GEORGIA DEPARTMENT OF EDUCATION

Kathy Cox, State Superintendent of Schools

Training for the Georgia Performance Standards
Day 1: Standards-Based Education and GPS

Content Facilitator's Guide
Mathematics Grades 7

We will lead the nation in improving student achievement.

Acknowledgements

This training program was developed by the Georgia Department of Education as part of a series of professional development opportunities to help teachers increase student achievement through the use of the Georgia Performance Standards.

The module materials, including a Content Facilitator's Guide, Participant's Guide, PowerPoint Presentation, and supplementary materials, are available to designated trainers throughout the state of Georgia who have successfully completed a Train-the-Trainer course offered through the Georgia Department of Education.

For more information on this or other GPS training, contact Gerald Boyd at (404) 656-0476 or gboyd@doe.k12.ga.us.

Use of This Guide

The module materials, including a Content Facilitator's Guide, Participant's Guide, PowerPoint Presentation, and supplementary materials, are available to designated trainers throughout the state of Georgia who have successfully completed a Train-the-Trainer course offered through the Georgia Department of Education.

Materials (guides, presentations, etc.) will be available electronically on http://www.georgiastandards.org under the training tab after all trainings of Day 1 have occurred. Consult the trainer for availability.

Table of Contents

Overview

Module Rationale

"Georgia will lead the nation in improving student achievement." This is the goal, and promise, behind the Georgia Performance Standards (GPS). The purpose of this training is two-fold.

The first purpose is to introduce participants to the applicable standards. For 2005-2006, these include:

1. K-2 Math
2. 7 Math
3. 3-5 Science

Everyone is eager to find out what content has been added, dropped, and/or moved, whether performance demands have been changed, and how the GPS curriculum relates to state-wide testing. These concerns and questions are addressed in this training. After day one, participants should have a good general idea of the standards; the standards will be explored in more depth in subsequent training days.

The second purpose is to use the standards-based education approach and to assist teachers in understanding this "backward design" approach to develop assessments and instruction in support of the curriculum standards. A portion of day one of the training, the emphasis is on the model itself—what it is, why it is important, and how it can be used so that GPS have a profound impact at the classroom level. Subsequent days of the training will address elements of the backward design model (assessment, instruction, and curriculum mapping).

Although there is not enough time in one day of training to address either of these two purposes in great depth, participants will get a chance to "dig into" the standards, so that they can begin to see how the big ideas apply to specific parts of the GPS.

Module Description

This module includes preparation (an assignment for participants to complete before training), an instructor-led one-day session, and follow up. The prior preparation helps participants to jump into meaningful discussions quickly, and the follow up serves as a bridge to day two of training. Class presentations, discussions, and activities contain both general principles and specific applications. "General principles" refers to concepts that extend across the curriculum; "specific applications" refers to the standards that are the focus of the module. For this reason, there are variations on the module corresponding to the subject areas/grade levels listed on the previous page. The training is structured so that the general principles are the same throughout the modules, with "drop in" examples specific to the subject and grade levels.

Module Goal

Demonstrate a deep understanding of the new Georgia Performance Standards and the standards-based education approach, through thoughtful curriculum mapping, development of formative and summative assessments, and the design of instruction matched to the standards and research-based best practices for enrichment and extension through collaboration and teamwork.

Key words from the goal:

- Deep understanding
- Georgia Performance Standards (GPS)
- Curriculum Mapping
- Assessments
- Instruction
- Enrichment and extension
- Teamwork

Note that the goal will not be reached by day one of training alone. It will take preparation, seven days of classroom instruction, and follow up to master this goal. Various days of training will deal with different components of the goal, such as assessment, instruction, and curriculum planning.

Module One Objectives

By the end of day one of training, participants will be able to:

1. Describe the benefits of the GPS.
2. Describe the various phases of the GPS rollout plan.
3. Define terms related to the GPS.
4. Identify four parts of each standard.
5. Describe the backward design process used in standards-based teaching and learning.
6. Identify key components of the applicable standards (for example, 7th grade mathematics).

Module Sequence

Prior Preparation—Participants
- Understanding backward design
- Review of information from www.georgiastandards.org.

Introduction
- Hook
- Overview of the Module
- What We Know/What We Want to Know

Overview of the Standards
- Benefits of GPS and GPS Implementation
- Content-Specific Information

Standards-Based Teaching and Learning
- Standards Based Education (SBE)
- Benefits of backward design
- SBE and GPS
- Walk Through of (Backward Design) Process

Putting It All Together
- Planning to use GPS, using Unit design templates

Summary and Follow Up Work
- Action Planning
- Follow-up Assignment
- Summary

Leader Roles and Responsibilities

This workshop will require of you a different set of skills than most other instructor-led training programs. There is less presentation and lecture; instead, you will have to use demonstration, questioning, and facilitation skills. This guide includes the basic questions you should ask the participants, but throughout the workshop, you will have to add additional probing questions to get the participants to question their assumptions and continue to refine their understanding of what standards-based teaching is and how it can make a difference.

Target Population

The target populations for this training are teachers of Kindergarten, 1st, 2nd and 7th grade mathematics; and teachers of 3rd, 4th, and 5th grade science. This includes teachers of this content in special education, gifted, and supplemental/alternative positions who need to be knowledgeable of the general curriculum in order to provide accommodations, modifications, and/or support so that students with special needs have access to, and progress in, that curriculum.
Teachers will be trained locally, in groups corresponding to the following modules:

1. K-2 Mathematics*
2. 7 Mathematics*
3. 3, 4, 5 Science*

* This includes regular education, special education, gifted education, and supplemental/alternative teachers.

Module Preparation

Preparation is critical to a successful training session. Listed below are some tips that will help you prepare for your session.

1. Participate in a Train-the-Trainer session.

2. Gather all the required articles, texts, and other materials listed in the "Module Materials" list on page11. A set of books was provided to each school, as listed on pages 12-13. Become very familiar with these materials and the materials in the *Recommended Readings* list.

3. Ensure that school administrators understand the preparation and follow up requirements of the course and that the GPS curriculum changes have evolved from a very open public process that included public input from responses sought by the DOE. Current GPS were developed taking into consideration all input from all respondents.

4. Ensure the participants who are enrolled in your training sessions have the preparation materials and realize it is an absolute requisite to attending the training. The best way to ensure compliance is to have multiple contacts with the participants and their administrators. During these contacts, whether by mail, phone, or e-mail (preferably a combination), ensure that participants have the prework materials, understand the assignment, and are committed to arriving prepared. Anything you can do to establish a relationship with participants will help reduce stress and ensure a meaningful and successful training experience. If the participants start the training unprepared, they may never catch up.

5. Identify a date, times, and location for this training. This may vary from one setting to the next, as you work with local schools and districts to arrange a customized delivery schedule. Prepare a handout with this information and photocopy it for the participants. You can use the agenda on page 16 to guide you.

6. Determine how course follow-up will be handled. It is very important that professional development be an on-going, job-embedded process, with the training sessions being part of a cohesive plan to help teachers increase skills and knowledge. Here are some questions you must answer before conducting the workshop:

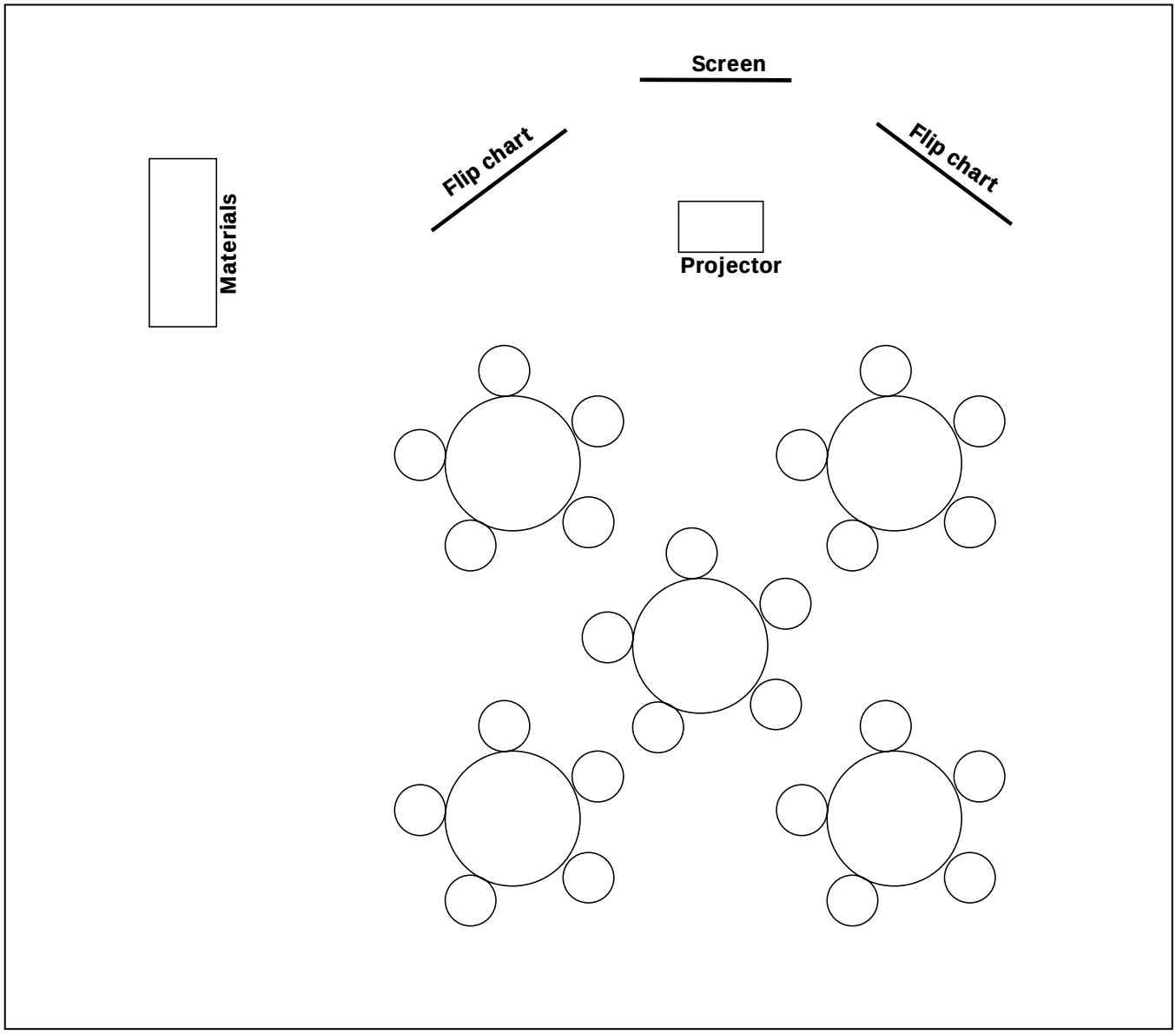
   - Will there be any follow-up conference calls or a list serve to discuss progress and provide an information-sharing and networking forum? If so, who will lead them? When? How?
   - How will we ensure that participants complete the follow-up assignments? Who will follow up with reminders? How will we make sure this effort is supported locally?
   - Will there be grade level meetings? Department meetings?

