get the **lead** out! We are late to the party.
- I'm always excited to **present** at ASHA Schools Connect!

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Heteronym read-alouds

- Helps identify if the reader is merely decoding (word calling) or can understand the deeper meaning of the text.
- Readers who are unable to manage heteronyms (i.e., apply appropriate word stress) in context during read-alouds reveal underlying deficits in comprehension.

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Find a comprehensive list of English heteronyms at:

www.english-for-students.com

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Passage Retell

Passage Retell

- Provides authentic, comprehensive snapshot of comprehension.
- Ideally, assess using several passages of different genres (Fictional, expository text, etc.)
- Informal decisions made regarding the quality and characteristics of the retell.
- These observations are used to make decisions about intervention targets

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PASSAGE/STORY RETELL
✓ Parrotting of facts or paraphrasing?
✓ Random bits of information or story grammar?
✓ Consideration of the needs of the listener?
✓ Use of appropriate pronouns/anaphoric referencing?
✓ Muddle of ideas or main idea?
✓ Inclusion of bizarre/unrelated facts or references?
✓ Able to answer clarifying questions?

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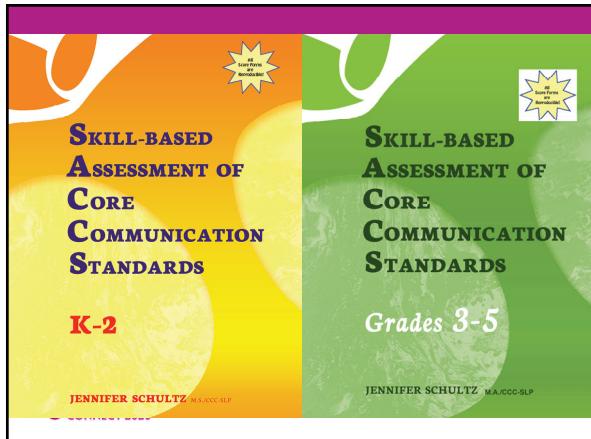
Assess Skills Related to Educational Standards

Progress Monitoring

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- An efficient and systematic way to identify what to target (and where to start) is to compare current skills to state standards.
- CCSS for many states
- Can use your state's standards as well.

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- Once you identify the skills that are difficult or deficient, you can then design your invention to address them.
- Alternately, you could choose to evaluate against classroom curriculum (but this is much more difficult and time consuming)

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College Placement Tests

<https://accuplacer.collegeboard.org/>

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<https://accuplacer.collegeboard.org>

- Free
- Used to determine level of skill in relation to what is expected at the college level – **NOT ADMISSION** test.
- Can be taken beginning in junior high.
- Use results to drive intervention – what does the individual need to improve to meet expectations of college?

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Reading Comprehension Informal Assessment	
Name	
Age	Grade
Current Concerns	
Reading History	
Reading Fluency/Prosody	
Contrastive Stress	
Heteronym Read-Aloud	
Passage Retell	
CSSS Summary (Weaknesses/Strengths)	

S. Robertson, 2020

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Learning Outcome 3
Implement evidence-supported strategies to facilitate comprehension for readers with ASD

Intervention Toolbox to Improve Comprehension for Readers with ASD



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Lack of Specific Research

- Paucity of research regarding comprehension that includes participants with ASD
- Chang (2007): 754 studies related to reading comprehension; only 11 included at least one participant with ASD
- Most studied single word comprehension

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Good Comprehenders	Individuals with Hyperlexia
<ul style="list-style-type: none"> Read with Purpose Monitor their own comprehension Consider alternate word meanings Use a variety of strategies to identify unknown word meanings to expand vocabulary. Understand nonliteral/figurative language (and/or use strategies to identify meanings) 	<ul style="list-style-type: none"> Only decode words – do not look for purpose. Do not self-monitor comprehension. Inflexible concrete vocabulary. Do not use strategies to expand vocabulary. Typically only understand single, literal words/phrases.

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Good Comprehenders	Individuals with Hyperlexia
<ul style="list-style-type: none"> Draw on a broad base of personal knowledge and experiences to enhance comprehension. Strong metalinguistic skills. Look for organizational schedule or impose their own to increase understanding. Infer what is not explicitly stated 	<ul style="list-style-type: none"> General knowledge base and personal lexicon are narrow and restricted. Lack metalinguistic skills beyond phonics (sounds/symbols). Do not consider organizational structure Do not consider subtle meanings; cannot "read between the lines."

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Potential Intervention Targets

Based on what we know about those with hyperlexia and what we know about facilitating reading comprehension

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- ✓ Make it Meta
- ✓ Build Intervention Around Books
- ✓ Social Aspects of Reading
- ✓ Vocabulary Development
- ✓ Purposeful Reading
- ✓ Morphology

85

IMPORTANT STEP



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- When a reader “teaches themselves to read” without adult interactions, they miss out on the conversations about words and meaning.
- Parents/caregivers actually model meta skills when reading with children.
- Think how that might look....

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- “The hungry caterpillar is eating all kinds of food!” (categorization)
- I wonder what that means? (metacognition/comprehension)
- Pig and wig! Those two words rhyme! (phonological awareness)
- See this animal? It’s a jaguar! It has big, broad paws and can run like the wind. (figurative language)

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Build Intervention Activities Around Books

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“START WITH A BOOK.”



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Build out intervention activity from a book when at all possible

- Need to help readers with ASD form new relationships with books.
- Encourage meaningful interactions with text
- Help readers with ASD experience books on multiple levels – not just as pages to decode

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Social Aspects of Reading

- The key issue is to consider the pattern of development that is typical of individuals with ASD:
 - ✓ Poor social relationships
 - ✓ Reading as a restrictive/repetitive behavior
 - ✓ Comprehension is not end goal

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So, our task is to fill in the missing pieces



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Targeting Social Reading

- Children who demonstrate hyperlexia mostly likely will need to learn how to read within the dyad.
- Adult scaffolds the interaction to highlight the **meaning** of what is being read.
- Help child link pictures to text, build schemata, broaden vocabulary, promote flexible thinking, demonstrate that comprehension is the goal of reading

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Early Intervention (Pre-K/early primary)

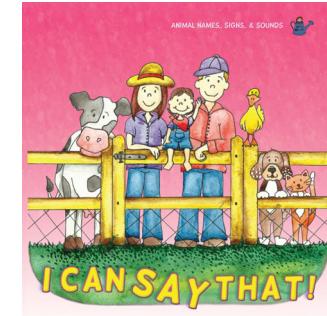
FACILITATE SOCIAL/INTERACTIVE READING

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Therapy/ Interactive Reading

- Interactive Reading provides opportunities for active participation in the reading process.
 - Echo Reading
 - Paired Reading
 - Friendly Questions (open ended questions)
 - Predicting
 - Wordless Books
 - Reader's Theatre
- *See resources in handouts.

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This is a **COW**.

99



A **COW** says **MOO**.

100



Can you say that too?

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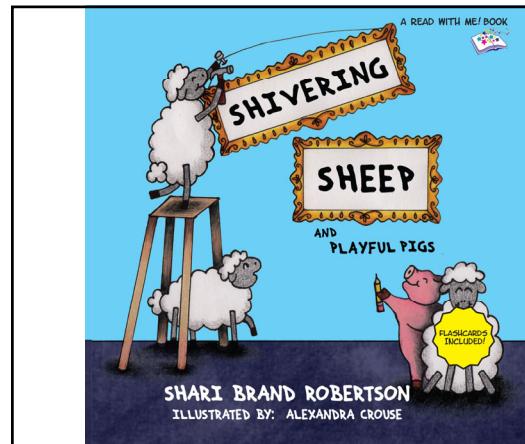


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Shivering Sheep

- Interactive Reading
 - Echo Reading
 - Paired Reading
 - Predicting
 - Critical Thinking/Friendly Questions
- Categorization
- Vocabulary
- Figurative Language

103



104

It was a dark and stormy night.
And I woke up with quite a fright.
I was too scared to go back to sleep.
So, I began to count some sheep.

Figurative language

105

Sheep that are boys and sheep that are girls.

Sheep with pigtails. Sheep with curls.

Echo Reading

Paired Reading

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Echo Reading

Sailor sheep.
Teacher sheep.

