

Three Reads Routine

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*This routine is adapted from Stanford's UL/SCALE [Mathematical Language Routines](#) and from *Routines for Reasoning*, by Grace Kelemanik, Amy Lucenta and Susan Janssen Creighton (pp. 128–149).*

Purpose of the routine

Ensure that students know what they are being asked to do, create opportunities for students to reflect on the ways mathematical questions are presented, and equip students with tools used to negotiate meaning (Kelemanik, Lucenta & Creighton, 2016). This routine supports reading comprehension, sense-making, and meta-awareness of mathematical language. It also supports negotiating information in a text with a partner in mathematical conversation.

Prepare for the Routine

Do the math

Preview and reflect on the mathematical thinking you expect students to do. Doing the math yourself prepares you to understand how a particular way of thinking arises from, or can be applied to, the problem. Identify the language, both mathematical and specific to the context of the problem, that may be challenging for multilingual learners, and prioritize those that are critical to the mathematical interpretation of the problem statement.

Prepare language supports

After identifying the language demands of the task, pre-plan/pre-create images, gestures, etc. to use when reading aloud the task. This will cut down on the time needed to explain words in the task. Select up to three key terms that need a direct explanation or check and briefly define each with a picture or representation. Identify sentence starters and a word bank to support students in communicating with a partner or in the full group.

Launch the Routine

Introduce the Routine

Articulate the purpose and flow of the routine to students, indicating the question that will be answered with each read. The first time you introduce the Three Reads routine, think about how you will refer to different pieces of the routine (“individual think time” or “working with a partner”) and be consistent with these naming conventions. Prepare a chart or slides to guide students through the three steps and use the same visuals each time you do the routine.

First Read – Understanding the Context

The first read of the problem is intended to help students get the gist of what the problem is about, describing the situation without using numbers and thinking about both the context and the mathematically relevant aspects of the problem.

Individual Think Time

Students read the problem and ask themselves, *What is this problem about?* Teachers may also choose to read the problem aloud to the entire class, have a student read it aloud, or use another strategy to support students in reading the problem. This is also an appropriate time to pre-teach or check understanding of some of the critical math vocabulary. Students should record or draw their ideas.

Full Group Share

Ask students to provide a word or phrase describing the problem. This should be a quick share out, with brief statements, such as “This problem is about apples” or “This problem is about finding how many apples the prince picked.” The teacher records the phrases, categorizing them as “context” or “math” and resolves

Teacher Asks:	Student Sentence Starters
How would you describe this problem in your own words?	I think this problem is about...
What is the context of this situation? What seems to be happening?	This problem is about...
How could you tell this story using different words?	In this story, I think that...is happening. I agree with you that... I disagree because...

Second Read – Interpreting the Question

The think-pair-share structure, combined with rephrasing the question in their own words, gives students multiple opportunities to clarify their understanding.

Individual Think Time

Now that they fully understand the situation described in the problem, students read the problem and ask themselves, *What am I trying to find out?* This is an opportunity for students to clarify the goal of the problem.

Pairs

Students work together to articulate the question in their own words. This does not need very much time, but is an important step that allows students to rephrase the purpose of the problem.

Full Group Share

(Share) Call on a pair of students to offer possible wording of the problem question. (Rephrase/Reword) Ask one or more students to rephrase the first wording of the question.

(Record) Record one or two framings of the question to be answered. Label these with student names to acknowledge their contributions.

Teacher Asks:	Student Sentence Starters:
What are we trying to find out in this problem? How do you know?	The question is... I know the problem is asking...because...

Third Read – Identifying Important Information

Now that students understand the context from the first read, and the question from the second read, they can now interpret the quantities and other information that is relevant to answering the question.

Pairs

In the final read, students talk with a partner to identify important information and analyze the language used to present the mathematical structure. This information includes the quantities, both explicit (e.g. 12 monkeys) and implicit (e.g. number of laps). Students should draw a diagram that represents the quantities and their relationships in the problem.

Depending on what they notice and pay attention to, students may lean toward one of three avenues of thinking aligned with the mathematical practices:

- MP 2 – reason abstractly and quantitatively: What are the important quantities and relationships in this problem?
- MP 7 – look for and make use of structure: How is this situation behaving?
- MP8 – regularity in repeated reasoning: Is there a process that keeps repeating that I can generalize?

Full Group Share

Students share, rephrase and reword important information. The teacher records their thoughts about what information is important. The teacher may help students connect what they noticed and focused on to one of the avenues of thinking to generalize their mathematical reasoning.

Teacher Asks...	Student Sentence Starters
What are the quantities in this situation?	The quantities are...
What can be counted?	I can count...
What did you notice about the quantities?	I notice the quantities are...
Do these quantities help answer the question? Which quantities will help us answer the question?	These quantities help me to answer...
Is there other information that is important to answering the question?	The information from the situation that we need is...
Is there information we don't need?	

Solve the Problem

Following the third read, students should have time to attempt to solve the problem individually.

Variations

Withhold the question

Pair this routine with Math Language Routine #5, by withholding the question until the 3rd read. This allows students to focus on understanding the situation fully, and is a good option when students start trying to solve problems too soon.

Translating the routine to an asynchronous setting

Identify the most critical aspects of the routine for your students, and set up opportunities for them to view and comment on each other's thinking, using video (e.g. Flipgrid) or written comments (e.g. Google Docs).

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