7. Ensure that you have all materials.

8. Gather information about your training site:
    - Mailing address, contact person with phone number (Participant materials need to be shipped to a specific location and someone needs to receive the materials.)
    - Size of room and space to work in small groups
    - Audio visual equipment
        - Projection System
        - Two Flipcharts with Pads
        - Tape
        - Color Markers
    - Table and chairs: One table for leader (in front), one for materials, enough tables for the number of participants to sit in groups of about four
    - Wall space for your posters and flipcharts
    - Determine plans and payment for refreshments as desired/needed.
    - Review the graphic of the ideal site setup on the following page.
    - Set up your training room the night before the training. If you have never seen the room, this is especially important.
    - Test all equipment and make sure you have all of your materials organized for efficient distribution.

9. Go through the entire Content Facilitator's Guide.
    - Prepare an agenda. (You may also want to mark key times with Post-Its put in your guide.)
    - Use margins to note key points you plan to emphasize.
    - Walk through all activities.
    - Prepare any flipcharts.
    - Make sure your materials are organized according to when you will need them.
    - Make any adjustments that are needed to the activities, room layout, audio-visuals, etc., based on the number of participants.

Recommended Training Setup



Module Materials for Day One of Training

Content Facilitator's Kit contents:

- Content Facilitator's Guide (one for each leader)
- Hard copy of the power point presentation.
- Participant's Guide (one per participant and one per leader)
- Preparation Assignment (one per participant, to be sent out two weeks prior to class)

Make the appropriate number of copies of each of the following handouts. It is a good idea to have one labeled file folder for each set of handouts, so they are available when you need them.

A. Contact Information handout
B. Sample unit/lesson
C. Handout, *Tools and Templates for Backward Design* (This handout should include the following pages from the *Understanding by Design Professional Development Workbook:* 69 (Big Ideas), 91 (Essential Questions), 106 (Tips for Essential Questions), 115 (Enduring Understanding), 119 Knowledge and Skills), 125 (Unpacking), and 133 (Stage One Graphic.)

Other materials needed:

- Name tags
- A variety of colored markers appropriate for flipcharts
- Highlighter markers
- Flipchart paper and stand
- Masking tape to post flipcharts
- Optional: Index cards for participants to write contact information for your files

Equipment:

- Projection system for slides
- Computer

Provided Texts

Mathematics Resources:

Danielson, Charlotte. *A Collection of Performance Tasks and Rubrics: Middle School Mathematics.* Larchmont, NY: Eye on Education, 1997.

Northey, Sheryn Spencer. *Handbook on Differentiated Instruction of Middle and High Schools*. Larchmont, NY: Eye on Education, 2005.

Van de Walle, John A. *Elementary and Middle School Mathematics: Teaching Developmentally, Fifth Edition*. New York, NY: Longman Press, 2004.

Van de Walle, John I. And LouAnn Lovin. *Teaching Student-Centered mathematics: Grades 5-8*. Boston, MA: Pearson Allyn & Bacon, 2006.

Each school received one copy of each book listed below at the beginning of the previous school year. This box of books was addressed to the principal of the school.

Hayes Jacobs, Heidi. *Mapping the Big Pictures: Integrating Curriculum and Assessment K-12.* Alexandria, VA: Association for Supervision and Curriculum Development. 1997.

Marzano, Robert J. *What Works in Schools: Translating Research into Action.* Alexandria, VA: Association for Supervision and Curriculum Development. 2003.

Robert J. Marzano, Debra Pickering, and Jay McTighe. *Assessing Student Outcomes: Performance Assessment Using the Dimensions of Learning Model.* Alexandria, VA: Association for Supervision and Curriculum Development. 1993.

Marzano, Robert J, Debra J. Pickering, and Jane E. Pollock. *Classroom Instruction That Works: Research-Based Strategies for Increasing Student Achievement.* Alexandria, VA: Association for Supervision and Curriculum Development. 2001.

Marzano, Robert J, Jana Marzano, & Debra Pickering. *Classroom Management That Works: Research-Based Strategies for Every Teacher.* Alexandria, VA: Association for Supervision and Curriculum Development. 2003.

Strong, Richard W., Harvey F. Silver, and Matthew J. Perini. *Teaching What Matters Most: Standards and Strategies for Raising Student Achievement.* Alexandria, VA: Association for Supervision and Curriculum Development. 2001.

Tomlinson, Carol Ann. *How to Differentiate Instruction in Mixed-Ability Classrooms, 2nd edition.* Alexandria, VA: Association for Supervision and Curriculum Development. 2001.

Wiggins, Grant and Jay McTighe. *Understanding by Design.* Alexandria, VA: Association for Supervision and Curriculum Development. 1998.

Wiggins, Grant and Jay McTighe. *Understanding by Design Study Guide.* Alexandria, VA: Association for Supervision and Curriculum Development. 2000.

Professional Organizations

National Science Teachers Association-- NSTA—http://www.nsta.org
Georgia Science Teachers Association-- GSTA—http://www.georgiascienceteacher.org
National Council of Teachers of Mathematics—NCTM—http://www.nctm.org
Georgia Council of Teachers of Mathematics—GCTM—http://www.gctm.org

Web Sites

Units (incorporating Learning Focused components). Connected Learning. http://www.title3.org/.

BOCES is a cooperative service organization that helps school districts save money by pooling resources and sharing costs.

Illuminations http://illuminations.nctm.org/index.asp

Intermath http://www.intermath-uga.gatech.edu

National Library of Virtual Manipulatives http://nlvm.usu.edu/en/nav/vlibrary.html

Special Education Resources

Access, Participation, & Progress in the General K-12 Curriculum. National Center on Accessing the General Curriculum (ncaog.org).

Approximately 70 general and special educators and parents attended the National Capacity Building Institute on Access, Participation, and Progress in the General Curriculum, held on July 10, in Arlington, VA. The article includes the proceedings from the Institute.

Aligning Special Education with NCLB. www.ldonline.org.

The No Child Left Behind Act (NCLB) is a standards-based reform movement. This movement emphasizes standards and the alignment of curriculum and assessment to those standards. States established what is to be taught. The goal of standards is to increase academic achievement levels. A related goal is to close the achievement gap for students who have traditionally been at-risk for academic failure or lack of success. This group includes students with disabilities.

Thompson, S., Thurlow, M., Quenemoen, R.F., & Esler, A. (2001). *Addressing Standards and Assessments on State IEP Forms*, National Center on Educational Outcomes (NCEO Synthesis Report 38)

This article summarizes data on each State's use of standards in developing Individualized

Education Programs (IEP) for students with disabilities. All fifty states were asked to send their IEP forms and to indicate whether the forms were required, recommended, or simply sample forms. Out of the 41 states with IEP forms, only 5 states specifically addressed the general curriculum on their forms. Recommendations for IEP forms that provide decision-making guidance involving access to the general curriculum are summarized.

Writing Standards-based IEPs. Colorado Department of Education. www.cde.org.

The Colorado Department of Education provides information for teachers on developing standards-driven IEPs. The summary includes a definition of standards-driven IEPs, characteristics of standards-driven IEPs, and a rationale for standards-driven IEPs.

