Phonological Processing

How we listen to and remember sounds and words

Phonological processing is a group of skills that help us remember and learn speech sound-based information. It includes:

- Phonological Awareness and Phonemic Awareness
- Short-term Phonological Memory
- Phonological Working Memory
- Rapid Naming

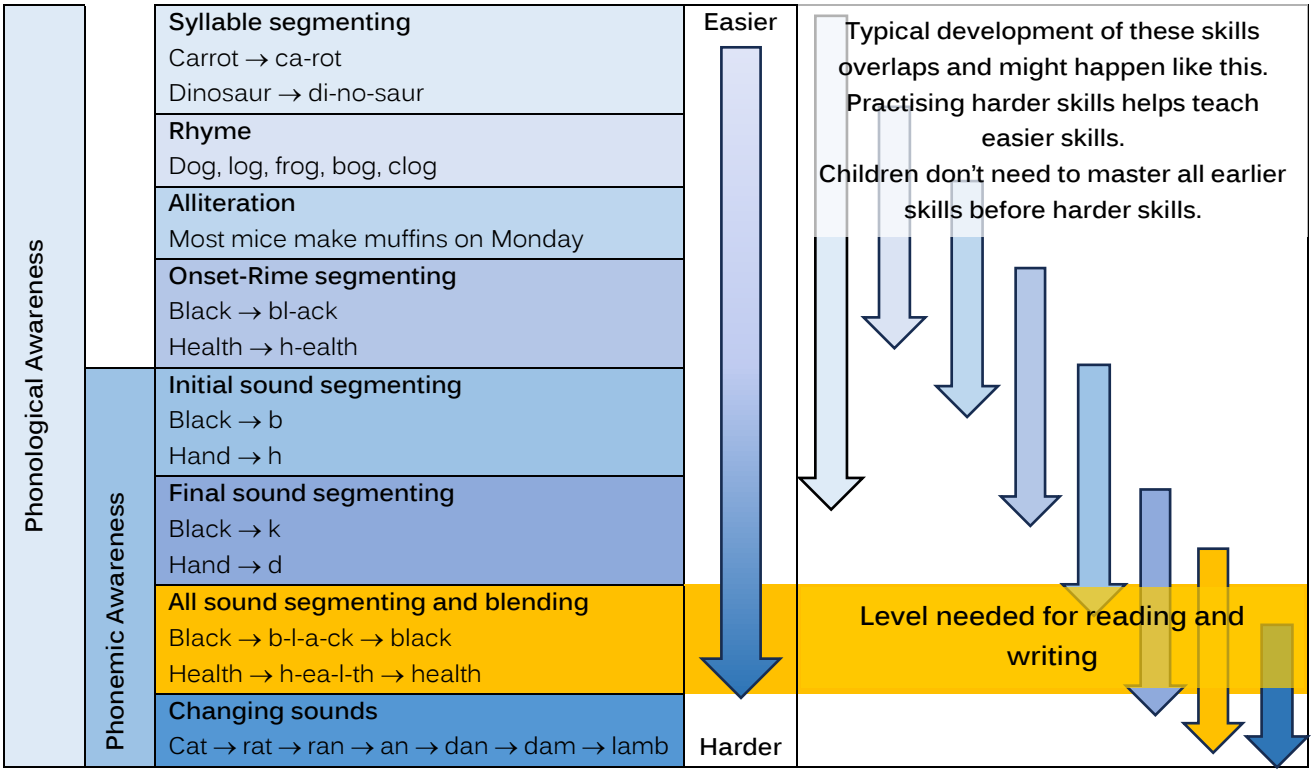
All of these skills are important for learning. They are especially important for learning to read and spell. Children who have strong phonological processing skills usually learn to read and write easily. Children who have weak phonological processing skills usually have difficulty learning to read and write.

Here is some more information about each skill:

Phonological Awareness and Phonemic Awareness

These are the skills that let us notice the sounds in words. Phonological Awareness is noticing larger parts of words, like syllables and rhyming. Phonemic Awareness is part of Phonological Awareness. Phonemic Awareness is noticing single sounds in words.

We need Phonological Awareness and Phonemic Awareness to learn and remember new words. We also need them to learn to read and spell. Phonological and phonemic awareness tasks are done with SOUNDS, not letters. When you look at the chart below, think about the SOUNDS those letters represent. Once letters are being used, we are practising a different skill: phonics.



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Short-term Phonological Memory

Short-term Phonological Memory is also called Short-term Auditory Memory. It is how much sound-based information we can remember for 15-30 seconds. This includes sounds, single words, sentences, and spoken paragraphs. This could be someone telling you a phone number, or a shopping list, and you remembering it while you write it down.

We also use our short-term phonological memory to learn new words and sentences. If we can't remember the new words and sentences that someone tells us, we can't learn them.

Short-term phonological memory is used for:

- Learning new vocabulary
- Reading and writing development
- Remembering and answering questions
- Remembering and following instructions
- Remembering and understanding stories

Phonological Working Memory

Phonological working memory is different to short-term memory. Working memory lets us do complex thinking. It is very important for learning and linking new information to information that we already know.

It is a bit like tabs in an internet browser. If you have a strong working memory, you can have lots of mental 'tabs' open and swap between them while you're looking up information. If you have a weak working memory, you might only be able to have one or two 'tabs' open. When you open a new 'tab' (or have a new thought), you forget about what you were thinking before.

We use working memory to:

- Hold information in our memory while we're doing something else. For example, remembering to feed the cat while we cook dinner.
- Think about different ways to solve a problem.
- Remember what to do next.
- Compare information so that we can understand it more deeply.
- Hold onto a thought while still listening to what someone is telling us.

Rapid Naming

Rapid naming checks how fast someone can think of and say a sound or word. The person must quickly get the sound or word from their long-term storage and say it accurately.

This is important for reading. Having strong rapid naming skills means we can look at the letter or word, and very quickly remember what sound it represents. Having weak rapid naming skills means this takes more time. So then we need better short-term and working memory to make up for the slow speed. If we also don't have strong memory skills, it becomes difficult to read.

Children who have weak rapid naming AND weak phonological awareness skills often have the most difficulty learning to read.

They need very specific types of help to make sure they learn to read. Luckily, researchers have found what types of help work best for these children. We know what to do to help.

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