

# Standards, Assessment, and Instruction: Connecting the Dots

Instructional Planning for the  
2009/2010 School Year

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## Using Standards to Guide Instruction:

What GLEs should be used to help guide instruction?

- The current grade's GLEs?
- The previous grade's GLEs?
- The next grade's GLEs?



To help guide instruction, be aware of all three grade level expectations!

- This identifies what students should know, what they will learn, and what they need to be prepared to learn.



Have you seen/read the Appendices to the NECAP Mathematics Standards?

- There are 2 
- Appendix A is for grade 2 and discusses classifications of word problems.
- Appendix B is for grades 2-8 and discusses measurement benchmarks.



## Appendix A – Classifications of Word Problems

- **M(N&O)–2–3 Demonstrates conceptual understanding of mathematical operations involving** addition and subtraction of whole numbers by solving problems involving joining actions, separating actions, part-part whole relationships, and comparison situations. (See Appendix A.)
- **Classification of word problems:** Researchers have identified four basic categories of addition and subtraction problems: problems with joining actions, separating actions, part-part whole relationships, and comparison situations. Table 1 contains some examples to illustrate the distinctions in the categories identified by the researchers, but there may be additional ways to express the same actions, relationships, or situations.



## How will Appendix A help guide instruction for you?

- Please look over Appendix A and discuss this at your tables.



## Appendix B – Measurement Benchmarks

- The following is a list of the measurement benchmarks and equivalences that *can be used* in problems across the content strands at each grade level to address the expectations in M(G&M)–X–7 for the NECAP Assessment.
- M(G&M)–X–7 **Uses units of measures appropriately and consistently, and makes conversions within systems when solving problems** across the content strands.
- The type of measure (e.g., length, time, etc.), the unit (e.g., inches, feet, etc.), the degree of accuracy where appropriate (e.g.,  $\frac{1}{2}$  inch); and equivalences (e.g., 12 inches in a foot) are identified for grades 2 – 8. In addition to measurement benchmarks identified below students will be expected to use the appropriate units when solving problems involving area, volume, surface area, conversions, and rates (e.g., miles per hour, price per pound, pounds per square inch) on the NECAP Assessment.



## How will Appendix B help guide instruction for you?

- Please look over Appendix B and discuss this at your tables.



## Break Time



## Constructed Response

- Overall, students do not perform as well as hoped on constructed response questions.
- Let's see how we solve constructed response and how this can help guide instruction.



## Individual and Group Work

- At your table, agree on a constructed response question to work with.
- First solve the constructed response on your own, then discuss the strategies you used to complete the problem at your table.
- Select a spokesperson for large group sharing.



## Possible strategy for constructed response questions

- Carry on a conversation with yourself when you solve constructed response questions.
- Use the list of "Thinking Questions" (see handout).





<http://www.2025.com/edu/teachers/114/114resources.htm>

## Thinking Questions

What am I looking to find?  
(Read the **entire** problem to find out!)

What information do I have?  
(Reread the problem and write down the information provided!)

What do I **know** that I can use?  
(What operations, formulas, materials, etc. will be needed to solve the problem that is not stated in the problem that you know? You may have to reread the problem!)

What is my plan to solve the problem?  
(What are the steps or process you will use to find the solution?)

**Solve it!**  
(Put your plan to work!)

Does my answer make sense?  
(Did you find what you stated at the start of solving the problem?  
Did you answer the question that is being asked?  
You may have to reread the problem! If not, repeat the process!)



## How to model the "Thinking Questions"

- Start by using a Think-Aloud with your students to introduce the "Thinking Questions."
- Let's work through a constructed response question using a think-aloud and the "thinking questions."



## How can constructed response be used in instruction?

- On your own, list the ways you incorporate constructed response into your instruction.
- Share in your groups how you incorporate constructed response into your instruction.
- Large group sharing on ways to incorporate constructed response into your instruction.



## Available Resources for Constructed Response Questions

- NECAP Released Items link:  
<http://www.maine.gov/education/necap/released.html>
- MEA Released items link:  
<http://www.maine.gov/education/mea/mearelitems.htm>
- NAEP Questions Tool link:  
<http://nces.ed.gov/nationsreportcard/itmrlsx/default.aspx>





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