Resources for Differentiation

Association for Supervision and Curriculum Development. *At Work in the Differentiated Classroom*. Alexandria, VA. Author. (video staff development set). 2001.

Chapman C. & Gregory, G. *Differentiated Instruction Strategies for Writing in the Content Areas*. Thousand Oaks, CA: Corwin Press. 2003.

Coil, C. *Standards-Based Activities and Assessments for the Differentiated Classroom*. Marion, IL: Pieces of Learning. 2004.

Tomlinson, C. *Fulfilling the Promise of the Differentiated Classroom: Strategies and Tools for Responsive Teaching*. Alexandria, VA: Association for Supervision and Curriculum Development. 2003.

Winebrenner, S. *Teaching Gifted Kids in the Regular Classroom*. Minneapolis, MN: Free Spirit. 1992.

Agenda

This is a one-day workshop, with approximately seven hours of instructional time.

Introduction

Overview of Standards

Standards Based Teaching and Learning

Unpacking Content Standards

Putting It All Together

Summary and Follow Up Assignments

Introduction

Time	30 minutes
Overview	In the overview, the participants complete a brief discovery activity to learn the rationale for backward design; i.e., that beginning with the GPS as desired outcomes and then designing instruction and assessment leads to in-depth understanding and mastery of the standards. This activity leads directly into a discussion of the goals of the training. Finally, participants share "what they know" and "what they want to know" about Georgia Performance Standards and their implementation.
Objectives	➢ Warm-up and getting to know each other
Activities	➢ Hook: Large Group Activity (15 minutes) ➢ Overview of the Module: Presentation (5 minutes) ➢ What Do You Know and What Do You Want to Know: Small Group Activity (10 minutes)
Materials	➢ Flipchart paper ➢ Markers ➢ Scratch paper ➢ Index cards ➢ Two clip boards ➢ Cardboard ➢ Compasses ➢ Straightedges ➢ Scissors

Note Cards

- As participants come into the training session, have them fill out an index card with their name and contact information. Explain that you will use the information to send them materials and set up a dialogue with the group.
- Have them note their status in understanding of Georgia Performance Standards: They attended last year's GPS training for 6th grade mathematics, they attended redelivery of 6th grade mathematics, they have heard about the standards, they have no previous experience with GPS.

You may wish to share your contact information with them at this time.

Hook: Partner Activity (15 minutes)
"Circle Designs"

"Circle Designs"

1. Participants will use a compass and straightedge to make and color geometric designs and/ or pictures.

Blank Paper
Cardboard
Compasses
Straightedges
Colored Pencils

2. When all participants have arrived, say:

   I think we're all here, so I'd like for you to proceed with the introductory activity. Please use the compass and straight edge to make a design or picture involving circles. Color them and place them on the wall for display.

3. After 10 minutes of time to work on the assignment, ask participants to share their designs and/or pictures. Lead them to recognize that this activity is good for students to do in order to gain control of the use of a compass. It also brings out creativity and leads into a discussion of how and why creativity needs to be encouraged.

4. What are some good tips for students to know and be able to do in order to be successful when handling a compass?

   Using a sharp pencil, good paper, a flat surface and firm cardboard is essential to being able to control the compass in order to make good circles. Being able to make good circles with a compass is vital to being successful with geometric constructions. Also, the use of colored pencils in the compass will help the constructions marks to show up more clearly. Arc marks in construction problems should never be erased!

5. After the activity is complete, say: **You've got it! Mathematics is fun, meaningful and uses our creative insights.**

6. Explain:

   - **Just as this activity required the need for mastering the use of the compass to have a neat and attractive design, our students need to master the use of mathematics through engaging tasks that require thinking and creativity.**

   - **The Georgia Performance Standards have been developed by teaching professionals from all over Georgia and the nation. They provide the expectations in mathematics. Implementing the GPS is now our task**.

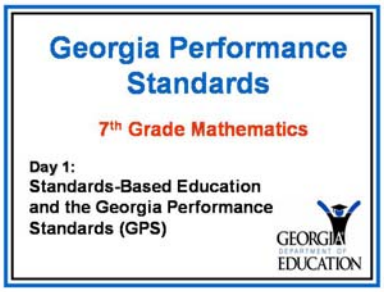
     Trainer's Note: This is the time for inclusions—words or gestures should be employed to indicate very clearly that "our" means all of us in the training room.

   - **Just as you were able to make sense of the individual activities once you knew what you needed to do, we all need to know what our roles are in terms of implementing the mathematics standards.**

Overview of the Module: Presentation

Slide 1

1. Show slide 1 (the title slide). Introduce yourself and briefly describe your background.



2. Ask participants to *briefly* introduce themselves, with just name and position.

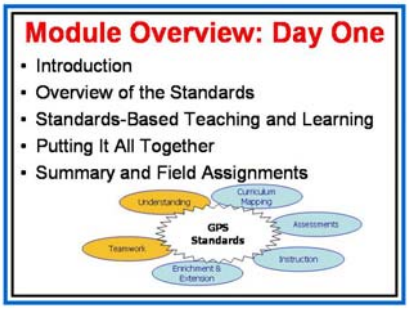
Slide 2

3. Show slide 2, which contains the course overview information.

Slide 3

Slide 4

4. Present:



- **As the graphic shows, successful implementation of the new standards requires work in assessment, instruction, etc.**

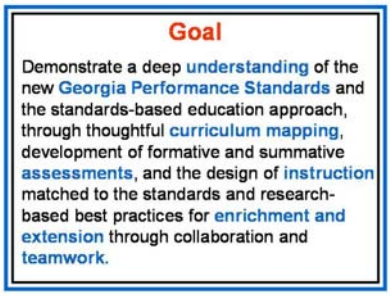
- **Today, we'll be laying the foundation for all these other activities as we focus on building a team understanding of the standards and standards-based education—a process for using the standards to increase student achievement.**

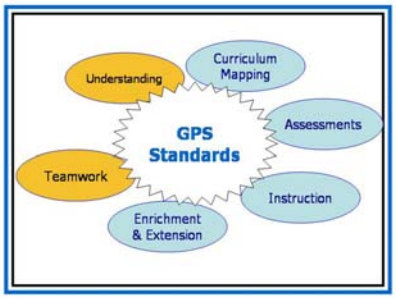
PG 5

4. Present: **The goal and today's objectives are listed in your Participant's Guide on page 5.**

Slides 5 and 6

5. Show slides 5 and 6, Goal *(for 7 day series)*. Explain:



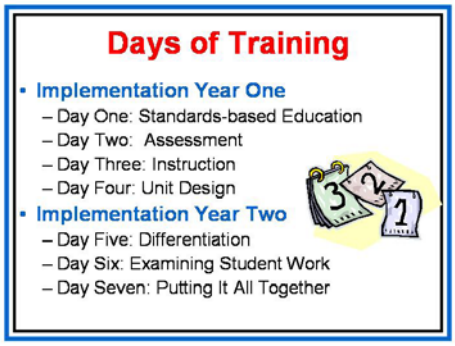


- **This is our goal for the training. Key words are highlighted. As you see, many of these words are the same ones that were in the previous slide.**
- **This goal cannot be mastered in one day. It requires on-going, job-embedded professional development. It will take all of us working together to fully implement the GPS and reach this goal. We'll be working toward this goal over seven days of training.**
- **We must practice, reflect, collaborate, and receive feedback as we learn. Therefore, there will be follow-up assignments after each day of training. These are suggested activities that will help you work independently and with others in your school and district to apply what you've learned.**

Slide 7

Show slide 7. Explain:

- **Here is the overall schedule of the training.**



Slide 7

Throughout the process we will work as a team and get to the understanding of these concepts. Day 2 will focus on Assessment. We will work together on Days 3 and 4 to plan instruction and design units.

In the year of actual classroom instruction of the Georgia Performance Standards, Days 5-7 will focus on how instruction fits with student work, enrichment and extension of instruction, and mapping how the year of instruction flows.

NOTE THAT THE SEVENTH GRADE TRAINING WILL CONTAIN MUCH MORE MATHEMATCIS CONTENT THAT THE SIXTH GRADE TRAINING BECAUSE THE GROUND WORK HAS ALREADY BEEN SET.

6. Present: **Because we have only one day together at this time, it might be helpful to talk about some ways that we can all work together.**

Slide 8

7. Show slide 8, *Group Norms and Housekeeping.* Ask participants if they would like to add to or change the group norms. Record any needed changes on a flipchart. Then, ask participants to agree to these norms.

8. Go over housekeeping rules (phone, breaks, etc.) as appropriate to your schedule and location. The Parking Lot allows participants to put up sticky notes of questions, concerns, suggestions, and typos. Periodically collect those and address any issues during the day.

9. Transition: **Our goal today and in the remaining training sessions is to work through a step-by-step process we can use both to make sense out of the GPS and to use these standards to plan curriculum units, strategies, and lessons that facilitate student improvement. To do this I need to get a sense of what you know and what you want to know.**

Four Corners Game

What Do We Know and What Do You Want to Know: Large Group Activity

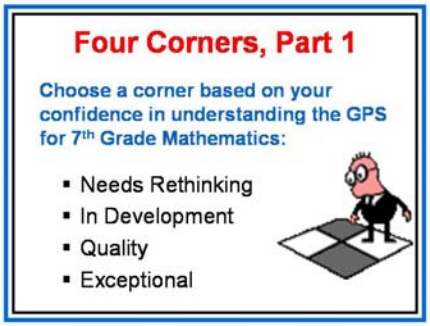
Flipcharts, markers

Everyone will stand after the corners have been labeled.

