From Detection to Comprehension: Targeting Auditory Skills Development With Children Who Have Cochlear Implants

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Learner Outcomes
- List the steps of an auditory skills hierarchy
- Define detection, discrimination, identification, auditory memory, comprehension, background noise, and signal-to-noise ratio as each applies to auditory skills development
- Discuss appropriate activities for targeting certain auditory skills along the hierarchy

How We Hear / Types Of Hearing Loss
- Conductive
- Sensorineural
- Mixed

Types Of Hearing Loss
- Sensorineural (problem with inner ear or higher)
  - Abnormal Air Conduction results AND Abnormal Bone Conduction results which essentially are overlaid (no air/bone gap)
- Conductive (problem with outer and/or middle ear)
  - Normal Bone Conduction results with Abnormal Air Conduction results with a ≥15 dB difference between the two (air/bone gap ≥15 dB)
- Mixed (problem with outer/middle AND inner ear/higher)
  - Abnormal Bone Conduction results AND Abnormal Air Conduction results with ≥15 dB difference between the two (air/bone gap ≥15 dB)

Degrees Of Hearing Loss

Understanding An Audiogram
- Unaided Thresholds
- Aided Detection

How A Cochlear Implant Works

Listening With A Cochlear Implant

Why Does Noise Matter?
- Background noise interferes with important acoustic information
- Classroom noise has been proven to adversely affect:
  - Academic Performance – reading and spelling
  - Concentration
  - Attention
  - Behavior

Signal-to-Noise Ratio (SNR) & Speaker-to-Listener Distance (SLD)
- How loud the signal is relative to the noise
- How far the student is from the signal (Inverse Square Law)

What Can We Do To Help?
- Install curtains and carpeting, and hang acoustic tiles
- Keep windows and doors closed
- Arrange furniture to reduce the distance between students and teacher
- Place Flexi-Felt, ChairHuggers, or tennis balls on the feet of desks and chairs
- Place “sound barriers” between the students and computers and/or other noise producing items in the classroom
- Replace noisy instructional equipment with more quiet versions or move it to non-instructional rooms

What Else Can We Do?
- Ensure adequate lighting, which is not in the child’s eyes
- Have the child face the important signal(s)
- Do not obstruct the view of your mouth/face
- Make sure you have the child’s attention before asking a question or giving an instruction
- Use the “noise” program on the child’s device(s)
- Utilize FM/DM Systems
**FM/DM Systems**

- Provide a better signal-to-noise ratio when classroom acoustics are poor
- Designed to help overcome
  - Noise
  - Distance
  - Reverberation
- Should be fitted by an Audiologist

**FM/DM Systems**

- Types:
  - Personal: ~ +15 to +20dB SNR
  - Soundfield: ~ +10dB SNR
- Components:
  - Transmitter – worn by primary speaker
  - Receiver – worn by child

**Targeting Auditory Skills**

- Develops the child’s auditory brain
- Improves listening skills in a variety of contexts and environments
- Allows for easier development of speech and spoken language
- Impacts phonemic awareness, early literacy, and reading

**Assessing Auditory Skills**

- Speech perception testing completed by Audiologist
- Auditory skills questionnaires completed by therapist/teacher, parent, and/or child
  - Preschool
    • ABEL, CHILD, COW, LittlEars, MAIS, PEACH, TEACH, Preschool SIFTER
  - School-age
    • ABEL, CHILD, COW, LIFE, MAIS, PEACH, TEACH, SIFTER
- Diagnostic therapy

**Developing And Tracking Auditory Skills**

- Guides
  - Tracking Auditory Progress in Children with CIs and Identifying Red Flags (Amy M Robbins)
  - Auditory Learning Guide (Beth Walker)
- Curricula
  - SPICE and SPICE for LIFE (Moog & Budzynski) (West & Marley)
  - CASLLS (Sandrine Cottenge)
  - AuSpLan (McCraeche & Ternus)
  - SKI-HI (SKI-II Institute)