Doctor sheep.
Preacher sheep.

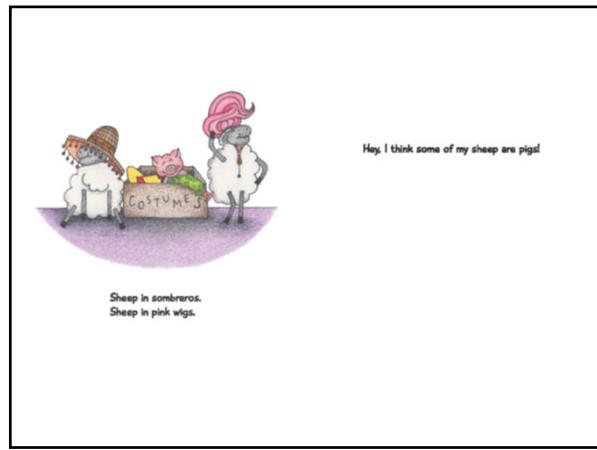
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Sheep that wear sandals and big, fluffy slippers.

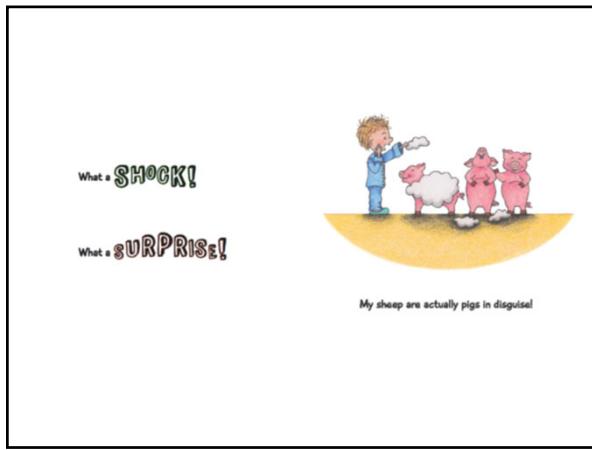
Sheep with buttons.
Sheep with zippers.

predicting

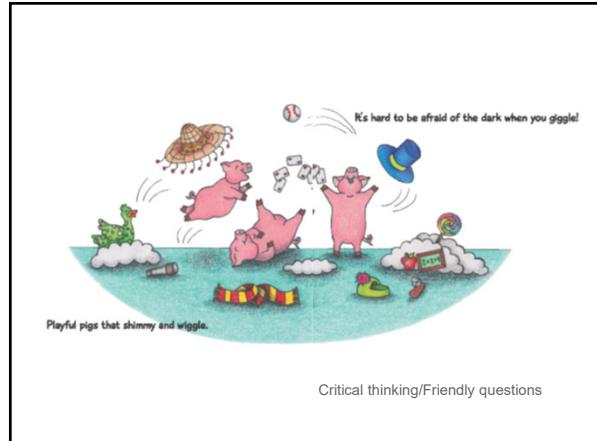
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Let's have fun with Shivering Sheep and Playful Pigs!

Look carefully!
Which sheep do you think might be pigs?
What do you see that gives you a clue?

(critical thinking) (Predicting) (categorization)

Consider doing this activity BEFORE you read the book to activate thinking and engagement.

112

Let's have fun with Shivering Sheep and Playful Pigs!

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What do you see that gives you a clue?

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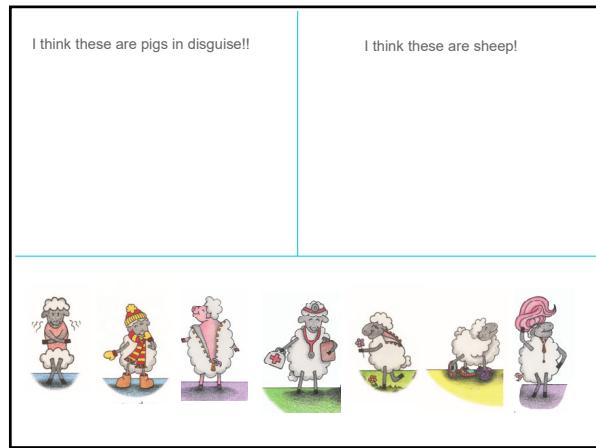
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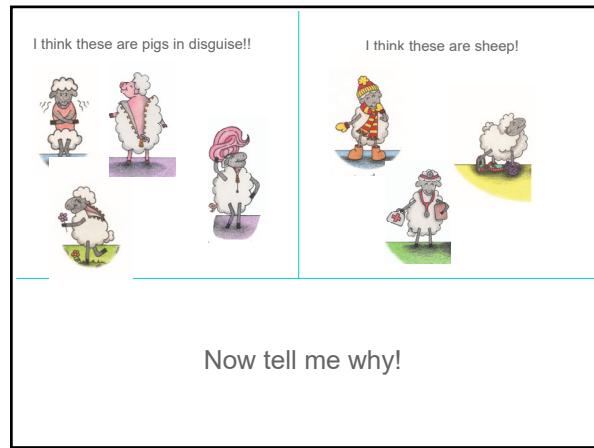
On-Line Version

- SHEEP SORT!
- Depending on platform –
- Create/use “flashcards” and sort
- Use simple PP drag and drop

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DYNAMIC RESOURCES Let's have fun with Shivering Sheep and Playful Pigs!

Look carefully!
Choose the sheep in each row that doesn't belong.
Tell why you chose that one!

(categorization)

Download these activities on Shivering Sheep product page. www.dynamic-resources.org Or pinterest @dynresources

www.dynamic-resources.net

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GET CRAFTY WITH SHIVERING SHEEP AND PLAYFUL PIGS!

Multiple experiences around theme of book to facilitate comprehension, social interaction, link concepts to cognitive schemata

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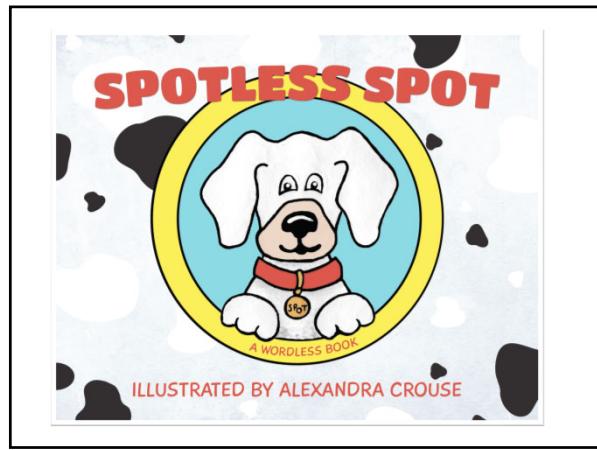
Wordless Books

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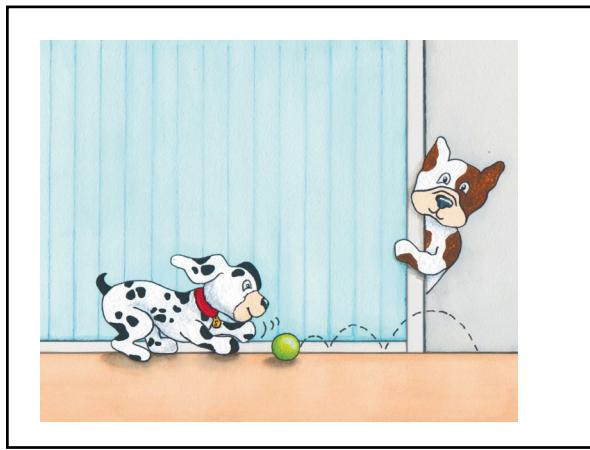
Wordless Books

- Removes the words altogether so the interaction focuses on the pictures and meaning of the story being conveyed.
- No letters means no independent “reading.”
- Child must interact with **meaning** conveyed by pictures rather than merely decoding symbols.

