


	<p style="text-align: center;"><b>Webber</b> <b>HearBuilder™</b></p> <p style="text-align: center;"><b>A SYSTEMATIC APPROACH TO REMIEDIATING AUDITORY PROCESSING DISORDERS</b></p> 
	<p style="text-align: center;">Presented by Kevin Stuckey, M.Ed., CCC-SLP</p> <p style="text-align: center;"><small>©2009 Super Duper® Publications</small></p>

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○	<p style="text-align: center;"><b>Webber</b> <b>HearBuilder™</b></p>
	<p><b>LISTENING IS...</b></p> <ul style="list-style-type: none"> <li>● Not synonymous with hearing</li> <li>● A process—hearing, perceiving, and interpreting sound</li> <li>● Fundamental for language and learning</li> </ul>  <p><small>(Bellis, 2003; Clark, 2008; Flexer, 1999; Kelly, 2004; Johnson et al., 1997; Nevins &amp; Garber, 2006; Roeser &amp; Downs, 2004; Sharma et al., 2009; Stredler-Brown &amp; Johnson, 2004).</small></p> <p><small>©2009 Super Duper® Publications</small></p>

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○	<p style="text-align: center;"><b>Webber</b> <b>HearBuilder™</b></p>
	<p><b>LISTENING SKILLS...</b></p> <ul style="list-style-type: none"> <li>● Begin to develop prenatally</li> <li>● Become more complex, refined, and sophisticated with experience</li> </ul> <p><small>©2009 Super Duper® Publications</small></p>

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	<p><b>AUDITORY PROCESSING</b></p> <ul style="list-style-type: none"> <li>● Perception and interpretation of sound information</li> <li>● Generally considered to have a four-step hierarchy of skills</li> </ul> <p><small>(Cochlear Americas, 2009; Johnson et al., 1997; Nevins &amp; Garber, 2006; Roeser &amp; Downs, 2004; Stredler-Brown &amp; Johnson, 2004)</small></p>

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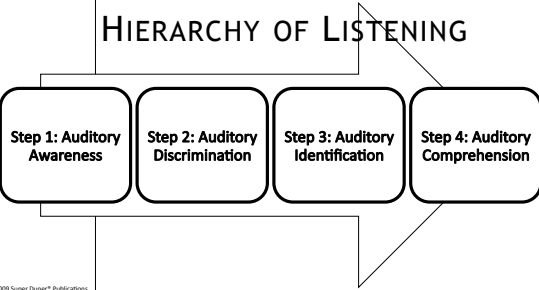
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	<p><b>HIERARCHY OF LISTENING</b></p> 

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	<p><b>STEP 1: AUDITORY AWARENESS</b></p> <ul style="list-style-type: none"> <li>● Auditory Awareness</li> <li>● Sound Localization</li> <li>● Auditory Attention/Auditory Figure-Ground</li> </ul>

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	<p><b>AUDITORY AWARENESS</b></p> <ul style="list-style-type: none"> <li>● The ability to detect sound</li> <li>● Natural process that begins prenatally</li> <li>● Fetal response to sound as early as 4<sup>th</sup> or 5<sup>th</sup> month (e.g., parents' voices, music)</li> <li>● Newborns startle or wake to loud noises</li> <li>● Infants will quiet to parent's voice at 6 weeks to 3 months</li> </ul> <p><small>(Abrams, 1995; Arabin &amp; van Straaten, 2006; Blackburn, 2007; Gomes et al., 2000).</small></p>

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	<p><b>SOUND LOCALIZATION</b></p> <ul style="list-style-type: none"> <li>● Begin to search for sound between three and six months</li> <li>● Begin to demonstrate recognition of sounds (e.g., dog bark, favorite toy)</li> </ul> <p><small>(ASHA, 2009; Gomes et al., 2000; Rhoades, 2003)</small></p>

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	<p><b>AUDITORY ATTENTION/ AUDITORY FIGURE-GROUND</b></p> <ul style="list-style-type: none"> <li>● Auditory Attention: Ability to attend to auditory information</li> <li>● Auditory Figure-Ground: Ability to attend to the important auditory information in background noise</li> <li>● Begins developing in early infancy</li> <li>● Later dependent on motivation, self-regulation, and voluntary direction</li> </ul> <p><small>(Gomes et al., 2000; Roeser &amp; Downs, 2004)</small></p>