**Auditory Skills Hierarchy**

- Detection
  - Knowing that a sound is present
- Discrimination
  - Determining if two sounds are the same or different
  - (Pattern Perception)
    - Differentiating between two or more sounds based on their patterns
- Identification (Recognition)
  - Labeling what has been heard
- Comprehension
  - Understanding spoken language and responding appropriately

Other Auditory Skills

- Auditory Memory
  - The ability to hear and remember what has been said
  - Digit Span
  - Word Span (related and unrelated)
- Comprehension in Background Noise
- Localization
- Telephone & Electronic Media Skills
- Gender & Emotion Identification/Comprehension
- Music Appreciation

Tips

- Make sure the child’s CI(s) is/are on and working properly before beginning therapy and/or assessment
- ALWAYS do therapy activities auditory-visually BEFORE doing them auditory-only
- When a child has reached a certain skill level using BOTH CIs, check to see how he/she does with EACH DEVICE INDIVIDUALLY…one ear may be out performing the other and need some special attention, specifically on identification tasks
- Keep in close COMMUNICATION with the child’s Audiologist so that you know how the child is performing audiologically, and so that you can let her know your questions and concerns

Detection:
Knowing a sound is present
- Does not have to know what made the sound or what the sound means
- Where we start
- Must be able to detect before anything else

Task
- Response to environmental sounds, repeated syllables and/or Ling sounds (m, oo, ah, ee, sh, s)
- Responses could be looking up, vocalizing, doing something with a toy, raising a hand

Discrimination:
Determining if two sounds are the same or different

- This typically is not a targeted skill; however, it is a tool used to help compare sounds for assessment/intervention
- Before a child can identify sounds as whatever they are, the child has to be able to hear different sounds, even though he may not yet know what “different” means

Pattern Perception:
Differentiating two or more sounds based on their patterns

- Beginning of interpreting prosody (suprasegmentals)
- Typically can tell the difference between sounds that are short vs. long and words that are one syllable vs. multisyllabic before they know the sounds or the words
- This may not be a skill that is specifically targeted

Task
- Choosing a picture or object based on the pattern of the presented auditory stimulus – sound(s) or word(s)

Identification (Recognition):
Labeling what has been heard

- Next big focus after Detection
- Can be in the form of direct modeling and imitation or selecting from a group of choices
- Needs some speech sound and/or language base
- Provides information about which specific sounds a child can hear

Task
- Repeating or choosing a picture or object based on the sound or word(s) presented
Identification Hierarchy
- Ling 6 Sounds
- Spondees
- Monosyllables differing in vowels and consonants
- Monosyllables differing in vowels only
- Monosyllables differing in consonants only
- Rhyming words
  - With varied initial consonants
  - With minimal contrasts

Auditory Memory:
Remembering what has been said
- Take in information, process it, store it, and recall it
  - Short-term Memory
  - Working Memory
- Essential for academic success
- Connected to speech and language outcomes
  - Task
    - Digit Span – indicating or repeating a series of numbers
    - Word Span – indicating or repeating a series of words

Comprehension:
Understanding spoken language and responding appropriately
- Involves hearing acuity, auditory memory, and language
  - This is the ULTIMATE goal
  - Task
    - Repeating sentences, answering questions, following directions, solving riddles, participating in any level-appropriate language activity, conversing
    - When the child demonstrates the ability to do these tasks in quiet, practice in NOISE can occur

Comprehension Tasks
- Repeating Sentences With A Picture Context
- Repeating Sentences Without Context
- Answering Questions About A Picture
- Following Directions
- Solving Riddles
- Answering Questions About A Story

Targeting Comprehension In Noise
- Resembles more typical listening situations
- Helps CI users learn to listen for important information and seek out the primary speaker
- Improves CI users speech perception in noise