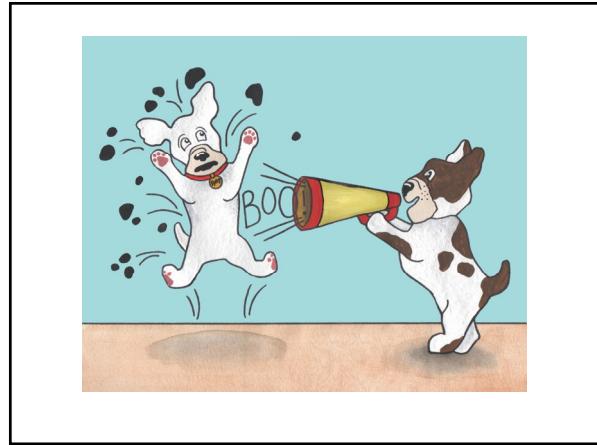
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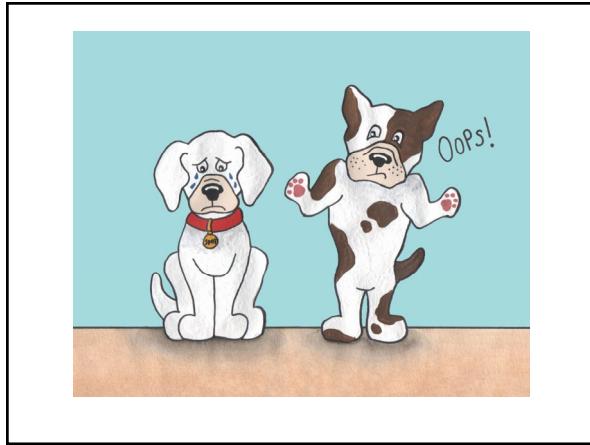
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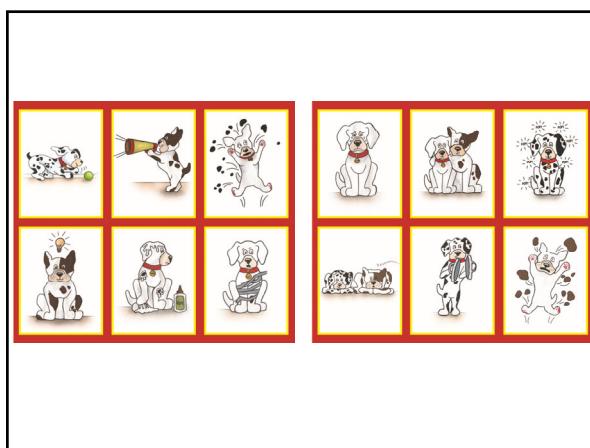


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This also targets

- Sequencing – which helps students better understand story grammar and facilitates comprehension

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This also targets

- Social –emotional connections (Theory of mind)

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**How do you think Spot feels?
How can you tell? Why might he feel like that?**



128

This also targets

- “reading between the lines” (creativity/imagination/flexibility/non-literal storytelling)

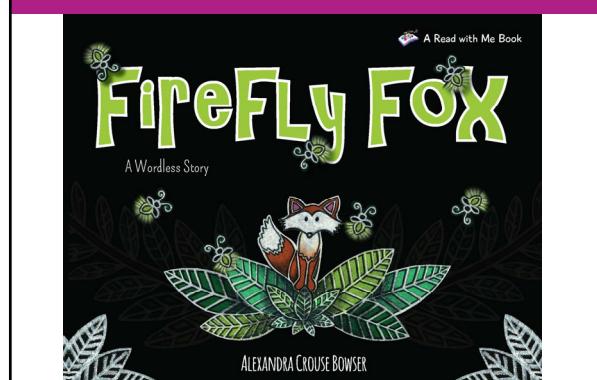
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Wordless book activity for older students

(demonstrated with book typically used with younger students – but must use materials with which I own the copyright.)

130

Pick a Wordless Book



131

You create a set of vocabulary words

- Identify potential vocabulary words from story.
- Could use nouns, verbs, adjectives, adverbs, conjunctions, compound words, double meaning words, and more (based on current skills of student)
- Write one word per sticky note.
- Student determines which page of the wordless book would be appropriate for that word (okay to put more than one word on a page)

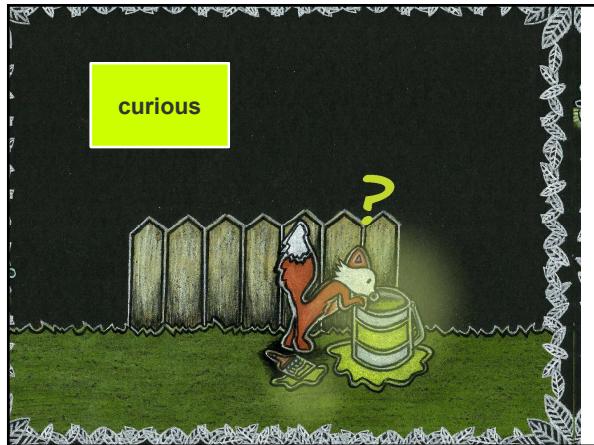
132

miserable	glowing	enormous	quickly
celebration	trot	curious	however
peaceful	scrub	suddenly	surprised
midnight	angry	sleepy	brightly

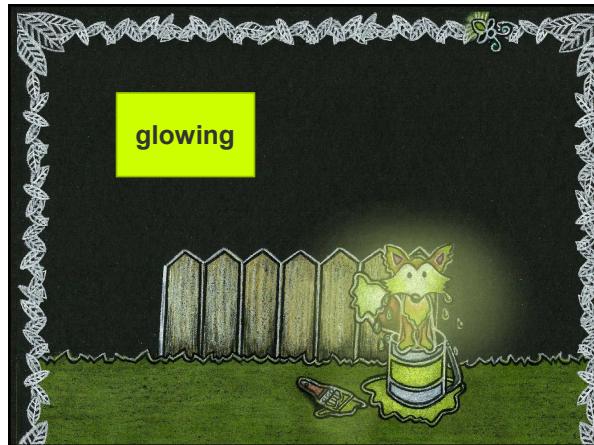
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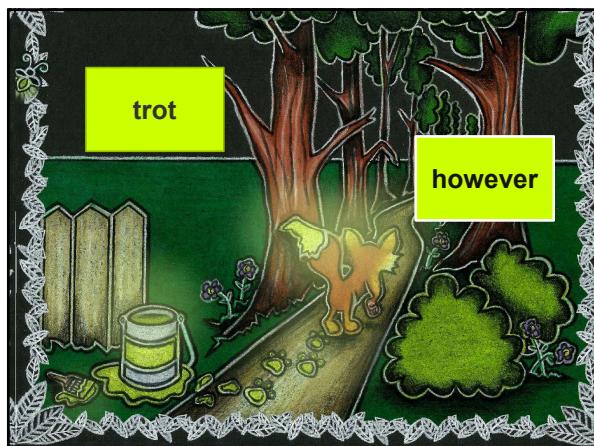
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135



136



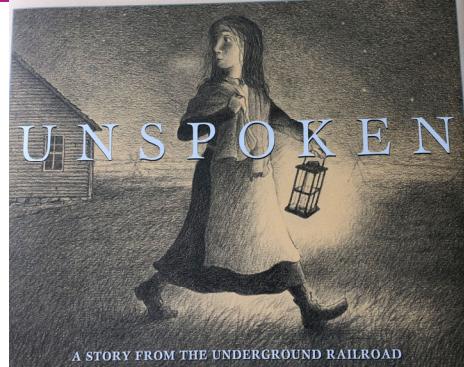
137

- Students then **retell** the story making sure they use the words they "stuck" to each page.
- This encourages a deeper understanding of the story, story grammar, sequencing, and overall comprehension.

138

Find a list of wordless books for both younger and older students in the handouts for this seminar

139



140

Vocabulary Development

141

Vocabulary

- Research has shown that vocabulary – not decoding – is the best predictor of comprehension (NRP, 2000)
- Characteristics of those with ASD predispose them to constrained vocabulary.