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	<p><b>STEP 2: AUDITORY DISCRIMINATION</b></p> <ul style="list-style-type: none"> <li>● Environmental sounds</li> <li>● Suprasegmentals (Prosody)             <ul style="list-style-type: none"> <li>○ Stress</li> <li>○ Duration</li> <li>○ Rate</li> <li>○ Pitch</li> <li>○ Intensity</li> </ul> </li> <li>● Segmentals             <ul style="list-style-type: none"> <li>○ Formant Frequencies</li> <li>○ Voice</li> <li>○ Place</li> <li>○ Manner</li> </ul> </li> </ul> <p><small>(ASHA, 2009; Gomes et al., 2000; Rhoades, 2003; Roeser &amp; Downs, 2004; Stredler-Brown &amp; Johnson, 2004)</small></p>

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	<p><b>STEP 3: AUDITORY IDENTIFICATION</b></p> <ul style="list-style-type: none"> <li>● Auditory Identification (Auditory Association)</li> <li>● Auditory Feedback/Self Monitoring</li> <li>● Phonological Awareness (Auditory Analysis)</li> </ul> <p><small>(ASHA, 2009; Bellis, 2003; Cochlear Americas, 2009; 2003; Gomes et al., 2000; Roeser &amp; Downs, 2004; Stredler-Brown &amp; Johnson, 2004)</small></p>

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	<p><b>AUDITORY IDENTIFICATION (AUDITORY ASSOCIATION)</b></p> <ul style="list-style-type: none"> <li>● Begins in infancy</li> <li>● Ability to attach meaning to             <ul style="list-style-type: none"> <li>○ sound (e.g., microwave beeps, keys jingle)</li> <li>○ voice (e.g., angry tone versus a content tone)</li> <li>○ speech (words, phrases, simple statements or questions)</li> </ul> </li> </ul> <p><small>(ASHA, 2009; Bellis, 2003; Cochlear Americas, 2009; 2003; Gomes et al., 2000; Roeser &amp; Downs, 2004; Stredler-Brown &amp; Johnson, 2004)</small></p>

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	<p><b>AUDITORY FEEDBACK/ SELF-MONITORING</b></p> <ul style="list-style-type: none"> <li>● Begins in infancy with coos/babbles</li> <li>● Trying to mimic adult speech</li> <li>● Hearing and modifying own speech</li> <li>● Important for articulation and intelligible speech</li> </ul> <div style="text-align: right;">  </div> <p><small>(ASHA, 2009; Rhoades, 2003; Roeser &amp; Downs, 2004; Stredler-Brown &amp; Johnson, 2004)</small></p>

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	<p><b>PHONOLOGICAL AWARENESS (AUDITORY ANALYSIS)</b></p> <ul style="list-style-type: none"> <li>● Hear and judge spoken language</li> <li>● Identify, blend, segment, and manipulate sounds</li> <li>● Phrases or sentences into words</li> <li>● Words into syllables</li> <li>● Syllables into sounds</li> <li>● Sounds added, deleted, or substituted</li> </ul> <p><small>(Catts, 1991; Roeser &amp; Downs, 2004; Schuele &amp; Boudreau, 2008; Sterling-Orth, 2004; Torgesen, 2002; Torgesen et al., 1994)</small></p>

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	<p><b>STEP 4: AUDITORY COMPREHENSION</b></p> <ul style="list-style-type: none"> <li>● Auditory Comprehension</li> <li>● Auditory Closure</li> <li>● Auditory Memory</li> <li>● Linguistic Auditory Processing</li> </ul> <p><small>© 2009 Super Duper® Publications</small></p>

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	<p><b>AUDITORY COMPREHENSION</b></p> <ul style="list-style-type: none"> <li>● Ability to understand more complex verbal messages</li> <li>● Begins in early childhood</li> <li>● Relies on auditory closure and memory for success</li> <li>● Includes following multi-step directions/Classroom instructions</li> <li>● Class lessons</li> <li>● Stories</li> <li>● Socialization and conversation</li> </ul> <p><small>(Bellis, 2003; Johnson et al., 1997; Roeser &amp; Downs, 2004; Stredler-Brown &amp; Johnson, 2004)</small></p>

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	<p><b>AUDITORY CLOSURE</b></p> <ul style="list-style-type: none"> <li>● Ability to complete a message when information is missing</li> <li>● Ability to make sense of a message when information is unclear</li> </ul> <p><small>(Bellis, 2003; Roeser &amp; Downs, 2004; Stredler-Brown &amp; Johnson, 2004)</small></p>