The Noise
- Multi-talker babble
  - Auditec.com
- Simulated Classroom Noise
  - UT Dallas, Erin Schafer and Linda Thibodeau
    - http://www.utdallas.edu/~thib/EARRINGFINAL/Audio Demos/Class_Noise.wav
- Restaurant Noise
  - Coiffitivity (app)
- Introducing the noise
  - +5 to +10 SNR
  - Noise should come from behind the child
Detection and/or Identification
- AB Clix by Advanced Bionics, LLC (app)
- AB Listening Adventures by Advanced Bionics, LLC (app)
- Animal Sounds by Alligator Apps (app)
- Auditory Verbal Ling Sounds by Mellisa Essenburg (app)
- I Hear Ewe by Claireware Software (app)
- I Hear That by Kenneth Whittaker (app)
- Ling 6 Sound Application by Eric Seneca (app)
- Listening Lotto Outside Sounds by Key Education (game)
- Listen Up Bear by Troll in a Bowl (app)
- Listening Lotto Sounds at Home by Key Education (game)
- Little Ears by Mobiler (app)
- Little Finder by Alligator Apps (app)

Auditory Memory
- Auditory Processing Activities by JoAnn and Roger Jeffries (book)
- Curious George Banana 411 by PBS Kids (website)
- Hear Coach by Starkey (app)
- Super Duper® Look Who’s Listening® (game)
- Super Duper® Fun Decks® Serial Recall (card set)
- Webber® Hear Builder® Auditory Memory by Mark Strait and Susie Loraine (software)

Imitating Sentences with a Picture Context/ Answering Questions with a Picture Context
- Create a Scene by Smethport (magnetic board)
  - Beach Playset
  - Construction Site Playset
  - Dollhouse Playset
- Make a Scene by Innivo Ltd. (app)
  - Farmyard
  - Pets
  - Easter
  - Christmas
- My PlayHome by Shimon Young (app)
- My Scene by MyFirstApp.com (app)
- Outdoor Fun by Virtual Speech Center (app)
- Richard Scarry books
  - Cars and Trucks and Things That Go
  - A Day at the Airport
  - A Day at the Fire Station
- SPARC Artic Scenes by Susan Rose Simms (book)
- SPARC for Vocabulary by Susan Thomsen and Kathy Donnelly (book)
- Toddlers Seek and Find, by Wonderkind Apps (app)
  - My Animals
  - My Little Town
  - My Animal Circus
- Usborne books by Heather Amery and Stephen Cartwright
  - The Usborne Book of Everyday Words
  - Usborne First Hundred Words
  - Usborne First Thousand Words
Following Directions
- Cranium Hullabaloo by Cranium (game)
- Following Auditory Directions by Jean Gilliam DeGaetano (book)
- Following Auditory Directions CD by Josef Sanders (CD)
- Following Directions Get Ready! Book by Barbara Gregorich (book)
- Following Directions K-2 by Frank Schaffer (book)
- Fun with Directions by Hamaguchi apps (app)
- Listening Skills for Young Children by Trish Novels (book)
- More Fun with Directions by Hamaguchi apps (app)
- Super Duper® Fun Deck® Following Directions (card set & app)
- Webber® Hear Builder® Following Directions by Susie Loraine and Mark Strait (software)

Imitating Sentences Without Context
- Auditory Processing Activities by JoAnn and Roger Jeffries (book)
- Super Duper® Fun Deck® Listening for Absurdities (card set & app)

Riddles
- Super Duper® Fun Deck® Auditory Memory for Riddles (card set)
- What’s In the bag? by all4mychild (app)
- Who Am I? by ©Nth Fusion LLC (app)

Stories With Illustration
- Comprehending More Complex Auditory Information by Jean Gilliam DeGaetano (book)
- Listening, Understanding, Remembering, Verbalizing! by Jean Gilliam DeGaetano (book)
- Super Duper® Auditory Memory for Quick Stories™ (software)
- Super Duper® Fun Decks®
  - Auditory Memory for Short Stories (card set)
  - Auditory Memory for Details and Sentences (card set)
  - Auditory Memory for Social Studies Stories (card set)
  - Auditory Memory for Science Stories (card set)
- Super Duper® Leap into Listening! (book)
- Super Duper®122 Fold and Say® Auditory & Story Comprehension (book)

