Building a Problem-Solving Disposition

What do we do each day in our classrooms to build mathematical thinkers?

1. Do our classroom activities and discussions focus on students' thinking related to how and why they chose a particular strategy, rather than on just getting the answer?	☐ Never	☐ Seldom	☐ Often	☐ Always
2. Do our classroom discussions move beyond oversimplified, and sometimes unreliable methods like key words (e.g. "I saw the word *altogether* so I just added.")?	☐ Never	☐ Seldom	☐ Often	☐ Always
3. Do we pose one or two problems for students to solve and discuss thoroughly rather than supply a list of problems to be solved as quickly as possible?	☐ Never	☐ Seldom	☐ Often	☐ Always
4. Do we often replace easier, more direct problems with problems that push students to apply their understanding in math content?	☐ Never	☐ Seldom	☐ Often	☐ Always

What do we do to keep our students actively engaged in solving problems?

5. Do we routinely ask students to talk and write as they solve problems? Do we provide ongoing opportunities for them to talk about both process and solution, to identify their own thinking, and to discuss alternate ways to approach a problem?	☐ Never	☐ Seldom	☐ Often	☐ Always
6. Are our questions frequent, purposeful, and high level?	☐ Never	☐ Seldom	☐ Often	☐ Always
7. Do we maintain students' interest and expand their insights by asking them to share their ideas and actively solve problems with partners and groups?	☐ Never	☐ Seldom	☐ Often	☐ Always

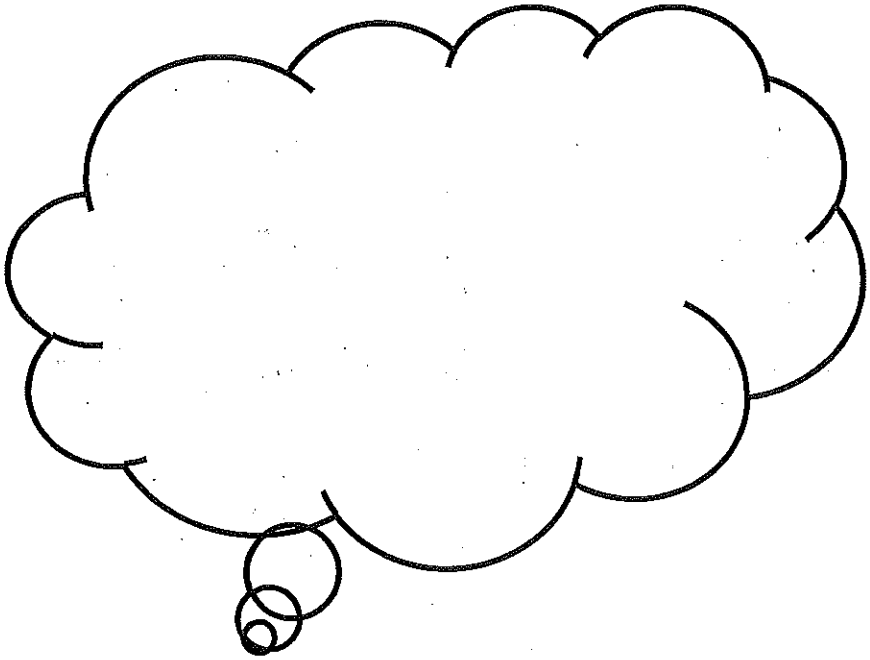
How do we help our students develop positive attitudes and demonstrate perseverance during problem solving?