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	<p><b>AUDITORY MEMORY</b></p> <ul style="list-style-type: none"> <li>● Ability to retain and recall auditory information</li> <li>● Short-term             <ul style="list-style-type: none"> <li>○ Immediate auditory recall</li> <li>○ Delayed auditory recall</li> </ul> </li> <li>● Long-term</li> <li>● Sequential</li> </ul> <div style="text-align: right;">  </div> <p><small>(Bellis, 2003; Cochlear Americas, 2009; Roeser &amp; Downs, 2004; Stredler-Brown &amp; Johnson, 2004)</small></p>

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	<p><b>LINGUISTIC AUDITORY PROCESSING</b></p> <ul style="list-style-type: none"> <li>● Interpret</li> <li>● Retain</li> <li>● Organize</li> <li>● Judge</li> <li>● Manipulate</li> <li>● Metalinguistic/Metacognitive</li> <li>● Persuade, debate, sarcasm, slang, figurative language</li> </ul> <p><small>(Bellis, 2003; Cochlear Americas, 2009; Roeser &amp; Downs, 2004; Stredler-Brown &amp; Johnson, 2004)</small></p>

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	<p><b>AUDITORY PROCESSING DISORDER</b></p> <ul style="list-style-type: none"> <li>● Breakdown beyond physical hearing acuity</li> <li>● Often unnoticed until school age</li> </ul> 

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	<p><b>COMMON CHARACTERISTICS OF APD</b></p> <ul style="list-style-type: none"> <li>● Difficulty attending to auditory information (especially in noisy environment)</li> <li>● Need for extra time to process</li> <li>● Difficulty retaining verbal information</li> <li>● Problems understanding and retaining multilevel information (multistep directions)</li> </ul> <p><small>(Bellis, 2003; Kelly, 2004; Johnson et al., 1997; Roeser &amp; Downs, 2004)</small></p>

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	<p><b>COMMON CHARACTERISTICS (CONT.)</b></p> <ul style="list-style-type: none"> <li>● Language difficulties</li> <li>● Low academic performance</li> <li>● Behavioral issues</li> <li>● Difficulty with phonological awareness, reading, and spelling</li> </ul> <p><small>© 2009 Super Duper® Publications (Bellis, 2003; Kelly, 2004; Johnson et al., 1997; Roeser &amp; Downs, 2004)</small></p>

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	<p><b>THE CHALLENGE OF APD</b></p> <p>APD is not separate from attention, memory, or cognition</p>  <p><small>© 2009 Super Duper® Publications (Bellis, 2003; Kelly, 2004; Johnson et al., 1997; Roeser &amp; Downs, 2004)</small></p>

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	<p><b>REMEDIATION</b></p> <ul style="list-style-type: none"> <li>● Much research on diagnosis, etiology, and treatment still warranted</li> <li>● Neuroplasticity—the brain's ability to reorganize</li> <li>● Direct, theory-based, frequent, intensive</li> <li>● Deficit-specific</li> </ul> <p><small>© 2009 Super Duper® Publications (Beck &amp; Juel, 2002; Catts, 1991; Flexer, 1999; Schuele &amp; Boudreau, 2008, Torgesen, 2002)</small></p>