Stories Without Illustrations
- Super Duper® Fun Decks®
  - Auditory Memory for Short Stories (card set)
  - Auditory Memory for Details and Sentences (card set)
  - Auditory Memory for Social Studies Stories (card set)
  - Auditory Memory for Science Stories (card set)
- Super Duper® Look Who’s Listening® (game)

Cochlear Implant Companies Auditory Rehabilitation Resources
- Advanced Bionics
  - http://thelisteningroom.com/
  - www.bionicear.com/TFS
- Cochlear Americas
  - http://hope.cochlearamericas.com/
- Med-El
Auditory Skills Questionnaires

ABEL: Auditory Behavior in Everyday Life
Age range: 2-12 years
Purpose: Twenty-four item questionnaire with three subscales (Aural-Oral, Auditory Awareness, Social/Conversational skills) which evaluates auditory behavior in everyday life.

CHILD: Children’s Home Inventory for Listening Difficulties
Age range: 3-12 years. (Recommended for children 7-12).
Purpose: Questionnaire for the child and for the parent with 15 situations which rate how well the child understood speech.

COW: Children’s Outcome Worksheets
Age range: 4-12 years
Purpose: Three worksheets (child, parent, and teacher) are requested to specify 5 situations where improved hearing is desired.

LIFE: Listening Inventory for Education
Age range: 6 years and up.
Purpose: Questionnaire which identifies classroom situations which are challenging for the child. There are two formats of the questionnaire: a teacher questionnaire with 16 items and a child questionnaire with 15 items.

LittleEars
Age range: 0 years and up
Purpose: Questionnaire for the parent with 35 age-dependent questions that assesses auditory development.

MAIS: Meaningful Auditory Integration Scale
Age range: 3 to 4 years and up.
Purpose: Parental interview with ten questions that evaluates meaningful use of sound in everyday situations (attachment with hearing instrument, ability to alert to sound, ability to attach meaning to sound).
PEACH: Parents’ Evaluation of Aural/oral performance of Children
Age range: Preschool to 7 years
Purpose: Interview with parent with 15 questions targeting the child’s everyday environment. Includes scoring for 5 subscales (Use, Quiet, Noise, Telephone, Environment)

Preschool SIFTER: Preschool Screening Instrument For Targeting Educational Risk
Age range: 3 to 6 years
Purpose: Questionnaire with 15 items completed by the teacher which identifies children at risk for educational failure with five subscales (academics, attention, communication, participation, behavior).

SIFTER: Screening Instrument For Targeting Educational Risk
Age range: 6 years and above.
Purpose: Questionnaire with 15 items completed by the teacher which identifies children at risk for educational failure with five subscales (academics, attention, communication, participation, behavior).

TEACH: Teachers’ Evaluation of Aural/oral performance of Children
Age range: preschool to 7 years
Purpose: Interview with teacher with 13 questions targeting the child’s everyday environment. Includes scoring for five subscales (Use, Quiet, Noise, Telephone, Environment)

Questionnaire descriptions from:
http://www.oticonusa.com/~asset/cache.ashx?id=10835&type=14&format=web
What are the auditory benchmarks for average progress in CI children during the first year of implant use? Auditory benchmarks have been established independently for the following three groups of children, based upon research findings and clinical experience.1,3-6 These groups are:

**GROUP 1:** Children implanted in the preschool years (age four or earlier).

**GROUP 2:** Children implanted at age five or later who have some residual hearing/speech perception skills, have consistently worn hearing aids and communicate primarily through speech.

**GROUP 3:** Children implanted at age five or later who have little or no residual hearing/speech perception skills and are highly dependent on sign and other visual cues for language learning.

The benchmarks shown for each of the three groups in Tables 1, 2, and 3 are based on data collected and reported by the investigators cited above.