Slide 9

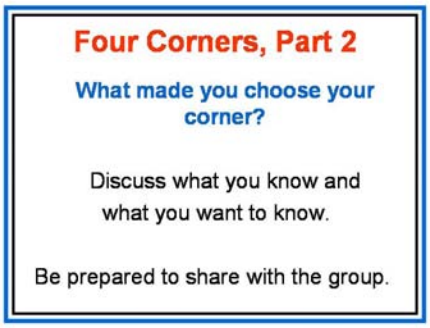
Show Side 9.

10. Ask participants to move to the corner that most closely matches their confidence level in understanding the GPS.



Slide 10

11. Show slide 10, *Four Corners, Part 2.* Ask what made them choose that particular corner. Have them discuss among themselves about what they know and want to know



12. Ask for volunteers to share. During the sharing, someone should record the responses on posted chart paper.

13. Briefly note any patterns that you see and/or any items that may be listed on both sides of the room, then tell participants that we will get back to these lists throughout the day.

14. Transition: **Let's move to the next section of training, *Overview of Standards*, and make sure that we all have a shared understanding of the GPS standards in mathematics.**

Slide 11

15. Show slide 11: *Let's Copy!*
Participants will copy a given segment and a given angle using Euclidean tools.

Cardboard
Blank Paper
Compasses
Straightedges

NOTE: PG 29 has tips on "How to Reproduce an Angle."

If current drafting machines and computers are much more accurate and faster than making constructions with Euclidean tools, why is it a good idea to include constructions in our modern day geometry classes?

- **The compass and straightedge are simple tools and portable.**
- **The process is an orderly sequence of steps. Acceptance is not based on the way it looks**
- **Analyzing constructions justifies the geometry studied concerning congruences, especially concerning triangle congruences within the seventh grade GPS.**
- **Producing accurate constructions become a stimulating game because of the limitations on tools and the strictly defined rules. This also has a practical bonus since those that use drafting machines and computers must analyze problems using the same processes as those used for constructions.**

After the participants have completed the constructions, let them share and compare theirs with those at their table. When most have completed the constructions, continue with the large group discussion.

How can you justify that the two segments really are congruent?

Different responses could be accepted such as using the matched compass settings.

How can you justify that the two angles are exactly the same measurement?

Different responses could be accepted such as cutting out the angles with scissors and matching them.

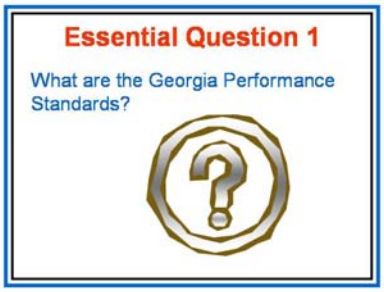
Overview of Standards

Time	2 hours, 30 minutes
Overview	In this section, the trainer leads participants through an in-depth examination of the individual seventh grade mathematics standards. Participants view the implementation plan for GPS. Specific myths, or misconceptions, regarding the seventh grade mathematics standards will be addressed throughout this section of the training. Participants are also introduced to the parts of a performance standard and the essential changes and key features of the strands and standards.
Objectives	➢ Describe the benefits of the GPS. ➢ Describe the various phases of the GPS rollout plan. ➢ Define terms related to the GPS. ➢ Identify four parts of each standard.
Activities	➢ Introduction ➢ What Are the New Standards in seventh grade mathematics ➢ What Makes the Standards Different
Materials	➢ Copy of standards ➢ Chart paper ➢ Markers ➢ Participant's Guide ➢ Overhead projector or computer and LCD projector ➢ Transparencies or PowerPoint presentation

Introduction

Slide 12

Show slide 12, *Essential Question 1.* Present: **We are going to explore this question first.**

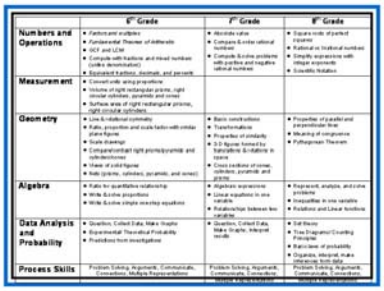


Slide 13
PG 12

What are the Grade 7 Mathematics Standards?

1. Show slide 13, Vertical Alignment for Middle School Mathematics

It is very important for all of us to be aware of the standards for the other grade levels, especially for the courses that are immediately before and after the one that you are teaching. This chart shows the relationship of the standards that are taught in the Middle School Mathematics GPS.

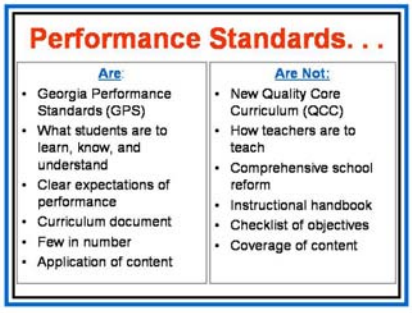


	6th Grade	7th Grade	8th Grade
Numbers and Operations	• Factors and multiples • Fundamental Theorem of Arithmetic • GCF and LCM • Compute with fractions and mixed numbers (strike demonstration) • Equivalent fractions, decimals, and percents	• Absolute value • Compare & order rational numbers • Compute & solve problems with positive and negative rational numbers	• Square roots of perfect squares • Rational vs. irrational numbers • Simplify expressions with integer exponents • Scientific Notation
Measurement	• Convert units using proportions • Volume of right rectangular prisms, right circular cylinders, pyramids and cones • Surface area of right rectangular prisms, right circular cylinders		
Geometry	• Line & rotational symmetry • Ratio, proportion and scale factor with similar plane figures • Scale drawings • Compare/contrast right prisms/pyramids and cylinders/cones • Views of solid figures • Nets (prisms, cylinders, pyramids, and cones)	• Basic constructions • Transformations • Properties of similarity • 3-D figures formed by translating & rotating in space • Cross sections of prisms, cylinders, pyramids and cones	• Properties of parallel and perpendicular lines • Meaning of congruence • Pythagorean Theorem
Algebra	• Ratio for quantitative relationship • Write & solve proportions • Write & solve simple one-step equations	• Algebraic expressions • Linear equations in one variable • Relations that between two variables	• Represent, analyze, and solve problems • Inequalities in one variable • Relations and Linear functions
Data Analysis and Probability	• Question, Collect Data, Make Graphs • Experimental Theoretical Probability • Predictions from investigations	• Question, Collect Data, Make Graphs, Interpret results	• Set theory • Tree Diagrams/Counting Principles • Basic laws of probability • Organize, interpret, make inferences from data
Process Skills	Problem Solving, Reasoning, Communication, Connections, Multiple Representations	Problem Solving, Reasoning, Communication, Connections, Multiple Representations	Problem Solving, Reasoning, Communication, Connections, Multiple Representations

Slide 14

2. Show slide 14, *Performance Standards Are...* Present key points:

- **Standards apply to <u>every</u> student. GPS is curriculum for ALL students.**
- **It is NOT:**
  - **An instructional handbook**
  - **Restrictive**
  - **Prescriptive**
  - **How to teach, what methods to use, what strategies to implement**
- **It <u>IS</u> telling teachers <u>what students should know and be able to do</u>.**



Performance Standards. . .

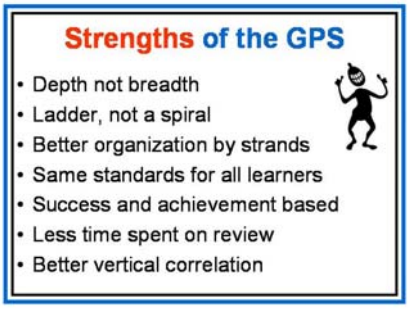
Are:	Are Not:
• Georgia Performance Standards (GPS) • What students are to learn, know, and understand • Clear expectations of performance • Curriculum document • Few in number • Application of content	• New Quality Core Curriculum (QCC) • How teachers are to teach • Comprehensive school reform • Instructional handbook • Checklist of objectives • Coverage of content

3. Continually refer participants to the What We Want to Know and What We Know charts and see if any points are clarified.

Slide 15

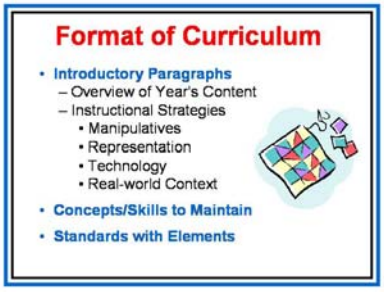
4. Show slide 15, *Strengths of the GPS.* Present key points:

   - **With the Georgia Performance Standards, we are <u>creating a ladder</u> style curriculum that expects mastery of topics - as opposed to our current <u>spiral</u> curriculum, which contains constant re-teaching. Consistency within and across grade levels.**
   - **Assessment (CRCT) will be aligned with the curriculum (GPS).**



Slide 16

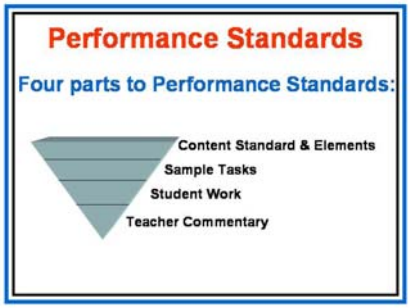
5. Show slide 16, *Format of Curriculum.* Refer participants to the GPS that they brought with them and ask them to locate each part labeled on the slide.