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<p><b>SYSTEMATIC APPROACHES TO TARGETING AUDITORY PROCESSING</b></p> <ul style="list-style-type: none"> <li>● Part 1: Targeting Phonological Awareness (Auditory Analysis)           <ul style="list-style-type: none"> <li>○ Auditory Attention/Figure-Ground</li> </ul> </li> <li>● Part 2: Targeting Auditory Comprehension of Verbal Directions and Basic Concepts           <ul style="list-style-type: none"> <li>○ Auditory Attention/Figure-Ground</li> <li>○ Auditory Memory</li> </ul> </li> </ul>	
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<p><b>PART 1: TARGETING PHONOLOGICAL AWARENESS (AUDITORY ANALYSIS)</b></p> <p style="text-align: center;"><b>Auditory Processing Hierarchy Step:</b></p> <ul style="list-style-type: none"> <li>● Phonological Awareness (Auditory Analysis)</li> </ul> <p style="text-align: center;"><b>Common Characteristics of APD:</b></p> <ul style="list-style-type: none"> <li>● Difficulty with phonological awareness, reading, and spelling</li> <li>● Difficulty attending to auditory information (especially in noisy environment)</li> </ul>	
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<p><b>PHONOLOGICAL AWARENESS (AUDITORY ANALYSIS)</b></p> <ul style="list-style-type: none"> <li>● Ability to hear and judge spoken language structure</li> <li>● Spoken language divides into words</li> <li>● Words divide into syllables</li> <li>● Syllables divide into sounds</li> <li>● Sounds can be added, deleted, substituted to form new words</li> <li>● Not the same as phonemic awareness</li> </ul> <p style="font-size: x-small;">(McGuinness, 2005; Roeser &amp; Downs, 2004; Torgesen, 2002; Torgesen et al., 1994)</p>	
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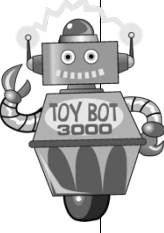
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	<p><b>SHALLOW PHONOLOGICAL AWARENESS</b></p> <ul style="list-style-type: none"> <li>● Sentence segmentation</li> <li>● Syllable blending</li> <li>● Syllable segmentation</li> <li>● Rhyming</li> <li>● Alliteration</li> </ul> <p><small>© 2009 Super Duper® Publications (Stanovich, 1992; Schuele &amp; Boudreau, 2008)</small></p>

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	<p><b>DEEP PHONOLOGICAL AWARENESS</b></p> <ul style="list-style-type: none"> <li>● Phonemic Awareness (Phonemic Analysis) – the ability to identify, analyze, and manipulate the smallest unit of spoken language (phonemes)</li> <li>● Most sophisticated level of phonological awareness</li> <li>● Includes several skills within</li> </ul> <p><small>© 2009 Super Duper® Publications (Stanovich, 1992; Schuele &amp; Boudreau, 2008)</small></p>

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	<p><b>PHONEMIC AWARENESS</b></p> <ul style="list-style-type: none"> <li>● Phoneme blending</li> <li>● Phoneme segmenting and identification</li> <li>● Phoneme deletion</li> <li>● Phoneme addition</li> <li>● Phoneme manipulation</li> </ul> <p><small>© 2009 Super Duper® Publications (Anthony et al., 2003; Catts, 1991; Gerber et al., 2008; Hatcher &amp; Hulme, 1999; McGuinness, 2005; Schuele &amp; Boudreau, 2008; Schreiber, 2008; Sterling-Orth, 2004; Torgesen, 2002; Torgesen et al., 1994)</small></p>

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	<p><b>PHONOLOGICAL AWARENESS RESEARCH</b></p> <ul style="list-style-type: none"> <li>● Related to later reading ability</li> <li>● Phonemic awareness is strongest indicator</li> <li>● At-risk or low literacy achievers need direct instruction</li> <li>● 20% of children fail to acquire phonological awareness even in stable learning environment</li> </ul> <p><small>(Catts, Fey, Tomblin, &amp; Zhang, 2002; Scarborough, 1998; Sharma et al., 2009; Torgensen, Wagner, &amp; Rashotte, 1994)</small></p>

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	<p><b>PHONEMIC AWARENESS CONSIDERATIONS</b></p> <ul style="list-style-type: none"> <li>● Natural development of spoken language</li> <li>● Young children may consider the semantic meaning rather than phonological characteristics (e.g., "train"=long word; Catts, 1991).</li> <li>● Perception of words as a single unit of auditory information</li> <li>● Coarticulation (phonemes influenced by neighboring sounds) = inconsistent acoustic signals</li> </ul> <p><small>(Catts, 1991; Gerber et al., 2008; Lyon, 1998)</small></p>

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	<p><b>PHONEMIC AWARENESS VS. PHONICS</b></p> <ul style="list-style-type: none"> <li>● Phonemic Awareness is different than phonics</li> <li>● Gives meaning to alphabetic language</li> </ul> <div style="text-align: center;">  <span style="font-size: 2em; font-weight: bold; margin: 0 10px;">VS.</span>  </div> <p><small>(Beck &amp; Juel, 2002; Lyon, 1998; Torgesen, 2002)</small></p>