*Note that full-time implant use is an unconditional prerequisite to auditory development. If a child is not wearing the implant during all waking hours—at home, school, and other activities—these benchmarks are not applicable.

For additional information on Tracking Auditory Progress in Children with Cochlear Implants refer to Loud & Clear, Issue 1, 2005.
REFERENCES


IDENTIFYING RED FLAGS

By Amy M. Robbins

Why identify Red Flags?
The acquisition of listening is a developmental process that involves a sequence of cumulative skills—each subsequent skill depends on the acquisition of earlier skills. For this reason, delays early in listening development often lead to long-term delays, and long-term delays usually lead to life-long deficits. Clinicians should be familiar with the range of progress in typical children with implants so they are comfortable raising a Red Flag when a child’s performance lags behind that of his/her peers. However, it is important to note that what we term a Red Flag is not a diagnosis of a problem or a statement of permanent disability, but a notice to pay attention to the skill.

What is considered a Red Flag?
Based on the auditory benchmarks provided on the front side of this card, a Red Flag is a delay in a particular skill of three months or more. It is important to remember raising a Red Flag is an expression of mild concern. The number of Red Flags raised is based on the length of the delay and the number of skills delayed. Therefore, the greater the number of skills that are delayed at an interval, the more substantial the concern.

What do we do about Red Flags?
There is little value in raising a Red Flag for a listening skill unless we can suggest ways to monitor and improve that skill. Remember that a clinical Red Flag is not a diagnosis of a problem but an indication that increased attention needs to be given to a specific skill area. Below is a table that provides you with tips on how to respond to Red Flags.

Responding to Red Flags

<table>
<thead>
<tr>
<th>TABLE 4: HOW TO RESPOND TO ONE RED FLAG</th>
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<tbody>
<tr>
<td>✔ Share ideas with child’s parent</td>
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<td>✔ Confirm child wears CI during waking hours</td>
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<tr>
<td>✔ Contact CI center regarding possible equipment/programming changes</td>
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<td>✔ Assess that home/school environment creates a need for child to use the skill</td>
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<td>✔ Verify that prerequisites to a skill are adequately established</td>
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<td>✔ Break down skill into smaller steps and teach those steps</td>
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<td>✔ Use different materials/teach the skill in another way</td>
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<td>✔ Increase the intensity of training toward the skill</td>
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<tr>
<td>✔ Write plan of action/check every month for three months</td>
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</table>

<table>
<thead>
<tr>
<th>TABLE 5: HOW TO RESPOND TO TWO RED FLAGS</th>
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<tbody>
<tr>
<td>✔ Share concern with child’s parent</td>
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<tr>
<td>✔ Confirm child wears CI during waking hours</td>
</tr>
<tr>
<td>✔ Contact CI center regarding equipment/programming changes</td>
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<td>✔ Utilize any one-flag response</td>
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<td>✔ Change teaching methods/techniques</td>
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<td>✔ Add sensory modality</td>
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<td>✔ Consult with a colleague for new ideas</td>
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<td>✔ Refer for learning profile testing</td>
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<td>✔ Refer to specialists to rule out additional disabilities</td>
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**Auditory Learning Guide**

### PHONEME LEVEL** (Speech Babble)

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Step 2</th>
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<tbody>
<tr>
<td>Detect presence of any speech syllable</td>
<td>Imitate physical actions before speech imitations</td>
<td>Identify any phoneme that speaks simultaneously when group out of ear (or other cue)</td>
<td>Identify varying suprasegmental qualities in phonemes (advancement, pitch)</td>
<td>Acoustic sounds (voice, pitch)</td>
<td>Locate environmental sounds at loud, medium, and soft levels at close range, to a distance of 6-12 ft. and at a distance of greater than 12 ft.</td>
<td>Detect speech, detect environmental sounds at different distances, and detect speech at different distances</td>
<td>Imitate alternating vowels and diphthongs, e.g., /a/-/e/</td>
<td>Identify an object from several related descriptors (closed set)</td>
<td>Follow a conversation with the topic disclosed</td>
</tr>
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### DISCOURSE LEVEL (Auditory Processing of Connected Speech)