6. Go through each part and explain the necessity of having read each section before redelivering the training. Explain the importance of grade level appropriateness of the science standards.

Slide 17

7. Show slide 17, *Performance Standards.* Present key points:



- **<u>Performance Standards</u>: Performance standards define specific expectations of what students should know and be able to do and how well students must perform to achieve or exceed the standard. Georgia's performance standards are composed of four components: content standards, tasks, student work, and teacher commentary.**

- **<u>Content/Characteristics of Mathematics standards</u>: Standards state the purpose and direction the content is to take, and are followed by elements. Standards define what students are expected to know, understand, and be able to do.**

- **<u>Elements</u>: identify specific learning goals in conjunction with the standard; establish the level of rigor at each grade level as well as the scope of work grade by grade in the context of the standard.**

- *Note: The following components require Georgia teacher input. Collection of these will be ongoing process. Your help is needed.*

- **<u>Tasks</u>: keyed to relevant standards; provide a sample performance that demonstrates what students should know and be able to do during or by the end of the school year; can serve as activities that will help students achieve the learning goals of the standard or can be used to assess student learning (many serve both purposes). NOTE: Although the GPS will include tasks, teachers may develop their own tasks. These are <u>sample</u> tasks; will show the rigor of an assignment that a teacher should be giving in order to assess student's achievement of the standard. Published tasks are <u>not</u> required –they are illustrative.**

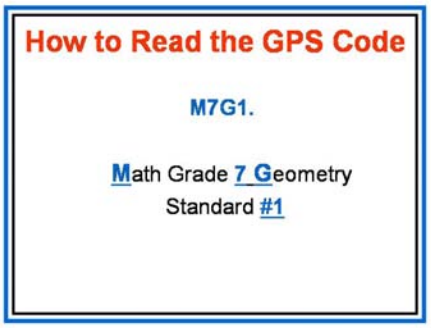
- **<u>Student Work</u>: specify what it takes to meet the standard and to enable both teachers and students to see what meeting the standard "looks like." NOTE: Samples of student work show how the student has met the standard. They are not perfect. Some pieces may not meet <u>all</u> of the elements of the standard, but it will meet the requirements for the part/s (elements) that you (the teacher) have been teaching.**

- **<u>Teacher Commentary</u>: opens communication between students and the classroom teacher as well as within a faculty in order to ensure consistency within assessment and expectations; shows students why they did or did not meet a standard and enables them to take ownership of their own learning. For example, it might say, "This piece of work meets the standard . . ." and explain specifically how it meets (or does not meet) it.**

Slide 18
PG 27 and 28

8. Show slide 18, *How to Read the GPS Code.* Explain the coding and ask participants to interpret several examples.

Trainer's Note: *This has been a source of confusion. Make sure participants are comfortable with the code*.

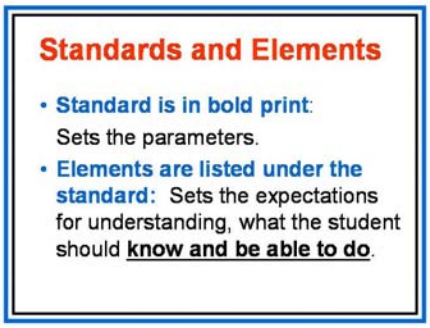


Also, the back of the Participant's Guide on pages 27 and 28 is a Glossary to help them with the terms that are used with the Georgia Performance Standards.

Slide 19

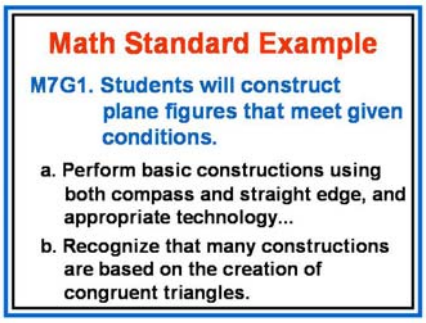
9. Show slide 19, Standards *and Elements.* Emphasize:

   - **Mathematics standards are assessed at the element level. This may be different from the ELA training. The standard is more general than the element.**
   - **Since elements define standards, they are not stand-alones. They can be combined in the unit design.**
   - **Elements are not discreet skills to be learned.**



Slide 20

10. Show slide 20, *Math Standard Example.* Ask participants to identify standard and element, and to describe the differences between them.
    - **This is an example of a seventh grade content standard.**



Slide 21
PG 30 and 31

Cardboard
Compasses
Straightedges
Colored Pencils
Blank Paper
Scissors

NOTE: PG 30 and PG 31 have tips on "Perpendicular Bisector of a Line Segment" and "How to Bisect an Angle".

11. Show slide 21: *Let's Bisect!*
Participants will bisect the given segment and angle.

After the participants have completed the constructions, let them share and compare theirs with those at their table. When most have completed the constructions, continue with the large group discussion.

How can you justify that the angle has been bisected?

Different responses could be accepted. One example might be labeling the first arc's intersection with the angle as X and Y, then labeling the intersection of the 2nd and 3rd arcs as Z. By drawing line segments XZ and XY, students can recognize congruent triangles being formed. To assure that they are congruent, they may wish to cut out the figure and fold the angle so that the sides match. The fold should land directly on the constructed bisector.

How can you justify that the line segment has been bisected?

Different responses could be accepted. One could be to cut out the segment and fold it so that the endpoints match. This would be an excellent way for students to discover that the line bisecting the segment is perpendicular to the segment. WHY is this true?

Slide 22
PG 13

12. Show slide 22, *Phase-In Plan.* Present key points:

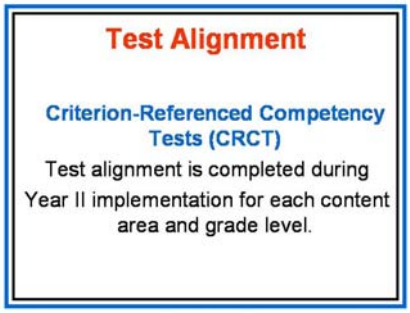
- **This is a 2-year phase-in plan.**
- **The 1st year includes content-specific training, professional learning, familiarity with the standards and standards-based education**
- **During the 2nd year we begin to teach with the GPS; students are assessed on GPS (CRCT).**

GPS Phase-in Plan

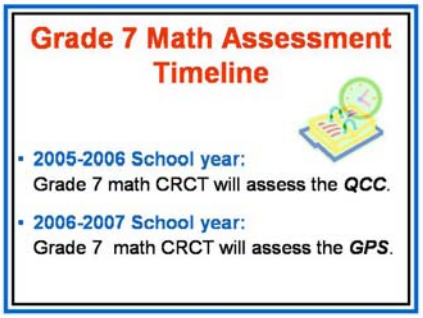
Grade	Math Training	Math Teaching
K	05-06	06-07
1	05-06	06-07
2	05-06	06-07
3	06-07	07-08
4	06-07	07-08
5	06-07	07-08
6	04-05	05-06
7	05-06	06-07
8	06-07	07-08

Slide 23

13. Show slide 23, which explain how the testing components are being phased in.



Slide 24



This slide explains the CRCT schedule for the change from QCC to GPS.

Summary: Large Group Activity

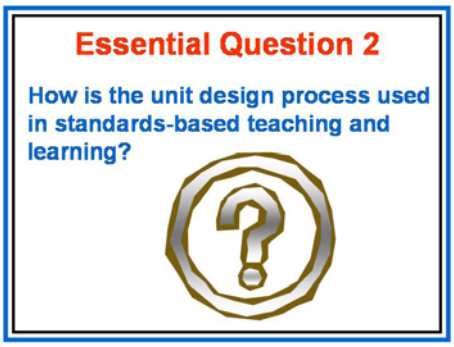
Flipcharts on walls

1. Refer participants to "What We Know" and "What We Want to Know" flipcharts on the walls.

2. Ask participants to revise the charts as needed based on the discussions and activities so far.

Slide 25

3. Transition: **In the next section of the training, we are going to focus on a process—and a way of thinking—that will help us use these standards to make a difference in our teaching practice.**