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	<p><b>ROLE OF SLP IN LITERACY ACCORDING TO ASHA</b></p>  <ul style="list-style-type: none"> <li>● Provide assessment and intervention for children with problems learning to read and write</li> <li>● Advocate for literacy instruction</li> <li>● Collaborate to foster literacy acquisition among general education students at risk or with disorders in reading and writing.</li> </ul> <p>(ASHA, 2009; Catts, 1991; Schuele &amp; Boudreau, 2008; Sharma, Purdy, &amp; Kelly, 2009)</p> <p><small>©2009 Super Duper® Publications</small></p>

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	<p><b>WHY THE SLP?</b></p> <ul style="list-style-type: none"> <li>● SLPs know typical development</li> <li>● Children with APD are at much higher risk for reading difficulties</li> <li>● Oral language and literacy relationship</li> <li>● Phonological awareness and decoding</li> </ul> <p>(ASHA, 2009; Catts, 1991; Schuele &amp; Boudreau, 2008; Sharma, Purdy, &amp; Kelly, 2009)</p> <p><small>©2009 Super Duper® Publications</small></p>

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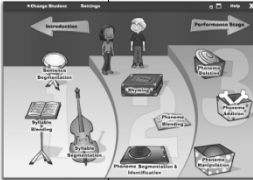
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	<p><b>WEBBER® HEARBUILDER™ PHONOLOGICAL AWARENESS</b></p>  <ul style="list-style-type: none"> <li>● Systematic (developed, arranged/ordered, and methodical)</li> <li>● Direct (active-learning environment for student)</li> <li>● Theory-based (based on latest research and theory in APD, phonological awareness, computer-assisted learning)</li> <li>● Intensive (multiple levels of difficulty with minimal increments for each skill)</li> </ul> <p><small>©2009 Super Duper® Publications</small></p>

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<p><b>WEBBER® HEARBUILDER™</b> <b>PHONOLOGICAL AWARENESS</b></p> <p>Nine areas of phonological awareness:</p> <ul style="list-style-type: none"> <li>● Sentence Segmentation</li> <li>● Syllable Blending</li> <li>● Syllable Segmentation</li> <li>● Rhyming</li> <li>● Phoneme Blending</li> <li>● Phoneme Segmentation and Identification</li> <li>● Phoneme Deletion</li> <li>● Phoneme Addition</li> <li>● Phoneme Manipulation</li> </ul>	<p>©2009 Super Duper® Publications</p>

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<p><b>SOFTWARE DEMONSTRATION</b></p> 	<p>©2009 Super Duper® Publications</p>

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<p><b>PART 2: TARGETING FOLLOWING AUDITORY DIRECTIONS</b></p> <p><b>Auditory Processing Hierarchy Steps:</b></p> <ul style="list-style-type: none"> <li>● Auditory Comprehension</li> <li>● Auditory Memory</li> </ul> <p><b>Common Characteristics of APD:</b></p> <ul style="list-style-type: none"> <li>● Difficulty retaining verbal information</li> <li>● Problems understanding and retaining multilevel information (multistep directions)</li> <li>● Language difficulties</li> <li>● Difficulty attending to auditory information (especially in noisy environment)</li> </ul>	<p>©2009 Super Duper® Publications</p>

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	<p><b>FOLLOWING AUDITORY DIRECTIONS</b></p> <ul style="list-style-type: none"> <li>● Important for behavior</li> <li>● Important for social interaction</li> <li>● Important for academics</li> <li>● Requires ability to perceive, interpret, and retain auditory information</li> <li>● Requires a strong knowledge of basic concepts</li> </ul>

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	<p><b>WHAT ARE BASIC CONCEPTS?</b></p> <ul style="list-style-type: none"> <li>● <b>Basic colors</b> (red, blue, green)</li> <li>● <b>Directions</b> (through, around)</li> <li>● <b>Quantities</b> (three, few, many)</li> <li>● <b>Sequences</b> (first, next, finally)</li> <li>● <b>Shapes</b> (round, square)</li> <li>● <b>Size</b> (large, small)</li> <li>● <b>Social/Emotional States</b> (happy, sad)</li> <li>● <b>Characteristics</b> (old, new)</li> <li>● <b>Textures</b> (rough, smooth)</li> <li>● <b>Time</b> (late, early)</li> <li>● <b>Spatial Relationships and Positions</b> (front, behind, top, bottom)</li> </ul>