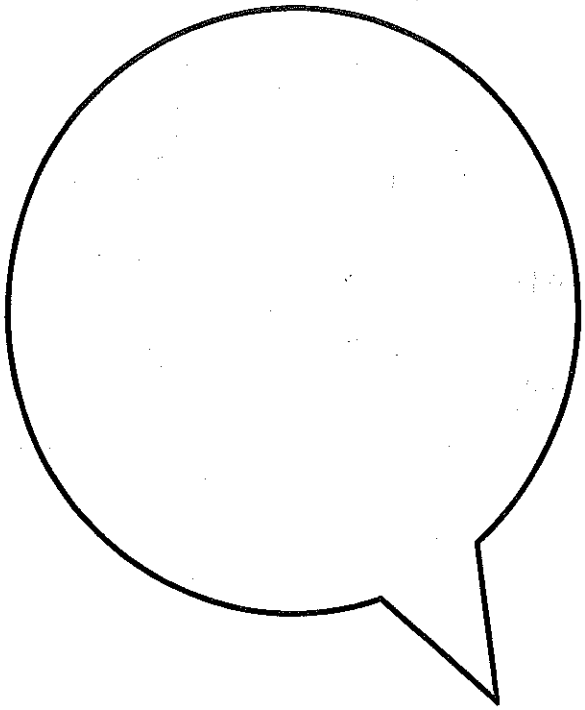
8. Do we provide opportunities for students to explore complex problems that may include multiple approaches or answers that are not immediately apparent?	☐ Never	☐ Seldom	☐ Often	☐ Always
9. Do we praise their efforts, with value placed on persistence and process rather than on the answer?	☐ Never	☐ Seldom	☐ Often	☐ Always
10. Is our classroom environment supportive and nonthreatening? Is speed deemphasized and is confusion openly discussed, including insights on ways to simplify problems and move through confusion?	☐ Never	☐ Seldom	☐ Often	☐ Always
11. Do we acknowledge the efficiency of particular strategies but still celebrate individual, reasonable approaches?	☐ Never	☐ Seldom	☐ Often	☐ Always

What does problem solving look like and sound like?

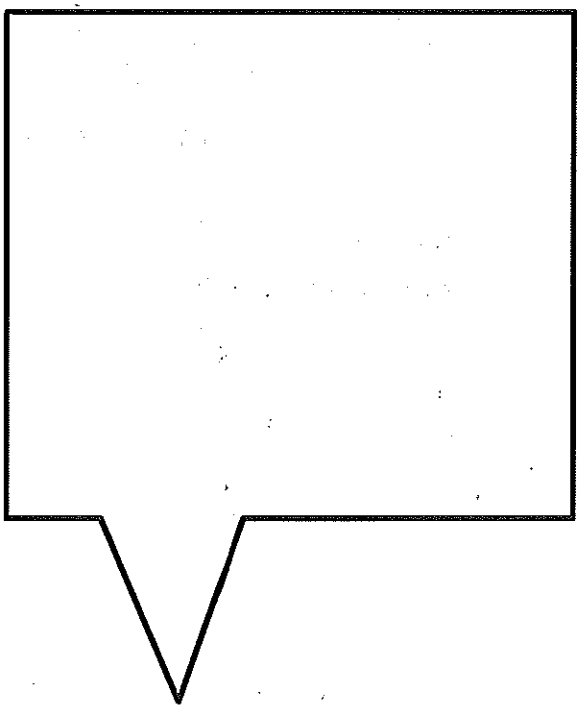
Look Like	Sound Like

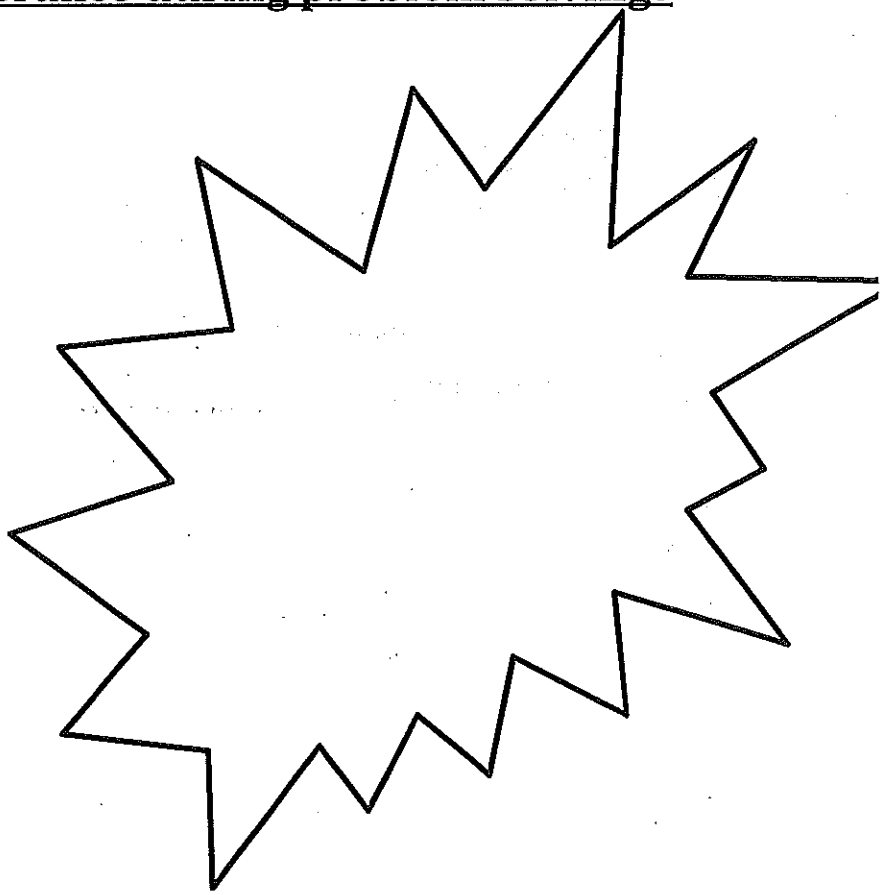
How do you actively engage students in solving problems?



