



PD · ON · DEMAND

MATHEMATICS



THE STRUGGLE IS REAL

The 5 Types of Mathematical Representations



[Note Page for Direct Instruction Video](#)



[Direct Instruction Video](#)



Additional Resources:

- [MS CCRS for Mathematics](#)
- [Use and Connect Mathematical Representation](#)

Physical, Visual, and Symbolic Representations



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[Direct Instruction Video](#)



[Example and Activity](#)



Additional Resources:

- [Concrete-Representational-Abstract Instructional Approach](#)
- [Glossary of Manipulatives](#)
- [Glencoe Virtual Manipulatives](#)

Verbal Representations



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[Direct Instruction Video](#)



[Example and Activity](#)



Additional Resources:

- [Never Say Anything a Kid Can Say!](#)
- [Understanding Mathematics Through Grappling and Discourse](#)
- [Middle School: Engaging in Mathematical Discourse](#)

Contextual Representations



[Note Page for Direct Instruction Video](#)



[Direct Instruction Video](#)



[Example and Activity](#)



Additional Resources:

- [Problem-Centered Mathematics Teaching](#)
- [Illustrative Mathematics Tasks](#)
- [Inside Mathematics Tasks](#)

For additional questions regarding the content of this PD on Demand, please contact:

- Amy Pinkerton (K-5 Math PDC) at apinkerton@mdek12.org
- Elise Brown (6-12 Math PDC II) at elise.brown@mdek12.org
- Tommisha Johnson (K-12 State Math Director) at tjohnson@mdek12.org

To request professional development for your school or district, please contact Dr. Kristina Livingston at klivingston@mdek12.org.