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	<p><b>MORNING ROUTINE</b></p> <p>“First, put your lunch money in the red bowl on the small table next to my desk. If you brought your lunch, put it into the bin by the door. Next, hang your coat on the lower hook and your backpack on the top hook. Then, have a seat at your desk, get out your writing folder, and wait quietly for me to come around and check it.”</p>

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	<p><b>17 BASIC CONCEPTS</b></p> <ul style="list-style-type: none"> <li>● "First, put your lunch money <b>in</b> the <b>red</b> bowl <b>on</b> the <b>small</b> table <b>next to</b> my desk. If you brought your lunch, put it <b>Into</b> the bin <b>by</b> the door. <b>Next</b>, hang your coat <b>on</b> the <b>lower</b> hook and your backpack <b>on</b> the <b>top</b> hook. Then, have a seat <b>at</b> your desk, get <b>out</b> your writing folder, and wait <b>quietly</b> for me to come <b>around</b> and check it."</li> <li>● Perception, interpretation, retention</li> </ul>

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	<p><b>COMMON TYPES OF DIRECTIONS</b></p> <ul style="list-style-type: none"> <li>● Multi-leveled information (e.g., "...small, red table next to my desk...")</li> <li>● Multi-step and sequential information (e.g., "First... Next... Then...")</li> </ul>

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	<p><b>WEBBER® HEARBUILDER™ FOLLOWING DIRECTIONS</b></p> <div style="display: flex; align-items: flex-start;"> <div style="flex: 1;">  </div> <div style="flex: 2;"> <ul style="list-style-type: none"> <li>● Systematic (developed, arranged/ordered, and methodical)</li> <li>● Direct (active-learning environment for student)</li> <li>● Theory-based (based on latest research and theory in APD, basic concepts, following directions, computer-assisted learning)</li> <li>● Intensive (multiple levels of difficulty with minimal increments for each skill)</li> </ul> </div> </div>

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<p>Basic</p> <p>Sequential</p> <p>Quantitative and Spatial</p> <p>Temporal</p> <p>Conditional</p>	<p style="text-align: center;"><b>HEARBUILDER™ FOLLOWING DIRECTIONS</b> TARGETS 5 DIFFERENT TYPES OF DIRECTIONS</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p><b>Five Multi-Level Activities</b></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>1</p>  <p><b>Basic Directions</b> Click on the snail, red car.</p> </div> <div style="text-align: center;"> <p>2</p>  <p><b>Sequential Directions</b> First set the temperature to cold, heat set the shape to square, and then press "Start."</p> </div> <div style="text-align: center;"> <p>3</p>  <p><b>Quantitative and Spatial Directions</b> Choose all of the red trucks.</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> <p>4</p>  <p><b>Temporal Directions</b> Before you put a rabbit in the box, put a guitar in the box.</p> </div> <div style="text-align: center;"> <p>5</p>  <p><b>Conditional Directions</b> If a rabbit is in the box, put the bear on the truck.</p> </div> <div style="border: 1px solid black; width: 60px; height: 60px; margin-left: auto; margin-right: auto;"></div> </div> </div>

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	<p style="text-align: center;"><b>HEARBUILDER™ FOLLOWING DIRECTIONS</b> TARGETS 40 BASIC CONCEPTS</p> <ul style="list-style-type: none"> <li>● <b>Basic Colors</b> – red, blue, green, yellow</li> <li>● <b>Quantities</b> – one, two, all, both, either, except, none, or, and, don't, not</li> <li>● <b>Sequences</b> – first, second, third, then, next, last</li> <li>● <b>Shapes</b> – circle, square, triangle, star</li> <li>● <b>Size</b> – large, small</li> <li>● <b>Time</b> – before, after</li> <li>● <b>Spatial Relationships/Positions</b> – first, second, third, last, between, beside, next to, above, below</li> <li>● <b>Condition</b> – hot, cold</li> </ul>

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	<p style="text-align: center;"><b>SOFTWARE DEMONSTRATION</b></p> <div style="text-align: center;">  </div>

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	<p><b>FEATURES OF THE <i>HEARBUILDER</i>™ PROFESSIONAL SOFTWARE SERIES</b></p> <ul style="list-style-type: none"> <li>● Measurable learning objectives for every level</li> <li>● Customizable for individual students</li> <li>● Set, change, monitor levels of difficulty</li> <li>● Add background noise</li> <li>● Data-tracking for unlimited number of students</li> <li>● Customizable and printable reports</li> </ul>

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	 <p><b>QUESTIONS?</b></p>

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