142

How NOT to teach vocabulary for readers with ASD



143

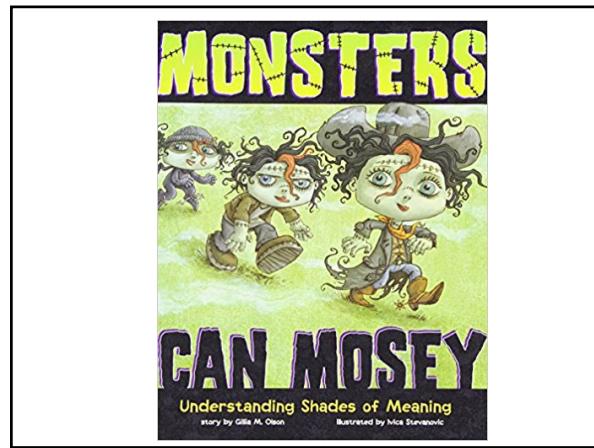
WORD	DICTIONARY DEFINITION	DESCRIPTION
Illusion	An erroneous perception of reality	Something that looks like one thing but is really something else or is not there at all

144

Developing Vocabulary
for Readers with ASD

Encourage active, deep processing involving multiple and varied experiences with words and word meanings.

145



146

Movement		Fear
Lurch	Slink	Scary
Walk	Glide	Unnerving
Strut	Float	Panic
Prance	Slither	Frighten
March	Squirm	Spooky
Trudge	Ooze	Creepy
Lumber	Prowl	Horrifying
Clomp	Stride	
Stomp	Mosey	
Tiptoe	Sneak	

147

Extensions for Monsters Can Mosey

148

Act it Out

- Act out all of the different ways a Monster can move
- "Slink," lumber," and "march" your way across the room. Try the "side lurch" like Uncle Rob (the zombie).
- For multiple students, have them pick which form of movement they want to demonstrate or do a compare and contrast, such as "prowl" versus "prance."

149

Metalinguistics + Vocab Development

- Task: Create a title for another (hypothetical) book following the pattern of the title from *Monsters Can Mosey*.
- Students brainstorm other ways that things can "move." (may want to start with a verb word wall)
- Combine with a "noun" that starts with same sound (phonemic awareness)

150

Monsters Can Mosey

Giraffes
Can Gyrate

Tigers
Can
Tiptoe

Ducklings
Can
Dawdle

Llamas
Can
Lollygag

Pandas
Can
Prance

Cats Can
Cartwheel

151

Word Walls

Synonyms
Shades of meaning
Flexible thinking

152



These are words that
describe how things
FEEL

soft	scratchy
smooth	hard
bumpy	squishy
rough	prickly

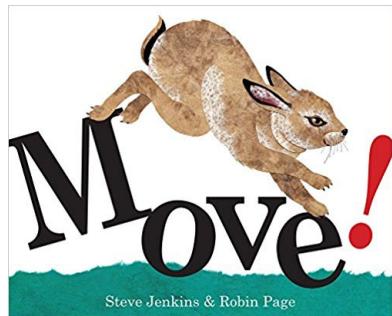
153

SIZE

Words to
describe size
SIZE

narrow	wide
huge	big
tiny	enormous
fat	thin
little	tall
short	

154



155

WHALE	dive	swim
ARMADILLO	swim	leap
CROCODILE	leap	slither
SNAKE	slither	climb
PRAYING MANTIS	climb	fly

156

Very Vivid Vocabulary

These are words that describe how things MOVE

quickly	slowly
lazily	carefully
gently	sneakily
happily	interestingly
excitedly	eagerly
wildly	loudly
quietly	silently
noiselessly	noisily
dangerously	effortlessly

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157

(ADVERBS OF MANNER)

WHALE	dives	swims
	eagerly	lazily
ARMADILLO	swims	leaps
	slowly	excitably
CROCODILE	leaps	slithers
	wildly	(silently)
SNAKE	slithers	climbs
	quickly	effortlessly
PRAYING MANTIS	climbs	flys
	slowly	carefully

158

Very Vivid Vocabulary

DINOSAUR

Start with a high-interest area

CHART IT!

Since dinosaurs died out millions of years ago, we do not know how they moved or what they sounded like. But, we can make some good guesses!

SIGHT	SOUND	TOUCH	Movement

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159

Very Vivid Vocabulary

BEAVER

Expand into non-familiar areas

CHART IT!

SIGHT	SMELL	TOUCH	COLOR	Movement

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Very Vivid Vocabulary

CAROUSEL

CHART IT!

SIGHT	TOUCH	COLOR	Sound	Movement

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160

Categorization

161

Categorization

- We know that students with ASD tend to be rigid in their thinking and narrow and deep in their knowledge base.
- Activities around can categorization provides organization and a scaffold for better understanding of how words work beyond decoding level.

162

- Any activity that helps the reader make connections between and among words based on characteristics can improve vocabulary knowledge and comprehension.
 - Grouping by characteristic (regrouping)
 - Word Sorts
 - Same/Different
 - Analogies
 - Tri-Bonds (Commonyms)

163

Strategy for Identifying Unknown Word Meanings

For Older Students

E. Illand (2011) Drawing a Blank

164

- Avoid traditional dictionary (has been shown to be ineffective in teaching vocabulary).
- Suggestion: Teach readers with ASD to use the thesaurus feature on word processing program (e.g. Microsoft Word).
- +Computer –based activities are typically motivating to individuals with ASD (predictable).

165

Example

- The backpack was ungainly because it was full of books.
- The girl was uncertain of the proper egress from the auditorium.
- My brother expressed his anger by stomping up the stairs.

166

- HIGHLIGHT WORDS whose meaning you do not understand
 - The backpack was **ungainly** because it was full of books.
 - The girl was uncertain of the proper **egress** from the auditorium.
 - My brother **expressed** his anger by stomping up the stairs.
- RIGHT CLICK AND SELECT “SYNONYMS”

167

- RE-READ THE TEXT WITH **KNOWN** WORD (word whose meaning you understand)

- The backpack was **heavy** because it was full of books.
- The girl was uncertain of the proper **way out** from the auditorium.
- My brother **uttered** his anger by stomping up the stairs.

- DECIDE IF IT MAKES SENSE

168

If not, select another word from the thesaurus

169

3. RE-READ THE TEXT WITH NEW WORD

- The backpack was **heavy** because it was full of books.
- The girl was uncertain of the proper **way out** from the auditorium.
- My brother **communicated** his anger by stomping up the stairs.

4. DECIDE IF IT MAKES SENSE

5. CHECK FOR UNDERSTANDING

170

Expansion

- If student does not know any of the synonyms, try using the antonym list as a clue to meaning of the unknown word.
- The thesaurus option provides additional information regarding the semantic category of the words and more choices.
- Can use this tool/strategy when writing sentences/text passages as well.

171

Electronic Dictionary

- Low-tech /high benefit/socially acceptable.
- As a stand alone does not offer the lure of "surfing" etc.
- May be allowed for assessment purposes.
- Can be used during oral presentations/lectures etc to look up unfamiliar words.
- Useful in community and vocational settings as well.

172



- Over 274,000 word dictionary with complete definitions and phonetic spell correction
- Thesaurus with over 500,000 synonyms and antonyms
- Confusables function distinguishes commonly confused words (their vs. there vs. they're)
- Classmates feature provides words in similar categories (i.e. tiger, cheetah)

173

Vocabulary and Social/Emotional Development through print for Older Students

Bonus Idea

174

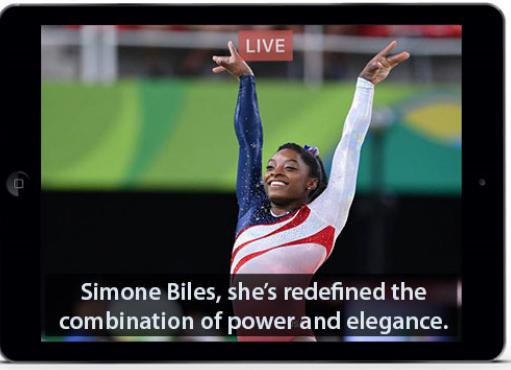
Closed Caption TV Feature

- Helps students link the words they see (and can decode) to the social aspects of communication.
- They can see the emotions and human interactions that accompany the words/vocabulary.
- Easy to implement for parents/families.

175

Often includes descriptions of the non-linguistic aspects/emotions/ descriptions etc.

176



177

Purposeful Reading

Reading Motives

1. Why the reader is reading the passage
 2. Why the author is writing the passage
- It's not just about knowing the words – it's about knowing what the author is trying to convey (and why that matters)

179

Knowing your purpose for reading has a BIG impact on comprehension

180

What's my Purpose?