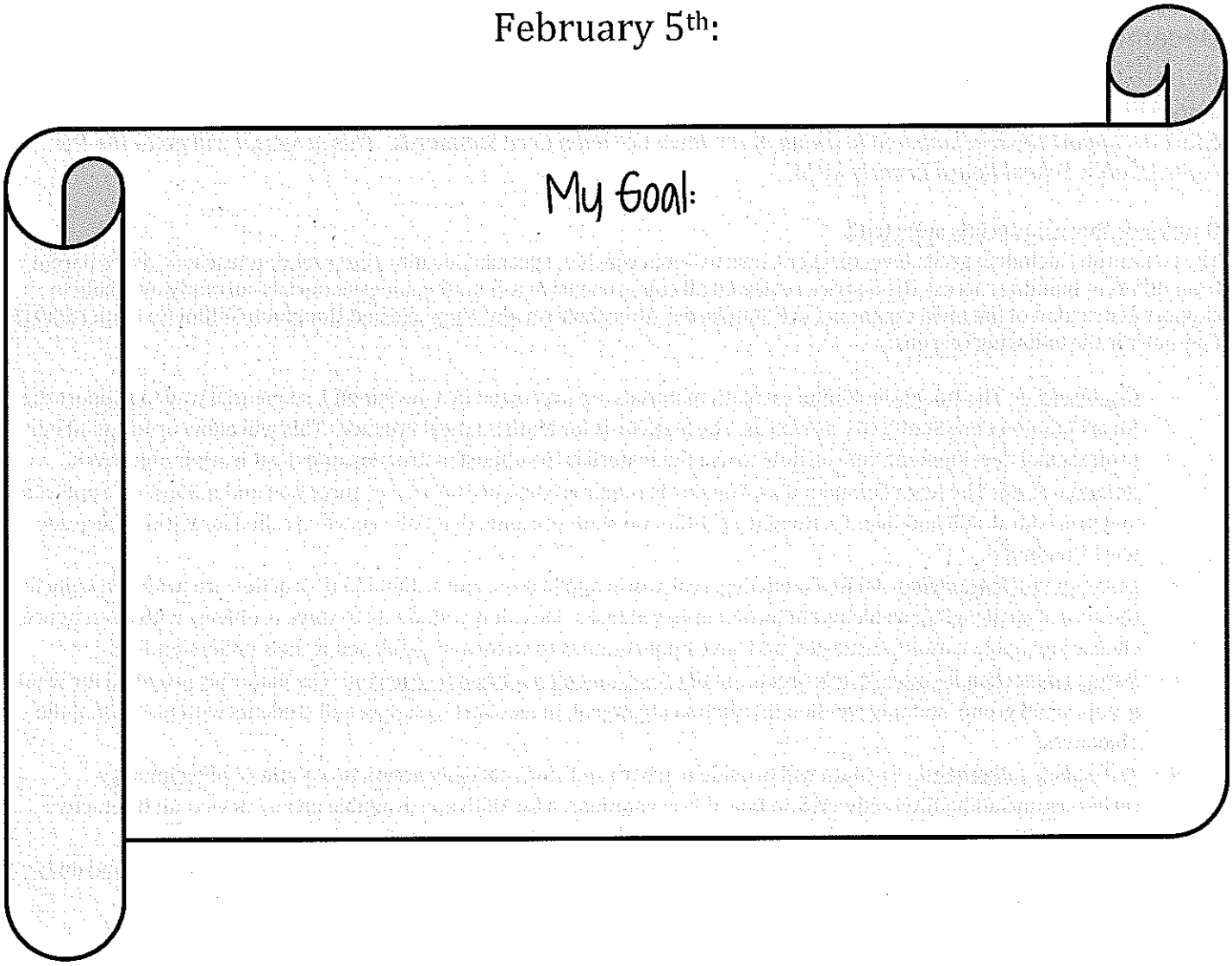


How do you help your students develop positive attitudes and demonstrate perseverance during problem solving?





My Mathematical Practice Standard #1 goal to accomplish before February 5th:



Reflection (after attempting/reaching goal):

Please bring this sheet back on February 5th.

K-5 Mathematics Materials Upgrade

December 2013

On December 17th, a committee of 17 district representatives from Des Moines Public Schools voted in favor of the materials upgrade purchase of the Houghton Mifflin Go Math (©2015) comprehensive mathematics program in an effort to support the teaching and learning of the Iowa Common Core Standards. This proposal will go to the Des Moines Public School Board in early 2014.

How were these materials selected?

The committee, including grade level teachers, instructional coaches, special education/intervention teachers, and a parent from different buildings across the district, reviewed all comprehensive K-5 mathematics materials currently available to support instruction of the Iowa Common Core Standards. After their review, they selected Houghton Mifflin Go Math (©2015) upgrade for the following reasons:

- *Organization*: The Houghton Mifflin Go Math materials are organized in a meaningful, sequential way to support the Iowa Common Core Standards, as well as, The Standards for Mathematical Practice. This will allow us to spend our professional development time on how to use the materials to support instruction and meet learner objectives.
- *Balanced Math*: The Iowa Common Core Standards requires a balance between conceptual understanding, application, and procedural skill and fluency. Houghton Mifflin Go Math presents that balance when called for within the grade level standards.
- *Focus on Problem Solving:* Mental modeling, real-world application, and scaffolded instruction are provided daily in the area of challenging problems and problem-based tasks. This allows students to solve problems with persistence, choose and apply various strategies, and have opportunities to write and speak about their understanding.
- *Strong Connection between Whole Group, Small Group, and Intervention Instruction:* The materials provided for whole group, small group, and intervention instruction alignment, in an effort to support all students with mastery of the objectives.