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<th>Step 1a</th>
<th>Step 2a</th>
<th>Step 3a</th>
<th>Step 4a</th>
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<th>Step 8a</th>
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<tr>
<td>Identify and imitate approximations of &quot;Learning To Listen&quot; sounds varying in suprasegmentals and vowel content, e.g., (a-a-a)/plane, (u-i)/train, (o-i)/pig in isolation, at the end, and then in the middle of a sentence.</td>
<td>Identify nursery rhymes or songs.</td>
<td>Answer common questions about a familiar story phrase in a three or four scene-story.</td>
<td>Complete known linguistic messages from a closed set (e.g., nursery rhymes, songs, familiar stories).</td>
<td>Answer common questions about a familiar story phrase in a three or four scene-story.</td>
<td>Complete known linguistic messages from an open set (e.g., nursery rhymes, songs, familiar stories).</td>
<td>Identify familiar stereotypic phrases or sentences.</td>
<td>Complete known linguistic messages from an open set (e.g., nursery rhymes, songs, familiar stories).</td>
<td>Identify nursery rhymes or songs.</td>
<td>Identifying linguistic messages, including rhymes/songs with accompanying vocalization.</td>
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### SENTENCE LEVEL

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<th>Step 1b</th>
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<td>Recall two critical elements in a familiar story phrase in a three or four scene-story.</td>
<td>Recall three critical elements in a familiar story phrase in a three or four scene-story.</td>
<td>Identify familiar stereotypic phrases or sentences.</td>
<td>Recall two critical elements in an undisclosed story (topic disclosed).</td>
<td>Identify one, two, and three syllable words in isolation, e.g., cat vs. chicken vs. kangaroo.</td>
<td>Identify nursery rhymes or songs.</td>
<td>Identify final elements in an undisclosed story (topic disclosed).</td>
<td>Identify final elements in an undisclosed story (topic disclosed).</td>
<td>Identify nursery rhymes or songs.</td>
<td>Identify final elements in an undisclosed story (topic disclosed).</td>
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### WORD LEVEL

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### NOTES:

- A detection response could include turning head, pointing to ear, clapping, dropping a toy in a container, etc.

### REFERENCES:

Ling-6 Sounds daily check

Name: ____________________________________________

Uses:
☑ A cochlear implant only
☑ A hearing aid only
☑ Both a cochlear implant and a hearing aid

Distance tested at: __________________ Presentation Level: ________________

☑ Noisy situation OR ☐ Quiet situation

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2010 Cochlear Ltd & Cheryl L Dickson
Identification

<table>
<thead>
<tr>
<th>Spondees</th>
<th>Monosyllables Differing In Vowels Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airplane</td>
<td>Back, Beak, Bike, Book</td>
</tr>
<tr>
<td>Backpack</td>
<td>Ball, Bell, Bowl, Bull</td>
</tr>
<tr>
<td>Baseball</td>
<td>Bat, Bite, Boat, Boot</td>
</tr>
<tr>
<td>Bathtub</td>
<td>Bean, Bone, Barn</td>
</tr>
<tr>
<td>Birdhouse</td>
<td>Bead, Bed, Bird, Bud</td>
</tr>
<tr>
<td>Cowboy</td>
<td>Cake, Coke, Cook, Kick</td>
</tr>
<tr>
<td>Cupcake</td>
<td>Call, Coil, Cool, Curl</td>
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<tr>
<td>Doorknob</td>
<td>Can, Cane, Coin, Cone</td>
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<tr>
<td>Flashlight</td>
<td>Cat, Coat, Cut, Kite</td>
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<tr>
<td>Football</td>
<td>Hat, Heart, Hit, Hot</td>
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<tr>
<td>Lunchbox</td>
<td>Net, Night, Note, Nut</td>
</tr>
<tr>
<td>Mailbox</td>
<td>Lake, Lick, Lock, Leak</td>
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<tr>
<td>Paintbrush</td>
<td>Man, Men, Mane, Moon</td>
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<tr>
<td>Playground</td>
<td>Mice, Mouse, Mess, Mouse</td>
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<tr>
<td>Popcorn</td>
<td>Peel, Pole, Pool, Pull</td>
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<tr>
<td>Rainbow</td>
<td>Pain, Pan, Pen, Pine</td>
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<tr>
<td>Raincoat</td>
<td>Pat, Pet, Pot, Putt</td>
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<tr>
<td>Scarecrow</td>
<td>Paw, Pay, Pea, Pie</td>
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<tr>
<td>Snowman</td>
<td>Read, Red, Ride, Road</td>
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<tr>
<td>Suitcase</td>
<td>Sheet, Shirt, Shout, Shut</td>
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<tr>
<td>Toothbrush</td>
<td>Tap, Tape, Top, Type</td>
</tr>
<tr>
<td>Toothpaste</td>
<td>Tea, Tie, Toy, Two</td>
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<tr>
<td></td>
<td>Tail, Tile, Tall, Tool</td>
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<tr>
<td></td>
<td>Weed, Wide, Wood, Word</td>
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</tbody>
</table>