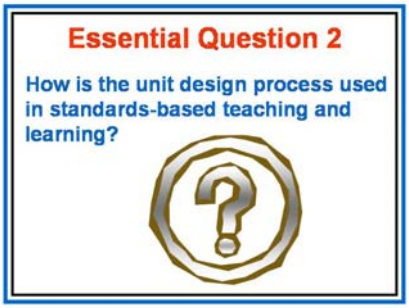


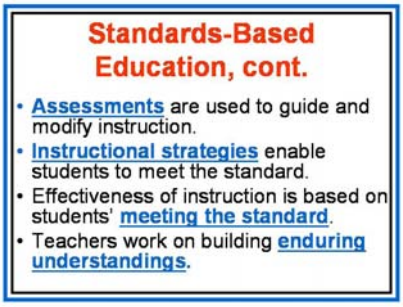
Standards Based Teaching and Learning

Overview	In this section, participants will learn about standards based teaching and learning. The trainer will lead participants through the process of unpacking a standard, taking time to make sure the participants understand how and why to complete each step.
Objectives	➢ Describe standards based teaching and learning. ➢ Define and describe the rationale for identifying big ideas, enduring understandings, essential questions, and skills and knowledge for a standard.
Activities	➢ Identifying Big Ideas ➢ Transforming Big Ideas into Enduring Understandings ➢ Developing Essential Questions ➢ Identifying Skills and Knowledge ➢ Summary
Materials	➢ Copy of standards ➢ Chart paper ➢ Markers ➢ Compasses ➢ Cardboard ➢ Scissors ➢ Colored Pencils ➢ Participant's Guide ➢ Overhead projector or computer and LCD projector ➢ Transparencies or PowerPoint presentation ➢ Easel Chart

Slides 26 and 27

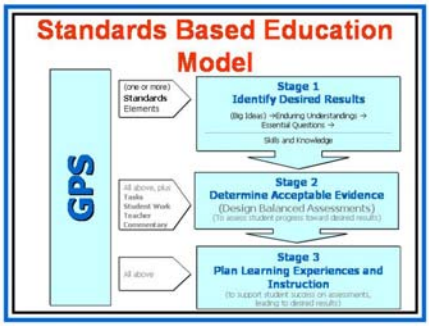
4. Show slides 26 and 27, *Standards Based Education (SBE).* Go over the key points on these slides.





Slide 28
PG 14

5. Show slide 28, *Standards Based Education Model*. Refer participants to this same information on handout. Present:
   - **This graphic provides a model of Standards Based Education.**
   - **We are going to take one standard and walk through the process of SBE, then I am going to give you time to work in groups to complete the same process.**
   - **In addition to providing you with a model, I am also going to provide you with some tips and tools that will help you through the process.**

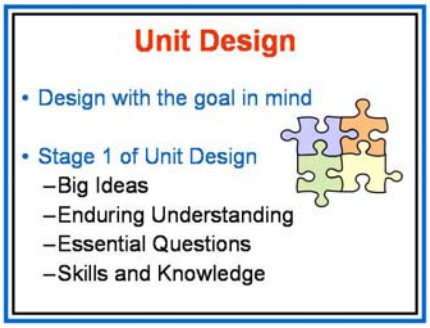


6. Transition: **In the next section, you are going to get a chance to work more with these concepts and tools, as you work in small groups to apply them to a select standard. But before we do that, let's go back to our flipcharts and see if we have clarified other points or need to add to either list.**

7. Give participants a chance to point out things they have learned and points that they understand at a different level. Then explain:

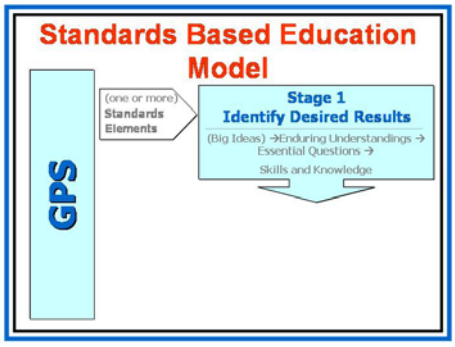
Slide 29
PG 15

- **Together, we will take one standard and completely unpack it, helping you get a deeper understanding of how each of the elements in this process (big ideas, enduring understandings, essential questions, and skills and knowledge) will help you design better instruction—that will help students master the standards.**



Slide 30

- **This is Stage One of Standards-Based Instruction.**



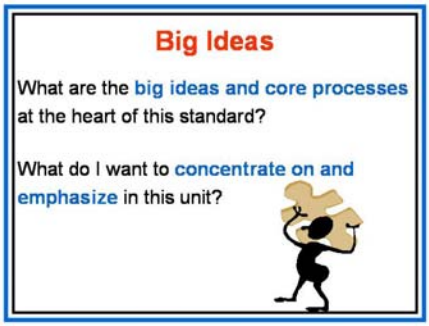
PG 14

- A sample blank template , *Identifying Desired Results of a Standard*, is in the Participant's Guide page 14. You may use that one or one of your own design when we unpack standards.
- **The first thing we will do is identify big ideas.**
- Ask: **Why are "big ideas" not included in the design template, but are a necessary step in unit design?** (They are just a way to get to enduring understandings, which are on the template; big ideas are an intermediate step.)

PG 16
Big Ideas
Slide 31

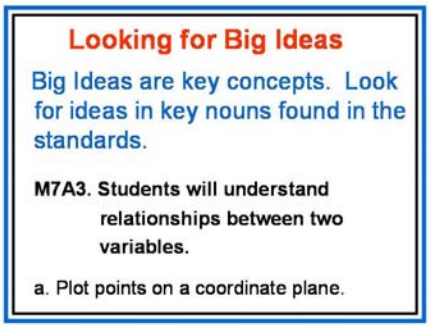
8. Refer participants to Participant's Guide, page 16 *A Big Idea*. Present: **This page describes what we mean by a "big idea."** (Ask participants to take a moment to skim the content of the page.)

- **Big ideas are embedded in the standards and they address the standard, but they transcend any single standard.**
- Show slide 31, *Big Ideas.* Present: **When you think about big ideas, the question you should ask yourself is, "What are the big ideas and core processes at the heart of this standard? What do I want to concentrate on and emphasize in this unit?"**



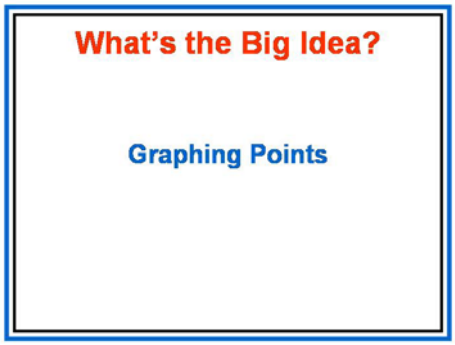
Slide 32

9. Show slide 32 and explain:
   - **Here is an example of a Standard, element, and the big idea of that element. Notice that seventh grade mathematics standard M7A3 a contains several key nouns. All of those can be big ideas that get to the understanding of the concept.**



Slide 33

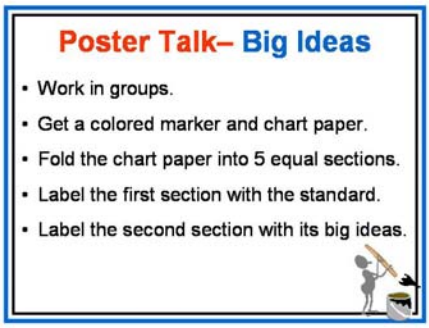
- **I chose Graphing Points as the main big idea**
- **Think of it as the bulletin board or unit title.**
- **You can find more information about big ideas and examples of big ideas in the *Understanding By Design* workbook. The handout is on page 69.**



Slide 34
Chart paper
Markers
Tape

10. Divide participants into groups of about 4 people. Have each group choose a standard and element to unpack.

11. Show slide 34 and explain the activity.



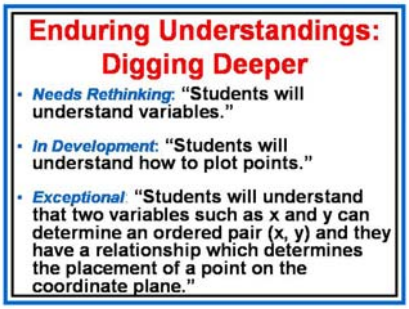
12. Give each group a piece of chart paper. Have them divide the paper into 5 equal sections. They are to write the standard and element in the first section at the top of the chart paper. Then have them decide on the big ideas of that standard and element. The big idea should be written in the second section on the chart paper.
13. When groups have finished, volunteers will share their work. A brief discussion will follow.

Slide 35
PG 17

14. A handout on Enduring Understandings is in the Participant's Guide on page 17.
15. Explain:

- **Big ideas lead to enduring understandings, declarations of what we want students to understand as a result of participating in this unit written as "Students will understand that _____."**
- **This can be tricky. Poorly defined enduring understandings are not much better than having none at all. Let's look at an example.**

16. Show slide 35, Enduring Understandings: Bad to Best



- **Vague statements, such as the first one, do not clarify what the students should understand about the topic.**
- **The middle statement is better in that it narrows the focus of the topic, but it still does not specify exactly what insights into cause and effect the students need for understanding.**
- **The last proposition is best because it is an important generalization and it provides a focus to the study—a sharper target for teaching and assessing.**

Mention what Dianne Ash from the Atlanta City Schools used as moving from SWBAT to SWUT.