181

Text

My Purpose for **Reading** This Selection

- Read for pleasure
- Read to learn new vocabulary
- Read to be able to discuss with others
- Read to learn a procedure
- Read to find answers
- Read for specific information
- Read to compare and contrast
- Read and reflect
- Read and summarize
- Other _____

182

The Author's Purpose for **Writing** this Selection

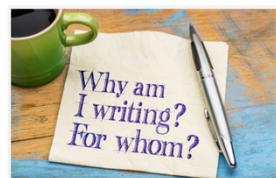
- Tell a Story
- Compare and Contrast
- Convince an audience
- Convey information
- Entertain
- Report and inform
- Share an experience
- Other _____

183

<https://www.eradingworksheets.com/free-reading-worksheets/authors-purpose-worksheets/>

Author's Purpose Worksheet – Read the descriptions of the texts and determine whether the author's purpose was to inform, persuade, or entertain. Students should explain their answers.
[Author's Purpose Worksheet 1 | RTF](#)
[Author's Purpose Worksheet 1 | PDF](#)
[Author's Purpose Worksheet 1 | Preview](#)
[Author's Purpose Worksheet 1 | Answers](#)
[Author's Purpose Worksheet 1 | Ereading Worksheet](#)

Author's Purpose Worksheet 2 – Additional practice with author's purpose. Students read descriptions of texts and identify the author's purpose based on clues.
[Author's Purpose Worksheet 2 | RTF](#)
[Author's Purpose Worksheet 2 | PDF](#)
[Author's Purpose Worksheet 2 | Preview](#)
[Author's Purpose Worksheet 2 | Answers](#)



184

Author's Purpose Activity 2

Directions: Read the descriptions of each item and determine the author's purpose (to entertain, persuade, or inform). Then, in a sentence or two, explain your answer.

1. A pamphlet urging people not to eat animals or use products made from animals or animal suffering because the author thinks that is cruel and unnecessary

Author's Purpose: _____

Explain Your Answer:
Write a sentence or two.

2. A book of over 1,000 knock-knock jokes

Author's Purpose: _____

Explain Your Answer:
Write a sentence or two.

3. A cook book containing recipes for making cakes, cookies, and other desserts

Author's Purpose: _____

Explain Your Answer:
Write a sentence or two.

4. The story of a young woman who, after the death of her grandfather, quit her job in the business world and returned home to help her aging grandmother

Author's Purpose: _____

Explain Your Answer:
Write a sentence or two.

5. A politician's speech about how homes should be provided to families who cannot afford them

185

Pre-Reading Activities

Provide scaffold and/or activate the cognitive system toward purposeful reading

186

Such as:

- Making predictions about the story or text
- Asking/Answering Scaffolded Questions
- Observing Organizational Structure of the text (Title, subtitles, footnotes, etc)

187

Predict-o-Gram

- This strategy encourages students to be purposeful and active readers.
- It also builds vocabulary and encourages students to be word conscious.

188

- First step: Teacher/SLP/adult creates a list of vocabulary words for a specific story/ book.
- Second Step: Students predict in what part of the story the words will occur.

189

Hank the Cowdog (John Erickson)

- Hank Ranch Pete the barn cat
- Safe Guard Searching
- Rustlers Yelling Reward
- Texas Found Lost

The setting	The characters	The problem	The action	The resolution

190

Hank the Cowdog (John Erickson)

- Hank Ranch Pete the barn cat
- Safe Guard Searching
- Rustlers Yelling Reward
- Texas Found Lost

The setting	The characters	The problem	The action	The resolution
Wh{dv	J xdugB	UxvwhuB	Orvw#	Irxqg
Udqfk	Shwh#	VdihB	VhdufkLqj	VdihB
	Kdqn		\hohjj	Uhz dug

191

Case Study Applications

192

Reading Comprehension Informal Assessment	
Name	CELIA
Age	7
Grade	2
Current Concerns	Beginning to show signs of frustration with comprehension tasks. Does not identify emotions of self and others.
Reading History	Early spontaneous decoding identified around age 3.5. Parents report very little reading together (social reading interactions).
Reading Fluency/Prosody	Speed and accuracy above grade level. Prosody mainly absent. Spontaneous decoding used is mostly inappropriate resulting in odd sounding oral reading (Echo Reading). (Social Reading Stress)
Contrastive Stress	Unable to complete this task. (Add to intervention plan)
Heteronym Read-Aloud	Unable to complete task
Passage Retell	Unable to complete task (Sequencing) (Wordless Books) (Story grammar)
CSSS Summary (Weaknesses/Strengths)	Phonemic awareness skills okay. Unable to segment syllables. Unable to categorize. Struggles with rhyming. Multiple Meaning Words - difficult. No apparent concept of synonyms/shades of meaning. Unable to identify word root/base.

S. Robertson, 2020

- Celia,
2nd grade

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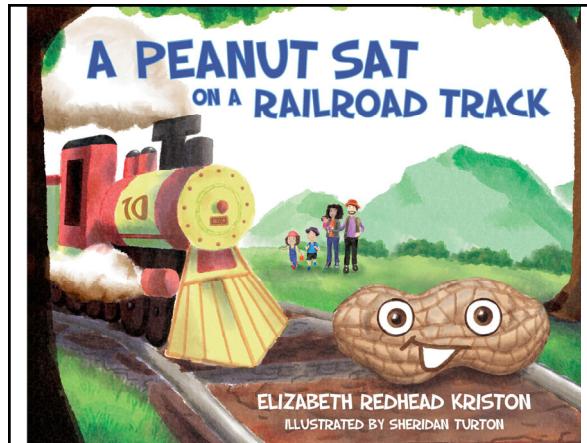
Celia

- Classic hyperlexia behaviors (early, spontaneous reading, advanced decoding skills, little or no reading in dyad)
- Extreme difficulty disassociating from letters
- Narrow and rigid vocabulary
- Reading prosody is poor
- Comprehension problem emerging
- TOM issues?

194

- Intervention Plan;
 - Build activities around books
 - Social/interactive reading experiences to model comprehension as end goal
 - Reduce dependence on text/shift focus from letters only
 - Expand Vocabulary
 - Develop metalinguistic skills
 - Transfer skills to real life

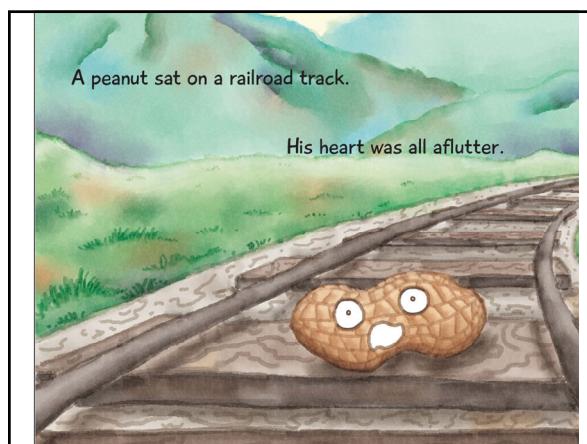
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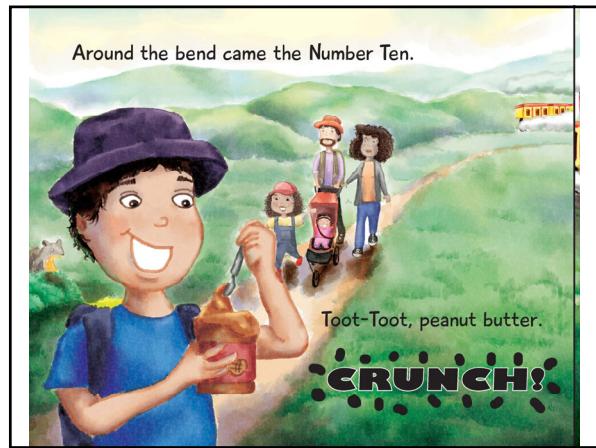
196

- ### Strategies to increase comprehension
- Interactive Reading (paired reading, predicting)
 - Prosody (Fluency)
 - Metalinguistic (syllabification, rhyming)
 - Theory of Mind (social/emotional)
 - Descriptive Vocabulary Development (categorization,
 - Using Reading in Real Life Tasks