Monosyllables Differing In Consonants Only
Cake, Game, Paint, Plate, Rake, Snake, Tape, Train
   Bike, Dime, Kite, Light, Nine, Pie, Slide, Tie
Boat, Bone, Comb, Ghost, Nose, Soap, Stove, Throw
Cloud, Clown, Couch, House, Cow, Mouth, Shout, Owl
   Boy, Coin, Foil, Oink, Point, Void, Voice (Boil)
Boot, Broom, Glue, Juice, Moon, Roof, Soup, Tooth
Book, Bush, Foot, Hood, Hoof (Cook, Hook, Push)
   Ball, Chalk, Dog, Salt, Saw, Yawn (Fall, Jaw)
Box, Hot, Job, Lock, Sock, Mom, Top (Clock)
Brush, Bug, Bus, Cup, Drum, Duck, Jump, Sun
Bird, Burn, Church, Dirt, Girl, Purse, Stir, Worm
Bee, Cheese, Feet, Leaf, Peach, Sheep, Teeth, Tree
Back, Cat, Dad, Flag, Grass, Laugh, Map, Tab
Bed, Desk, Dress, Egg, Leg, Neck, Nest, Wet
   Bib, Chip, Fish, Kiss, Pig, Pin, Six, Witch
Identification

Rhyming Words With Minimal Contrasts

**s/f/voiceless th**
- Sought, Fought, Thought
- Sin, Fin, Thin
- Singer, Finger
- Sun, Fun
- Sail, Fail
- Sat, Fat
- Seat, Feet
- Sell, Fell
- Sight, Fight
- Sir, Fur
- Sit, Fit
- Six, Fix
- Soot, Foot
- Soil, Foil
- Sound, Found
- Sing, Thing
- Sink, Think
- Sank, Thank
- Saw, Thaw
- Sick, Thick
- First, Thirst

**b/d/g**
- Bad, Dad, Gad
- Bait, Date, Gate
- Bash, Dash, Gash
- Beer, Dear, Gear
- Bet, Debt, Get
- Big, Dig, Gig
- Bill, Dill Gill
- Bow, Doe, Go
- Boo, Do, Goo
- Boar, Door, Gore
- Boat, Dote, Goat
- Bong, Dong, Gong
- Buy, Dye, Guy
- Bum, Dumb, Gum
- Bun, Done, Gun
- Bust, Dust, Gust

**m/n**
- Mail, Nail
- Map, Nap
- May, Neigh
- Me, Knee
- Meat, Neat
- Met, Net
- Mice, Nice
- Might, Night
- Mill, Nil
- Mix, Nix
- Moose, Noose
- Mope, Nope
- Mum, Numb
- Moo, New
- Mock, Knock
- Mow, No