17. **Ask: Why are "enduring understandings" part of the unit design process?**

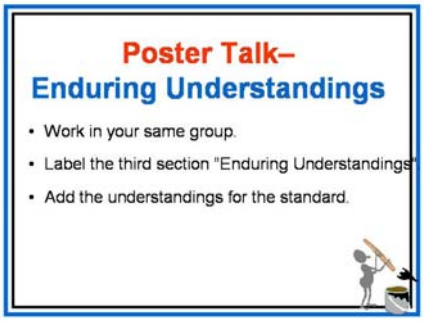
- **It is important for students know *why* facts are important; to get the kids to think beyond [facts] to the bigger, more transferable understandings (avoiding the "mile wide, inch deep" approach).**
- **It is a tool for teachers to help focus students on deeper understanding (e.g., if you are very clear in your own head about the enduring understandings that you hope students will achieve, then you will be better able to communicate that focus to students.)**
- **They help build conceptual structures in students' brains that help them make sense of new, related knowledge (e.g., if you understand that the locations of early civilizations were chosen to facilitate transportation, defense, and farming, then you have a way to approach understanding of any early civilization. Understanding of that concept will grow richer and deeper with the study of each civilization).**
- **They help teachers have shared understanding of the standard, to promote vertical and horizontal articulation.**
- **It is recommended that you use the format, "Students will understand that…" because this tends to lead us to better statements of enduring understanding. Simply restating the topic or saying "Students will understand" more often leads us to statements that are vague. Note that "Students will understand that" does not necessarily have to be written out each time—it may be implied, but the statement should read well if that phrase were inserted.**
- **Enduring understandings involve varying levels of abstraction and generalization. Some extend across different units, topics, or subjects. Others are the focus of a single unit of study. Neither is better than the other. We need both, as appropriate to the big ideas in the standard.**

PG 17
Slide 36
Chart paper and markers

18. Refer participants to *An Enduring Understanding* on page 17 in the Participant's Guide

19. Present: **Let's look at the information on page 17 in your Participant's Guide as we try to self assess and, if possible, improve upon the enduring understandings that you identified as part of your homework.**

20. Show slide 36, Enduring Understandings.



21. Give small groups time to organize their ideas about understandings. Have them label the third section of their chart "Enduring Understandings," under the standard and big ideas.

22. When groups have finished, volunteers will share their work. A brief discussion will follow.

23. Discuss: **How could this thinking process, and the resulting enduring understandings, help you develop better assessments and instruction?**

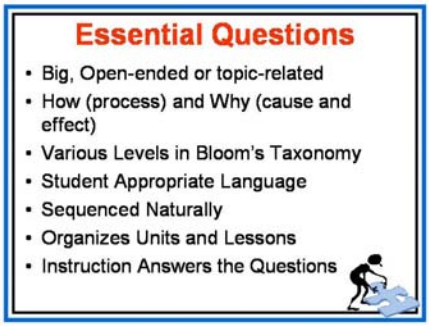
Slide 37 **Developing Essential Questions**

24. Present:

- **Once you have the big ideas and enduring understandings identified, you can reframe them as essential questions. This page shows an organizer you can use to do this work, but it is really a process of thinking through, "How can I translate these big ideas and enduring understandings into thought-provoking engaging questions for the students?"**
- **There are many types of questions. Questioning is a strong tool for teachers. For this workshop, we will discuss essential questions, unit questions, key questions, daily questions, lesson questions, and diagnostic/formative questions.**
- **Recognize that all of these types of questions are valuable for teaching. Do not allow the definition of what is essential and what is not essential hinder your progress.**
-

Show slide 37.

PG 18



Slide 37
PG 18

25. Discuss: **What are essential questions, and why are they important?** Suggested points to bring out include:

- **When knowledge is developed in the first place, it is often because of someone pondering and exploring a question. What makes a great story? Why were these artifacts found in this location? How might it feel if your home and land were destroyed by people in your country? Can everything be quantified? In what way is the human body a system? Many great theorists, inventors, writers, etc. started with questions such as these.**

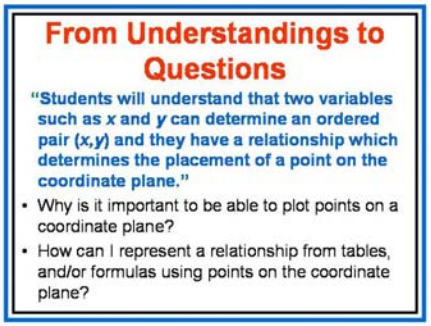
- **These "essential questions" not only lead to the development of new knowledge, but they can also be used by students and teachers to guide inquiry into existing knowledge.**

- **Such questions make a unit design more coherent, make a student's role more inquisitive, and help focus a teacher's priorities. An important learning principle is at work here—key ideas must be questioned, played with, and discovered to be useful and deeply understood.**

- **As a practical matter, developing essential questions that are strongly rooted in the enduring understandings of the standard creates a guidepost for the development of assessments and instruction. Assessments should test whether students can answer the essential question, and instruction should help them explore the question. Thus, essential questions link teacher and student activities to the standard.**

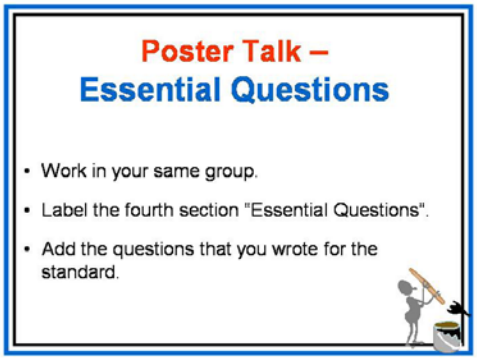
Slide 38

26. Ask (referring to slide 38): **What might be some essential questions related to this standard and these big ideas and enduring understandings?**
    - **Let's practice with enduring understandings from the sample standard.**
    - **Do NOT unpack the element level in isolation without the overall bold standard. The standard is asking for modeling of the position. The element expects students to show evidence that they understand how to explain the phases using a model.**



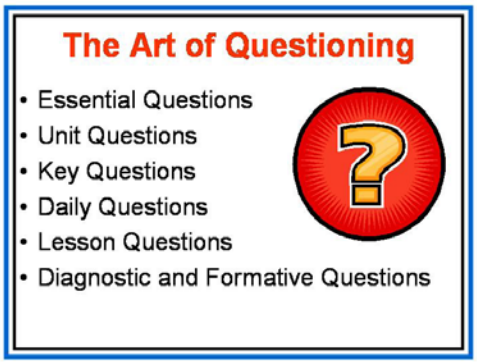
Slide 39
PG 18
Charts and Markers

27. Show slide 39, Poster Talk—Essential Questions.



28. Give small groups time to organize their ideas about essential questions. Have them label the fourth section of their chart "Essential Questions," under the standard, big ideas, essential understandings and write their essential questions.
29. When groups have finished, volunteers will share their work. A brief discussion will follow.

Slide 40



30. Discuss the difference between an over-reaching essential question and other types of essential questions. Essential questions should permeate the teaching and learning environment at all levels.

Identifying Skills and Knowledge

PG 14

31. Refer participants to the diagram *GPS and the Unit Design Process* in the Participant's Guide. Present:

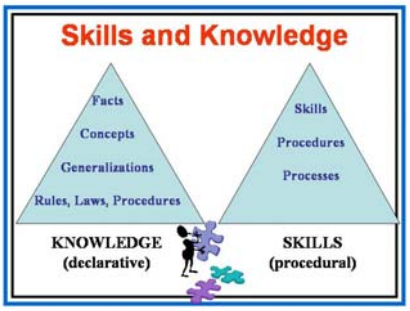
    - **You can see that we have been working on Stage 1, *Identify Desired Results.* What information from the GPS have we used so far to identify big ideas, enduring understandings, and essential questions?** (The standards and elements)

    - **What additional information do we need to identify skills and knowledge?** (What a student should know and be able to do to reach the understandings)

    - **Why do we look at skills and knowledge only after identifying big ideas, enduring understandings, and essential questions?** (to make sure that the skills and knowledge are directly supporting the enduring understandings of the standard)

Slide 41

32. Show Slide 41, *Skills and Knowledge* and ask participants to define the difference between skills and knowledge. (In a nutshell, knowledge is something you can <u>say</u>; a skill is something you can <u>do</u>.)



PG 19

33. Refer participants to *Skills and Knowledge* in the Participant's Guide and to the gallery they created during the session.

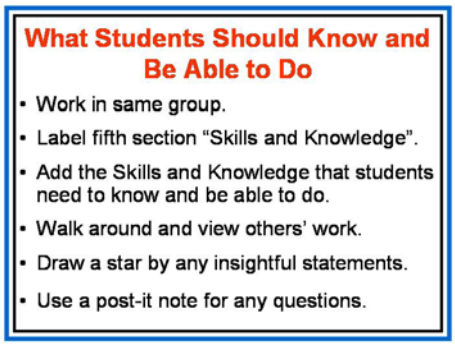
34. Present: **Let's look at the information in your Participant's Guide.**

35. Facilitate participants in identifying the strongest essential skill and knowledge statements on the gallery standard, and in improving the statements so that they cover a wide range of *necessary* skills and knowledge using verbs similar to the ones in the Participant's Guide.

