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Illustrative Mathematics CERTIFIED®

K–5 Vocabulary Development

Addressing language needs gives all students access to grade-level mathematics

The design structure of Imagine Learning IM K–5 Math promotes mathematical language use and development, providing multiple entry points for all students to access grade-level mathematics.

Design Principles

Embedded within Imagine Learning IM Math are instructional routines and supports based on the four design principles for promoting mathematical language use and development:

Principle 1:

Support Sense-Making

Scaffolding tasks and amplifying language encourages students to engage with the grade-level content before understanding the vocabulary completely. By anticipating where students may need support in understanding mathematical concepts or terms, teachers can make language more accessible without simplifying speech or text.

Principle 2:

Optimize Output

Strengthening opportunities and supports for students to describe their mathematical thinking orally, visually, and in writing allows for growth in how students use language to engage with important mathematical concepts and ideas.

Principle 3:

Cultivate Conversation

Continuous and constructive mathematical conversations in pairs, groups, or as a whole class act as scaffolds for students developing mathematical language. These conversations provide opportunities to make meaning, communicate that meaning, and refine the way conceptual understanding is communicated.

Principle 4:

Maximize Meta-Awareness

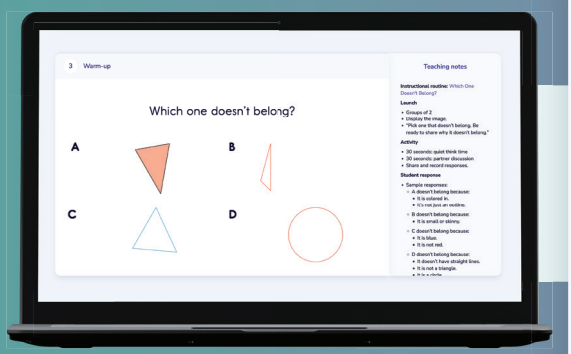
Through engaging in classroom activities or discussions around reasoning about mathematical concepts, students' meta-awareness is strengthened, allowing them to expand their use of language. Students can reflect on their own thought processes and language use while reasoning about mathematical ideas.

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Grade-Level Accessibility

Imagine Learning IM Math believes that all students should have access to mathematical discussions, regardless of their vocabulary development

- Math vocabulary is an integral part of mathematical discussions, and students often hear words before they are expected to use them.
- In IM K–5 Math, students are encouraged to use their own informal language before formal terms are solidified, ensuring that all students have access to the mathematical discourse.
- Students continue to develop mathematical language alongside their available vocabulary through sharing ideas in peer-to-peer and whole-class discussions, while never being restrained by a lack of academic language development.



Teaching notes

Instructional routine: Which One Doesn't Belong?

Launch

- Groups of 2
- Display the image.
- "Pick one that doesn't belong. Be ready to share why it doesn't belong."

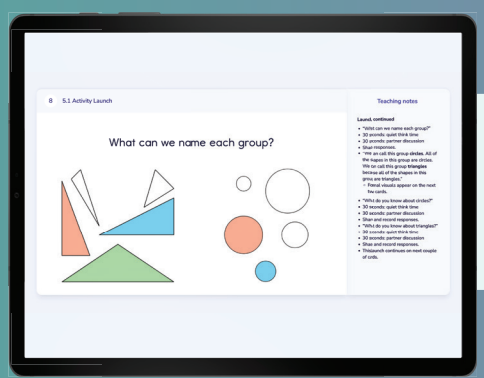
Activity

- 30 seconds: quiet think time
- 30 seconds: partner discussion
- Share and record responses.

Student response

- Sample responses:
  - A doesn't belong because:
    - It is colored in.
    - It's not just an outline.
  - B doesn't belong because:
    - It is small or skinny.
  - C doesn't belong because:
    - It is blue.
    - It is not red.

Sample student responses are called out at point-of-use in the Teaching Notes so that teachers can see the informal language students might use during shared discourse.



Teaching notes

Launch, continued

- "What can we name each group?"
- 30 seconds: quiet think time
- 30 seconds: partner discussion
- Share responses.
- "We can call this group **circles**. All of the shapes in this group are circles. We can call this group **triangles** because all of the shapes in this group are triangles."
  - Formal visuals appear on the next two cards.
- "What do you know about circles?"
- 30 seconds: quiet think time
- 30 seconds: partner discussion
- Share and record responses.
- "What do you know about triangles?"
- 30 seconds: quiet think time
- 30 seconds: partner discussion
- Share and record responses.
- This launch continues on next couple of cards.

Further along in the lesson sequencing, teachers formalize the academic language, encouraging students to start using the proper terms orally and in writing.

Imagine Learning is with you every step of the way.
To learn more or to connect with your local account executive, go to **www.imaginelearning.com/contact-us**

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