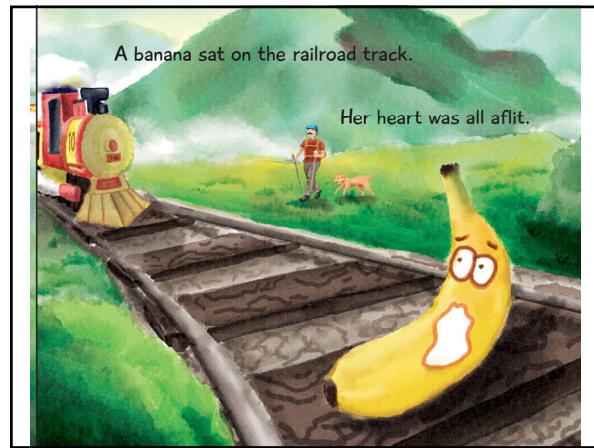
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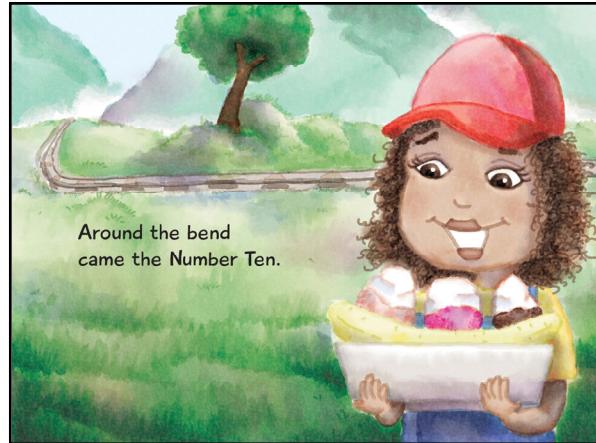
198



199



200



201



202

Recipes

Following Directions
Sequencing
Vocabulary
Real World Consequences

203

PEANUT BUTTER

Ingredients:

- 2 C. unsalted peanuts (can be roasted for richer flavor)
- Optional: honey/sugar, kosher salt, peanut oil, chopped peanuts

To Prepare:

CRUNCH the peanuts in a food processor by running it for 4-5 minutes or until a creamy consistency is achieved.

- You may need to add small amounts of oil if nuts are too dry.
- Mix in honey/sugar and a bit of salt if you desire.
- Chopped nuts can be stirred in for crunchy peanut butter.
- Refrigerate. (Unless you eat it all right away!)

204

BANANA SPLIT

Ingredients:

- 1 ripe banana
- 1 scoop each of vanilla, strawberry, and chocolate ice cream (may be replaced with 3 scoops Neopolitan ice cream)
- Fruit: your choice of strawberries, crushed pineapple, blackberries, raspberries, blueberries, and/or mandarin oranges
- Chocolate sauce, butterscotch sauce (your choice)
- Chopped peanuts
- Whipped cream and cherries

To Prepare:

SLICE banana lengthwise.

- Place one half on each side of an oblong bowl.
- Add the three scoops of ice cream in between the sliced bananas.
- Top each scoop with the toppings any way you would like.
- Add whipped cream and a cherry on top!

205

Verb Visualizer

Target skill: Broaden understanding of verbs

Directions: Act out the action word from the story.

206

Act it Out

- Slice
- Mash/smush
- Peel
- Munch/Crunch
- Quake
- Bubble



207

Cooking Verbs

- Brainstorm (word wall useful here) action words to describe cooking and serving snacks
- Share with parents to encourage use of verbs at home during cooking and serving activities.

208



- Beat
- Cover
- Flip
- Fold
- Pour
- Scoop
- Scrape
- Squeeze
- Stir
- Turn

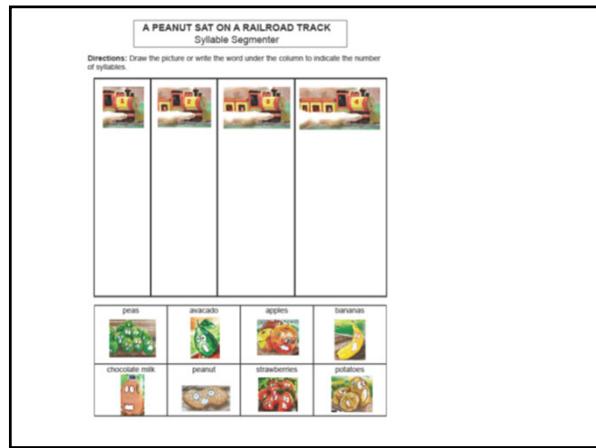
209

Syllable Segmenter

Disengaging from focusing on letters only

- Skill: Identify the number of syllables in each word.
- Directions: Drag the picture under the correct column to indicate the number of syllables in the word.

210

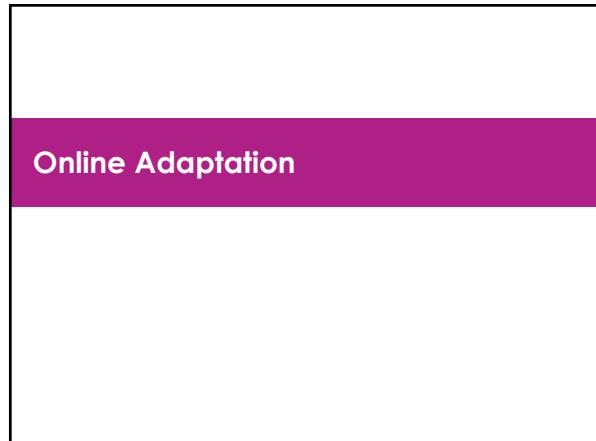


211

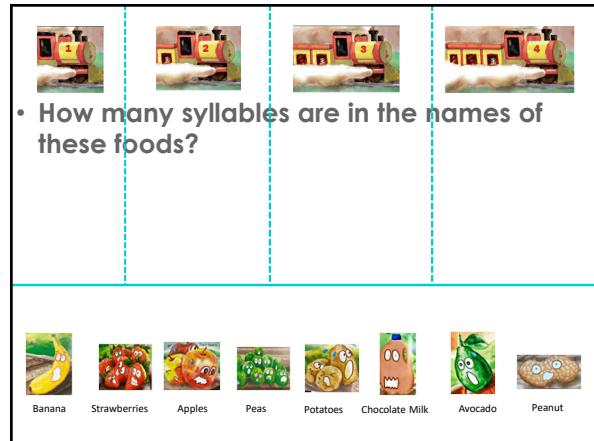
Additional words for syllable segmentation

- Railroad
- Track
- Number
- Louder
- Apple sauce
- Guacamole
- Jug
- Soup
- Yummy

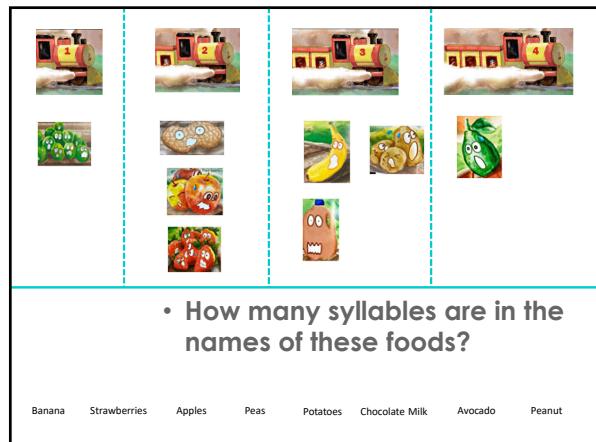
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213



214



215

Same/Different

Broaden Vocabulary/focus on meaning
Enhance metalinguistics (words are more than letters)

216

I am comparing	They are the same because they both _____.	They are different because (a) is/has/does _____, but (b) is/has/does _____.
		
and		

217

Sample Object Pairs		
I am comparing	They are the same because	They are different because (a), but (b).
Peanut and pea	They both have a shell.	A peanut is brown, but a pea is green. A peanut grows underground, but a pea grows above the ground.
Apple and potato	They are both white inside.	An apple grows on a tree, but a potato grows under the ground. An apple is a fruit, but a potato is a vegetable.
Peanut and potato	They are both brown on the outside. They both grow under the ground.	A peanut is a nut, but a potato is a vegetable. A peanut is smaller than a nickel, but a potato is bigger than a computer mouse.
Avocado and pea	They are both green. They are both vegetables.	An avocado is oval, but a pea is round. An avocado has a pit, but a pea has no pit or seed.
Strawberry and apple	They are both fruits.	A strawberry has its seeds on the outside, but an apple has its seeds on the inside.

