

Mathematical Language Routines



Three Reads

What it is: A structured reading routine to ensure students know what they are asked to do.

Example: Read #1: What is this about.
Read #2: What is this asking me to do?
Read #3: What information do I have?



Compare & Connect

What it is: Compare and contrast different mathematical approaches, representations, examples, concepts, and language.

Example: Ask students to solve an open ended task. Then have students with different solutions share their work. Then ask class to reflect on similarities and differences.



Discussion Supports

What it is: A set of talk structures, routines, and moves for supporting participation and engagement.

Example: Structured sharing (A-B partner sharing); Teacher using discussion moves such as revoice, repeat, press, wait time; Group and individual accountability.



Co-Constructed Word Wall

What it is: A public display of words that will support a discussion. This can help students use academic language more naturally.

Example: Brainstorm terms related to a certain topic (e.g. interpreting graphs). Then post a list for discussion.



Acting It Out

What it is: Ask students to enact the story while introducing the problem, or at the conclusion when the problem is solved.

Example: Model a race with a headstart and show the difference (IRL) between a distance head start and a time-delay head start. Then connect to graphical representations.



This poster was created by Kevin Pelaez, Ernesto Calleros, Lynda Wynn, Sebastian Ulloa, Judith Moreno, Cassandra Eyer and William Zahner. Find lessons and other resources like this at <http://meld.sdsu.edu>

This work is based upon work supported by the National Science Foundation Under Grant No. 1553708. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

Mathematical Language Routines (MLRs) 1 through 8 are from Zwiers, J., Dieckmann, J., Rutherford-Quach, S., Daro, V., Skarin, R., Weiss, S., & Malamut, J. (2017). *Principles for the Design of Mathematics Curricula: Promoting Language and Content Development*. Retrieved from Stanford University, UL/SCALE. <http://ell.stanford.edu/content/mathematics-resources-additional-resources>