- *Technology Integration:* Go Math will provide teachers and students daily access to a plethora of technology resources, including Interactive White Board Presentations, a Go Math app available on any device, an Interactive Student Edition, Virtual Manipulatives, and a Personalized Math Trainer for every student.
- *Strong ELL Support Components:* Vocabulary Cards, vocabulary builders, small group hands-on activities, and daily lessons that are aligned to core instruction are provided to support the math development of our ELLs.

How will the ©2015 impact our implementation?

Des Moines Public Schools will upgrade to the 2015 copyright for the 2014-2015 school year. The Houghton Mifflin Go Math (©2015) will include new technology including, Math On The Spot (MOTS) Videos, a Personalized Math Trainer Program, an Interactive Student Edition, and the Go Math App available on any device. This edition will also include a new adaptive, personalized assessment and intervention system.

While we are excited for these new components, the 2015 copyright will impact the timing of our implementation. We currently anticipate full arrival of our classroom and student materials in late August. We will work with our purchasing and warehouse personnel to ensure timely delivery of these materials to classrooms. An official start date for our Unit 1 math instruction and materials implementation will be established in alignment with this guaranteed delivery date of your instructional materials.

How will teaching staff be supported with the orientation of Go Math?

Training sessions will be provided multiple times over the summer months for instructional staff. These sessions will focus on what is included in the Go Math materials and how these will support instruction of our district mathematics curriculum guides. Staff will be compensated for their time, should they choose to attend a training session.

During the 2014-2015 school year, District PLC early-release Wednesday sessions will focus on the use of the Go Math materials to support instruction of the Iowa Common Core Standards, with imbedded technology integration.