218

Home Extension/Teletherapy

- Have your child grab a set of 3 - 5 objects from a group or a place in your home.
- Select two from the object set and discuss how they are the same and how they are different using the Comparison graphic organizer.

219

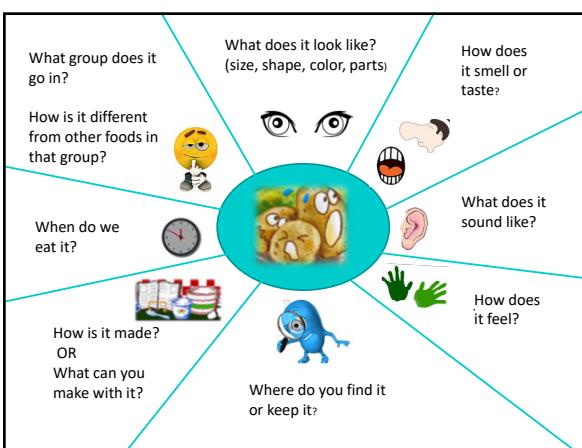
Categorizing and Comparing at Home (telepractice expansion)				
Toys	Clothing	Toy Vehicles	Office Items	Bathroom Items
Wood block	T-shirt	Car	Pen	Shampoo
Super hero	Socks	Motorcycle	Sticky notes	Soap
Barbie	Tennis shoes	Airplane	Pencil	Lotion
Lego	Jeans	Semi truck	Mouse	Comb
Farm animal	Jacket	Tractor	Calendar	Toothbrush

220

Describing

Broaden vocabulary
Metalinguistic engagement with words

221



222

Expansion

- Take turns describing your favorite foods with the graphic organizer. Can your communication partner guess your food?
- Use the Describing Foods graphic organizer at your next meal or snack to describe what you are eating.
- Select two foods you have at home. Use what you know from their descriptions to tell one way they are similar and one way they are different.
- Use the Describing Objects graphic organizer to describe other objects at home.

223

Social/Emotional

224

What does worry look like?

- Look at the foods sitting on the railroad tracks. Study their eyes and mouths. What clues do you see that tell you they are worried about the train?



225

- Eyebrows – raised
- Eyes – open wide, squeezed shut tightly, tears
- Mouth – open wide, clenched shut, teeth showing
- Body – shaking
- Other – sweating



226

What does worry feel like?

- What do you look like when you are worried?
- Make your “worried” face and take a picture.



Presenter media

227

- Put your hand on your chest. Feel your heartbeat.
 - Is it fast or slow?
 - Is it small or large?
- When you are worried, your heartbeat changes.
 - It beats faster.
 - It beats harder.

228

When you are worried, your heartbeat changes!

- If your heart...
 - ...is aflutter,
 - ...is aflutter,
 - ...beats louder and louder,
 - ...goes toss, toss, toss,
 - ...is roly-poly,
 - ...is aquake,
 - ...goes bam-bam-bam,
 - ...goes loopy-loop...
- ...you are probably frightened, scared, nervous, afraid, or worried!

229

- Tell or write about something that you worry about.



Presenter media

230

Jason

231

Reading Comprehension Informal Assessment

Name	Jason	Grade	5
Age	10	Current Concerns	Generally experiences extreme frustration. Acting out. Cannot apply information from reading to classwork or discussions. Resists reading on anything but preferred topics.
Reading History	Class hyperlexia profile. Early spontaneous reading - self taught. Considered a high-level reader in K-1. Preferred books on specific topics (trains, dinosaurs, vehicles, animals)		
Reading Fluency/Prosody	Some intonation present. Some odd phrasing and stress.		
Contrastive Stress	Required a good deal of scaffolding/modelling to complete task. Unable to use appropriate stress independently.		
Heteronym Read-Aloud	8/10 sentences read with incorrect stress.		
Passage Retell	Parrots facts/no story grammar. Repetition of ideas. Cannot answer clarifying questions.		
CSSS Summary (Weaknesses/Strengths)	-summarize information from text -context as clue to meaning -difficulty with reading -poor comprehension -cannot identify root/noun/verbs -synonyms, antonyms		

S. Robertson, 2020

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Jason Summary

- Hyperlexia profile (reading = repetitive restrictive interest. High decoding, low comprehension)
- Poor Prosody
- Does not understand non-literal/ Figurative Language
- Does not use context for to identify meaning
- Rigid vocabulary

233

Jason Intervention Plan

- MORPHOLOGY to link words to meaning
- Figurative Language
- Purposeful Reading
- Building Flexible and Diverse Vocabulary
 - ✓ consider computer thesaurus
 - ✓ Word walls
- Contrastive Stress practice
- Echo reading with grade level materials

234

Morphological Instruction

- Those with ASD most likely have not considered that words are not just made up of letters.
- They are also made up of **meaning units**.

235

unpredictable

unpredictable

236

Morphological Instruction

- Those with ASD most likely have not considered that words are made up of **meaning units**.
- Roots and affixes are clear, concrete, and predictable.
- Adding and subtracting word parts has mathematical overlays – often an area of strength for individuals with hyperlexia.

237

unpredictable
unpredictable

un – not/reversal of
predict- estimate of future event
able – able to be

238

Add a meaning unit

unpredictability
unpredictability

un – not/reversal of
predict- estimate of future event
able – able to be
ity/quality of

239

Subtract a meaning unit

predictability
predictability

predict- estimate of future event
able – able to be
ity/quality of

240

predict
prediction
predicting
predictor
predictive
predicted
predictably
unpredictably

241

Find the Roots

- A good place to begin to help students begin to learn about the internal structure of words is to focus on the base/root word.
- Start by providing a list of multisyllabic words, (avoid compound words for this activity).
- May want to start with words from a personal narrow/deep knowledge area
- Ask individuals to circle, or highlight the root word.

243

Find the Roots! (Harry Potter)

- enchantment
- magical
- wizardry
- invisibility
- illuminator
- seeker
- golden



244

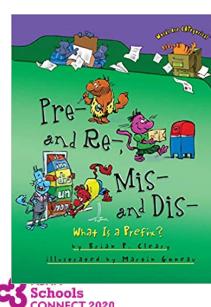
Find the Roots! (Harry Potter)

- **enchantment**
- **magical**
- **wizardry**
- **invisibility**
- **illuminator**
- **seeker**
- **golden**



245

Introduce Affixes



246



Roots and Branches

- Create flashcards (index cards) that include a variety of base words and multiple affixes.
- Learners make as many multi-syllabic words as they can from these “roots and branches.”

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Roots and Branches

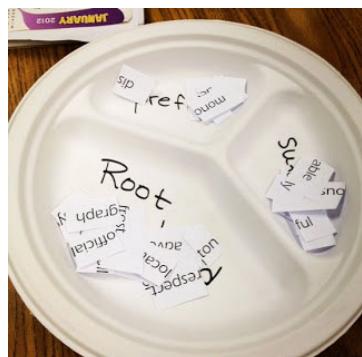
dis-	enchant	-ly
un-	happy	-ful
re-	spect	-less
	defense	-ing
	play	-ful
		-ment

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Variation



250

SEEP

STEM (word part: prefix, root, suffix)	EXAMPLES	EXPLANATION	PICTURE
MAL-	Draco Malfoy	SOMETHING BAD or EVIL	
	Malpractice		
	Malevolent		
	Malodorous		
	Malificent (Sleeping Beauty)		

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Working with Orthographic Morphological Families

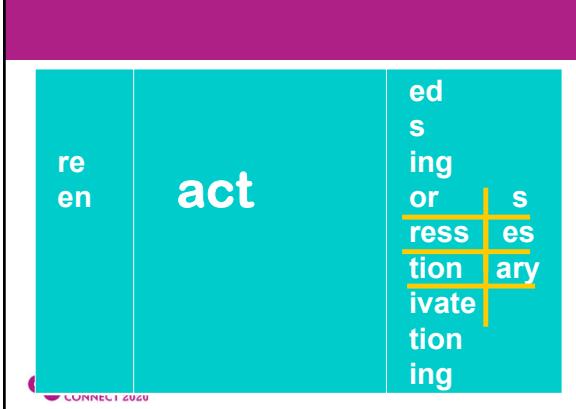
words that share a common written base

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Morphological Matrix

- Represents the interrelated structure of orthographic morphological families.
- Orthographic representations of morphemes are arranged into cells around a base that binds a morphological family.
- Assists in understanding both FORM (spelling) and MEANING.

