The Science of Reading

**Phonological Awareness**
- Phonological awareness is the ability to notice the sound structure of spoken words.
- Basic phonological awareness skills include phoneme blending and segmentation and are generally mastered by most students by the end of the first grade.
- Advanced phonological awareness skills involve manipulating phonemes which include deleting, substituting, or reversing phonemes within words.

**Phonics**
- Phonics is a system for approaching reading that focuses on the relationship between letters and sounds.
- The teaching has to move from letter/sound correspondences to graphemes, syllables and morphemes.

**Fluency**
- Fluency is the ability to read a text quickly, accurately, and with proper expression.
- Fluency is determined by the size of your sight vocabulary.
- If a student is good at orthographic mapping, reading practice is helpful to increase fluency.
- If a student is not good at orthographic mapping, reading practice does not help to increase fluency.

**Vocabulary**
- Vocabulary is the knowledge of words and word meanings.
- Connecting meaning to spelling patterns of words can be critical to expanding a student’s vocabulary.
- Morphology is the study of segmenting words into prefixes, suffixes, roots, or bases and the origins of words.
- Vocabulary knowledge is knowledge; the knowledge of a word not only implies a definition, but also implies how that word fits into the world.

---

**WHAT**

**WHY**

**HOW**

Phonological awareness, phonics, fluency, and vocabulary all lead to **COMPREHENSION**.

Reading aloud to children builds the foundation of literacy learning. Listening comprehension comes before reading comprehension.

For maximum academic gains, students need systematic, explicit, engaging and success oriented instruction. Systematic means a teacher has a specific scope and sequence for introducing each skill. Explicit means that the teacher provides clear and precise instruction. Engaging instruction that is success oriented involves increased active participation in the instructional activities while minimizing errors and providing immediate corrective feedback when errors occur.
References for the Science of Reading Document

1. Kilpatrick, 2015
2. Honig, Diamond & Gutlohn, 2008
5. Hulme, Bowyer-Crane, Carroll, Duff & Snowling, 2012
7. Laing & Hulme, 1999; Dixon, et. Al, 2002; Torgeson, 2004; Ehri, 2005
8. NELP, 2008; Kilpatrick, 2012
13. Caravolas, Volin, &Hulme, 2005; Vaessen & Blomert, 2010
14. NICHD, 2000; Kilpatrick, 2012
17. Rasinski, 2006
22. Pilkulski & Chard, 2005; Raskinski, 2010
23. Hasbrouck and Tindal, 2006
25. NIL, 2007; Honig, Diamond & Gutlohn, 2008
26. Templeton, 2010
27. Henry, 2010
28. Stahl, 2005
30. Rupley, Logan & Nichols, 1999
32. Soifer, 2005
33. Scarborough, 2001; Hirsch, 2003; Mansour, 2011; Geffner, Ross, Swaim & Williams, 2011
34. Archer, 2010