Slide 42

36. Ask: **How could good skills and knowledge statements help you to better choose instructional materials and strategies?**

37. Explain: **The more standards you unpack, the more comfortable you will be with the process. Continue to unpack the standards for the mathematics course that you will teach in 2006-2007.**



38. Give small groups time to organize their ideas about skills and knowledge for their standard. Have them label the fifth section of their chart "Skills and Knowledge," under the standard, big ideas, essential understandings, essential questions and write what students should know and be able to do.
39. Give each group tape so they can post their charts.
40. After the charts are posted on the walls, conduct a Gallery Walk so they can view others' work.
41. Ask participants to get sticky notes and make comments to report their thoughts on the charts.
42. Conduct a whole group discussion about insights and their thinking concerning what they have done while unpacking their group standard.

- **The standards—not the textbook—drive the curriculum. Standards and elements come first, then assessment, then the resources.**
- **Connecting the resources, such as textbooks, to the standards helps determine the requisite knowledge and skills to mesh the resources and materials with the standards.**
- **Identify the elements of the standard that will provide the measurable performance criteria for the critical component of the standard.**
- **Now that you have an understanding of Stage One of the Unit Design process, we are going to move on to State Two for an overview of designing balanced assessments. Remember that Day 2 of training will focus on designing balanced assessments.**

Summary: Large Group Activity (5 minutes)

43. Refer participants to "What We Know" and "What We Want to Know" flipcharts on the walls.

44. Ask participants to revise the charts as needed, based on the discussions and activities so far.

Slide 43
PG 20 and 21

Show slide 43: *A Culminating Task!*
Participants will use the Treasure Map problem to reinforce the concepts that were covered today.

Cardboard
Compasses
Straightedges
Colored pencils

Now that we have spent today using a few of the seventh grade standards to understand the Day 1 training, let's use those same standards together in a culminating task that puts it all together.

NOTE: Tips for constructions are in the back of the Participant's Guide on pages 29-31.

Graph paper is available on page 21 in your participant's guide. Use plotting points on the coordinate plane along with the basic constructions that were used earlier today.

Participants again may share and discuss this task.

Summary and Follow Up Assignments

Time	30 minutes
Overview	Participants are given a follow up assignment to analyze several standards. They begin to develop an action plan. At a minimum, they should determine the time and place of the first meeting and how to work together to complete the assignment.
Objectives	➢ Demonstrate how to lead the Professional Development process in a school.
Activities	➢ Follow-up Assignment ➢ Action Planning ➢ Summary
Materials	➢ Participant's Guide ➢ Notepaper ➢ Overhead projector or computer and LCD projector

Follow Up Assignment

1. Present: **As I said earlier, it *does* take some work to adopt a new set of standards. It is much more than just trying to find the right standards to "attach" to lesson plans that you already have. If it were, there wouldn't be much point, would there?**

2. Present: **The reason that this course is divided into seven days of training over two years is to give you a chance to apply what you've learned as you go, so that you are truly ready to complete a meaningful implementation of the standards—one that will boost student achievement. It's been done in other states and other countries, and we will do it even better here.**

PG 20

3. Refer participants to the follow-up assignment in the Participant's Guides.

4. Explain:

   - **This follow-up assignment asks you to unpack another standard, as we did in the previous activity.**
   - **Eventually, you will have to unpack all the standards in order to teach them, but only one is *required* for day two of training.**
   - **During day two of training, we will use the standard that you unpack to begin to build a unit of study. Therefore, it is very important that each of us comes prepared for day two.**

5. Ask one or two participants to state their understanding of the follow-up assignments.

Summary

Slide 44

1. Show slide 44, 7 *Days of Training.* Provide overview of the 7-day sequence, explaining how the process will develop over time and how follow-up assignments fit in. If known, provide participants with the date, time, and location for day two of training.

2. Participants should understand how to find the training materials necessary for redelivery by using the GADOE website.

Slide 45

How to locate information on the web site www.georgiastandards.org.
Show slide 45.

- **Training Materials (Guides, Power Points, etc.) are found here after all training sessions are completed.**
- **Frequently Asked Questions (FAQs)**
- **List of standards for applicable content area and grade level**

3.

4. Refer participants to "What We Know" and "What We Want to Know" flipcharts on the walls.

5. Ask participants to revise the charts as needed, based on the discussions and activities so far.

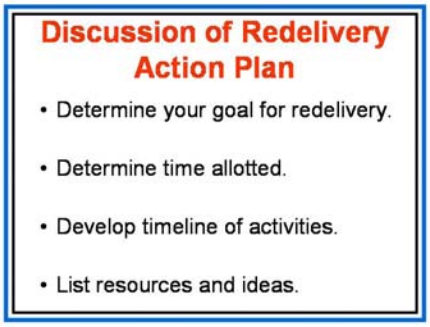
Action Planning

Slide 46
PG 23

1. Present: **On page 23 of your Participant's Guide, you'll find an Action Plan template. This is for you to plan out your group work for both follow-up assignments. I'm going to allow you about 10 minutes to work on your plan now. Minimally, you should determine when and where you'll meet next and what you hope to accomplish in that first meeting.**
2. **The most important resource you have is your Content Facilitaor's Guide. Let's take a look at that now and review some of the important pages.**

FG 7-9

Take time to share helpful pages in the Content Facilitator's Guide, especially the notes in the Overview Section. Be sure to point out the Resources, Glossary that are also in the Participant's Guide.

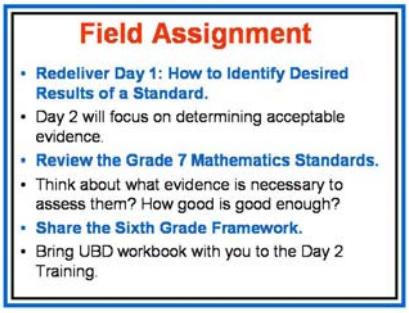


3. Allow ten minutes.

4. Ask groups to present their plans.

5. Show slide 47, Day 2 *Field Assignment*.

Slide 47



6. Explain: **This follow-up assignment asks you to use the standard you unpacked or choose a different one to unpack.**

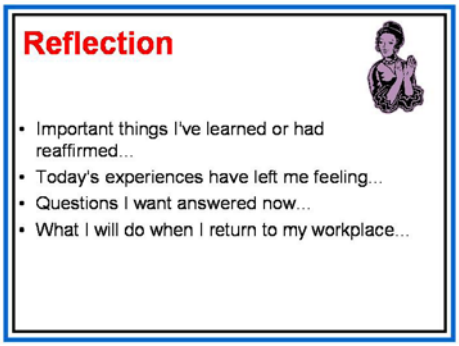
7. **Make a list of ways to assess a student's understandings of those big ideas, understandings and essential questions.**

8. **Be ready to discuss: What evidence is necessary? How good is good enough?**

PG 32

9. **The last page in the Participant's Guide has a Reflection page. Please stop and spend a few minutes to think about what we have done together today.**

Slide 48



10. **The last page in the Participant's Guide has a Reflection page that will be your "Ticket out the Door". Please stop and spend a few minutes to think about what we have done together today.**

11. Thank participants for their time and efforts and encourage them to make the most of the new GPS.

Glossary

CONTENT STANDARDS:	Content standards state the purpose and direction the content is to take, and are generally followed by elements. Content standards define what students are expected to know, understand, and be able to do.
CURRICULUM DOCUMENT:	The Georgia Performance Standards document is the curriculum document that contains all standards that should be learned by all students.
ELEMENTS:	Elements are part of the content standards that identify specific learning goals associated with the standard.
PERFORMANCE STANDARDS:	Performance standards define specific expectations of what students should know and be able to do and how well students must perform to achieve or exceed the standard. Georgia's performance standards are composed of four components: content standards, tasks, student work, and teacher commentary.
PROCESS STANDARDS:	Process standards define the means used to develop patterns of thought and behavior that lead to conceptual understanding.
STANDARD:	Something set up and established by authority as a rule for the measure of quantity, weight, extent, value, or quality.
STANDARDS-BASED EDUCATION:	In standards-based classrooms, standards are the starting point for classroom instruction that ensures high expectations for all students.
STRAND:	A strand is an organizing tool used to group standards by content. For example, the English language arts curriculum contains strands of reading, writing, listening, speaking, and viewing. K-5 science curriculum contains a life science strand, physical science strand, and an earth science strand.
STUDENT WORK:	Examples of successful student work are included to specify what it takes to meet the standard and to enable both teachers and students to see what meeting the standard "looks like."

TASKS:	Keyed to the relevant standards, tasks provide a sample performance that demonstrates to teachers what students should know and be able to do during or by the end of the course. Some tasks can serve as activities that will help students achieve the learning goals of the standard, while others can be used to assess student learning; many serve both purposes. Although the Georgia Performance Standards include tasks, teachers may develop their own tasks.
TEACHER COMMENTARY:	Teacher commentary is meant to open the pathways of communication between students and the classroom teacher as well as within faculty in order to ensure consistency within assessment and expectations. Commentary shows students why they did or did not meet a standard and enables them to take ownership of their own learning.

Reflections on the Day

Please take a few minutes and share your thoughts on the following four areas.

Important things I've learned or had reaffirmed. . .	Today's experiences have left me feeling. . .
Questions I want answered now. . .	What I will do when I return to my workplace. . .