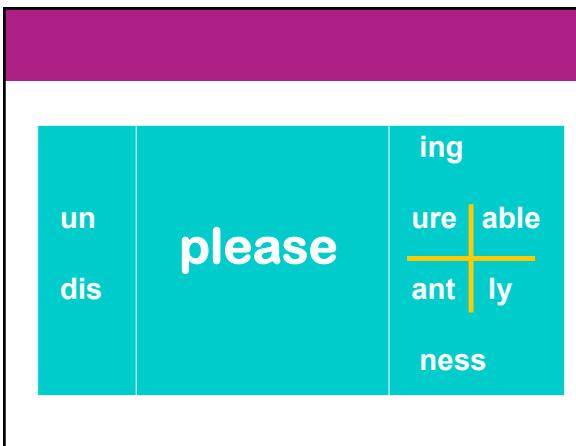
253



254

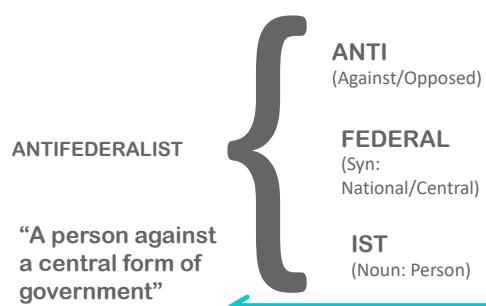
- Because the pronunciations of written morphemes often shift across words, matrices often assemble word families which use different pronunciations of a base.
- Matrices can be used to bring clarity to the interrelationship of morphology and phonology in English orthography.

255



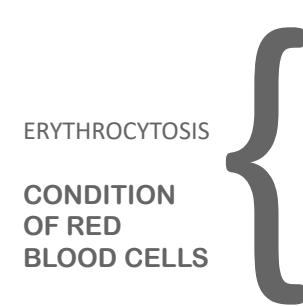
256

BRACE MAP



257

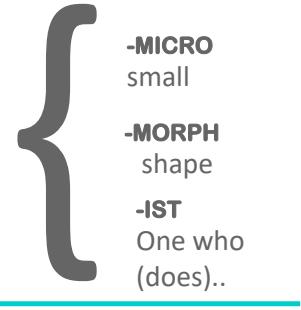
BRACE MAP



258

NONSENSE BRACE MAP

MICROMORPHIST
ONE WHO
CREATES SMALL
SHAPES



259

ADVOCACY

260

Advocating for Readers with ASD

- The behaviors that signal potential reading comprehension are actually "hiding in plain sight."
- It's important to begin advocating for these youngsters as soon as possible to help parents and educators avoid being "blinded by strengths."

261

Strategies for Unmasking/Advocating

- Share information regarding the links between early, spontaneous reading, ASD, and later reading comprehension (see infographic provided in the handouts).
- May need to offer to help "unmask" comprehension deficits through informal assessment/screening.
- Provide activities for educators and parents to support comprehension before it becomes a problem (good for ALL students!)

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READING

SUMMARY

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- The unique developmental history of individuals with ASD contributes substantially to the eventual problems they have with comprehension.

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Swiss Cheese Readers



- Typically, 4th grade is when the reading disability/comprehension gap becomes obvious due to "holes" in the reading skills set.

265

- The behaviors that signal a high probability of reading comprehension are observable from the child's earliest interactions with text.



266

Advocate!

- It is hard for some educators and parents not to be "blinded by the strengths" of the reader with hyperlexia.
- But early identification of the decoding/comprehension gap is critical to insuring best treatment outcomes.



267

- While there is a scarcity (virtually no) research related to improving comprehension in individuals with ASD, strategies can be extrapolated from what we know about ASD development and effective reading instruction to improve comprehension.

268

This is a challenging population, but SLPs who are vigilant can help identify and mitigate the negative effects of hyperlexia with early identification and appropriate intervention.



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Thanks for Listening!

For more information:
Hiding in Plain Sight
Perspectives, Vol 4.
pp. 438-446, June, 2019



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Name	
Age	Grade
Current Concerns	
Reading History	
Reading Fluency/ Prosody	
Contrastive Stress	
Heteronym Read-Alouds	
Passage Retell	
Summary of CCSS Skills	



All
Score Forms
are
Reproducible!

SKILL-BASED ASSESSMENT OF CORE COMMUNICATION STANDARDS

K-2

JENNIFER SCHULTZ M.A./CCC-SLP



SKILL-BASED ASSESSMENT OF CORE COMMUNICATION STANDARDS

Grades 3-5

JENNIFER SCHULTZ M.A./CCC-SLP

DYNAMIC RESOURCES

BOOKS LISTS AND RESOURCES

BOOKS USED IN TODAY'S PRESENTATION	
Capering Cows, Shivering Sheep	Shari Robertson
Spotless Spot, Firefly Fox	Alexandra Crouse
I Can Say That!	Suzy Leiderer
A Peanut Sat on a Railroad Track	Elizabeth Redhead Kriston
Monsters Can Mosey	Gilla Olson
Move!	Steve Jenkins and Robin Page
ADDITIONAL WORDLESS BOOKS (Younger Students)	
Thunderstorm	Shelley Davis
Changes, Changes	Pat Hutchins
Good Dog, Carl	Alexandra Day
Good Night, Gorilla	Peggy Rathman
Beaver is Lost	Elisha Cooper
Truck	Donald Crews
Flashlight	Lizi Boyd
Inside Outside	Lizi Boyd
Museum Trip	Barbara Lehman
The Lion and the Mouse	Jerry Pinkney
WORDLESS BOOKS FOR OLDER KIDS	
Unspoken: A Story from the Underground Railroad	Henry Cole
Sector Seven, Flotsam, Tuesday	David Weisner
Journey, Return, Quest	Aaron Becker
Fossil	Bill Thompson
Noah's Ark	Peter Spier
Chalk	Bill Thompson
Lights Out	Arthur Geisert
RESOURCES USED IN PRESENTATION	
Skills-Based Assessment of Core Communication Standards: K-2	Jennifer Schultz
Skills-Based Assessment of Core Communication Standards: 3-5	Jennifer Schultz
Very Vivid Vocabulary	Monica Gustafson
Read with Me! (Interactive Reading)	Shari Robertson
WEBSITE RESOURCES	
www.dynamic-resources.net	Resources for Interactive Reading, Books used in today's presentation
www.english-for-students.com	List of English heteronyms
https://accuplacer.collegeboard.org/	College Placement testing
http://nces.ed.gov/nationsreportcard/studies/ors/scale.asp	NAEP Oral Reading Fluency Scale
https://www.ereadingworksheets.com/free-reading-worksheets/authors-purpose-worksheets/	What's my purpose worksheets

SELECTED REFERENCES/FURTHER READING

- Robertson, S. (2019). Hiding in Plain Sight: Text Comprehension, Hyperlexia, and Adolescents with Autism Spectrum Disorders. *Perspectives of the ASHA Special Interest Groups* • Vol. 4 • 438–446 • June 2019
- Grigorenko, E. L., Klin, A., & Volkmar, F. (2003). Annotation:Hyperlexia: Disability or superability? *The Journal of Child Psychology and Psychiatry*, 44, 1079–1091.
- Iland, E. (2011). Drawing a blank: Improving comprehension for readers on the autism spectrum. Shawnee Mission, KS: AAPC Publishing.
- Newman, T.M., Macomber, D., Naples, A. J., Babitz, T., Volkmar, F., & Gringorenko, E. (2007). Hyperlexia in children with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 37(4), 760–774.
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- Wolter, J. A., & Gibson, F. E. (2015). Morphological awareness assessment and intervention to improve language and literacy. *Seminars in Speech and Language*, 36, 31–41.