



# ACRE

Accountability and Curriculum Reform Effort  
in Response to *A Framework For Change*

PUBLIC SCHOOLS OF NORTH CAROLINA State Board of Education | Department of Public Instruction

# Curriculum and Instructional Leaders Meeting

January 20<sup>th</sup>, 2010



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# Revised Bloom's Taxonomy



# The Cognitive Process Dimension

The  
Knowledge  
Dimension

*Remember*

*Understand*

*Apply*

*Analyze*

*Evaluate*

*Create*

Factual

Conceptual

Procedural

Meta-Cognitive


# Addressing Rigor:

Misconception of “Understand” in the Revised Bloom’s Taxonomy

## How are we solving this?

- a. Make concrete the meaning of understanding through supporting documents
- b. Training and tools demonstrating the increasing challenge in the knowledge dimension



# Math Essential Standards & Integrated Math



# Science Essential Standards



## Criteria

Generalized goals

- Enduring
- Measurable
- Clear and Concise
- Prioritized and Focused
- Rigorous
- Relevant to the Real World

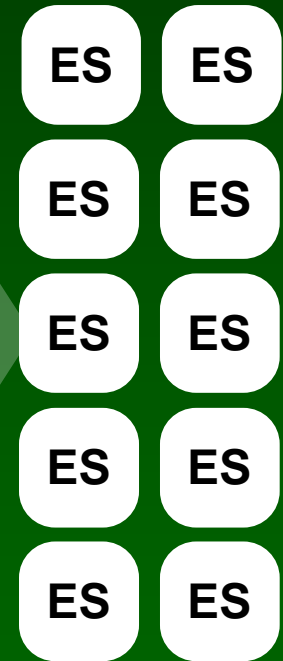
## Filters

Examples and processes to achieve criteria



## Course

Student Outcomes



## ii. Conceptual development

## Science K-12

NSES

AAAS Benchmarks

AAAS Atlas

Other State Standards

Singapore

TIMSS

PISA

NAEP

## Standards Frameworks

- American Association for the Advancement of Science - **Benchmarks for Science Literacy**
- American Association for the Advancement of Science - **Atlas of Science Literacy volumes I and II**
- National Research Council - **National Science Education Standards**
- Other State Standards (including Massachusetts, Connecticut, New Jersey, South Carolina, California)
- Singapore Science Syllabus

## Assessment Frameworks

- Trends in International Mathematics and Science Study (TIMSS)
- Programme for International Student Assessment (PISA)
- National Assessment of Educational Progress (NAEP) 2009 Framework

## Addressing Inquiry:

Standards express **student outcomes**, not instructional practices.

## Why is this important?

- a. To make the standards concise
- b. To avoid mixing purposes
- c. Instructional practices may be specific to situations, expected student outcomes are not



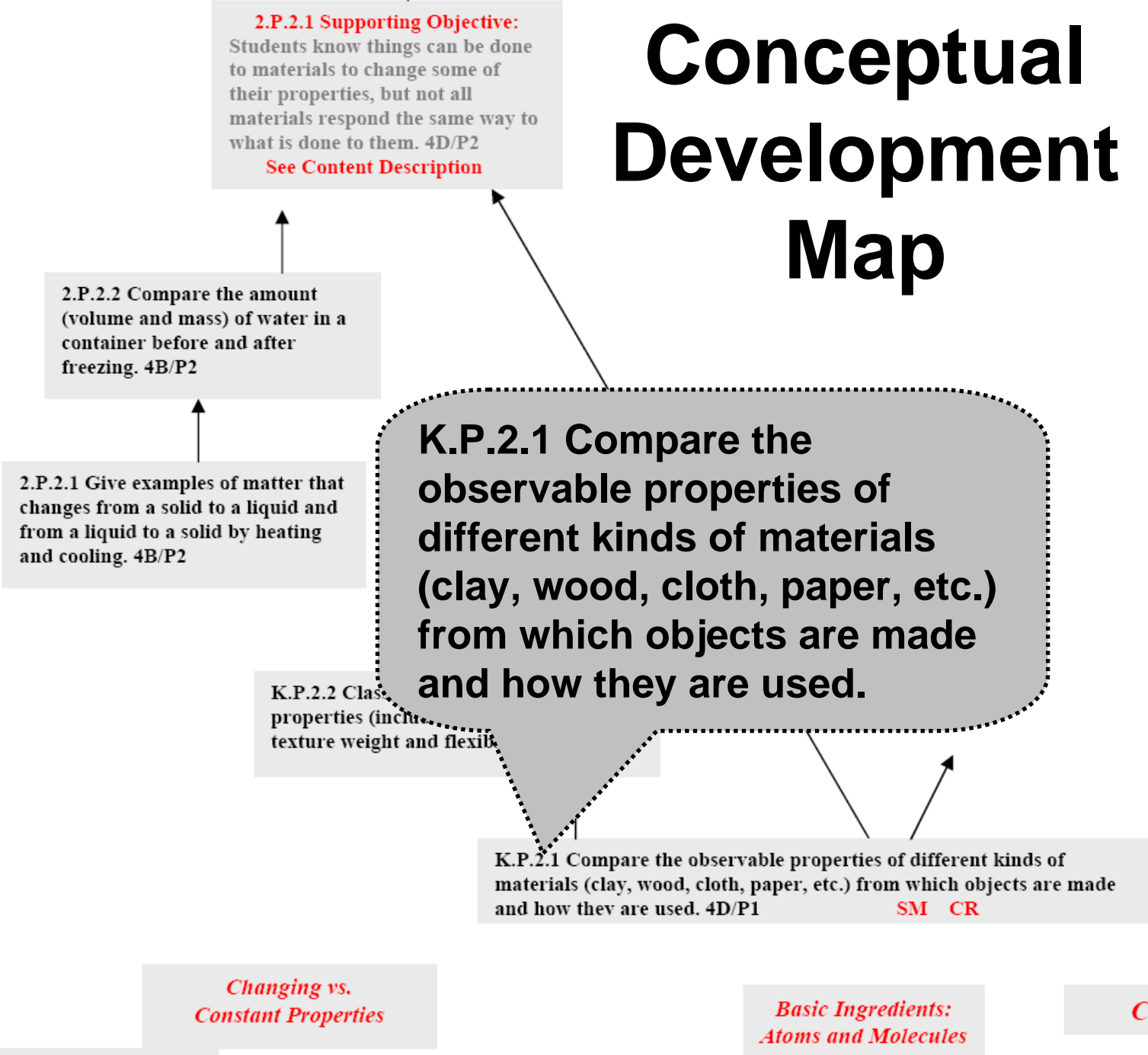
Example of removing instructional directives to focus on student outcomes:

Old SCOS	New Essential Standard
<p>Every elementary standards started with <b>“The learner will investigate or observe..”</b></p> <p>“The learner will make observations and conduct investigations to build an understanding of animal behavior and adaptation.”</p>	<p>Removing the “means” leaves us focused on what the student actually knows or is able to do:</p> <p>“The student will explain the effects of environmental changes, adaptations and behaviors that enable animals (including humans) to survive in changing habitats.”</p>

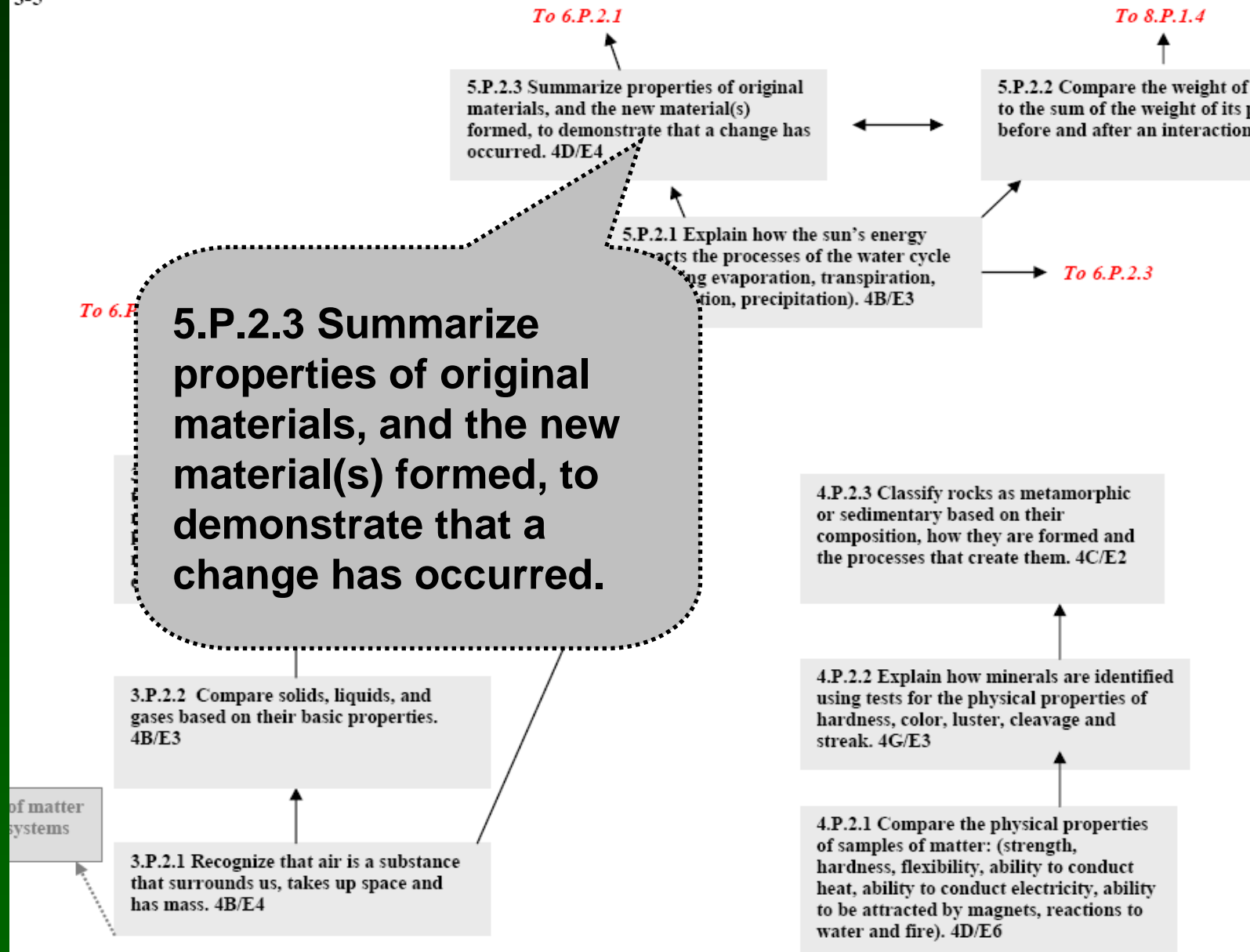


K-2

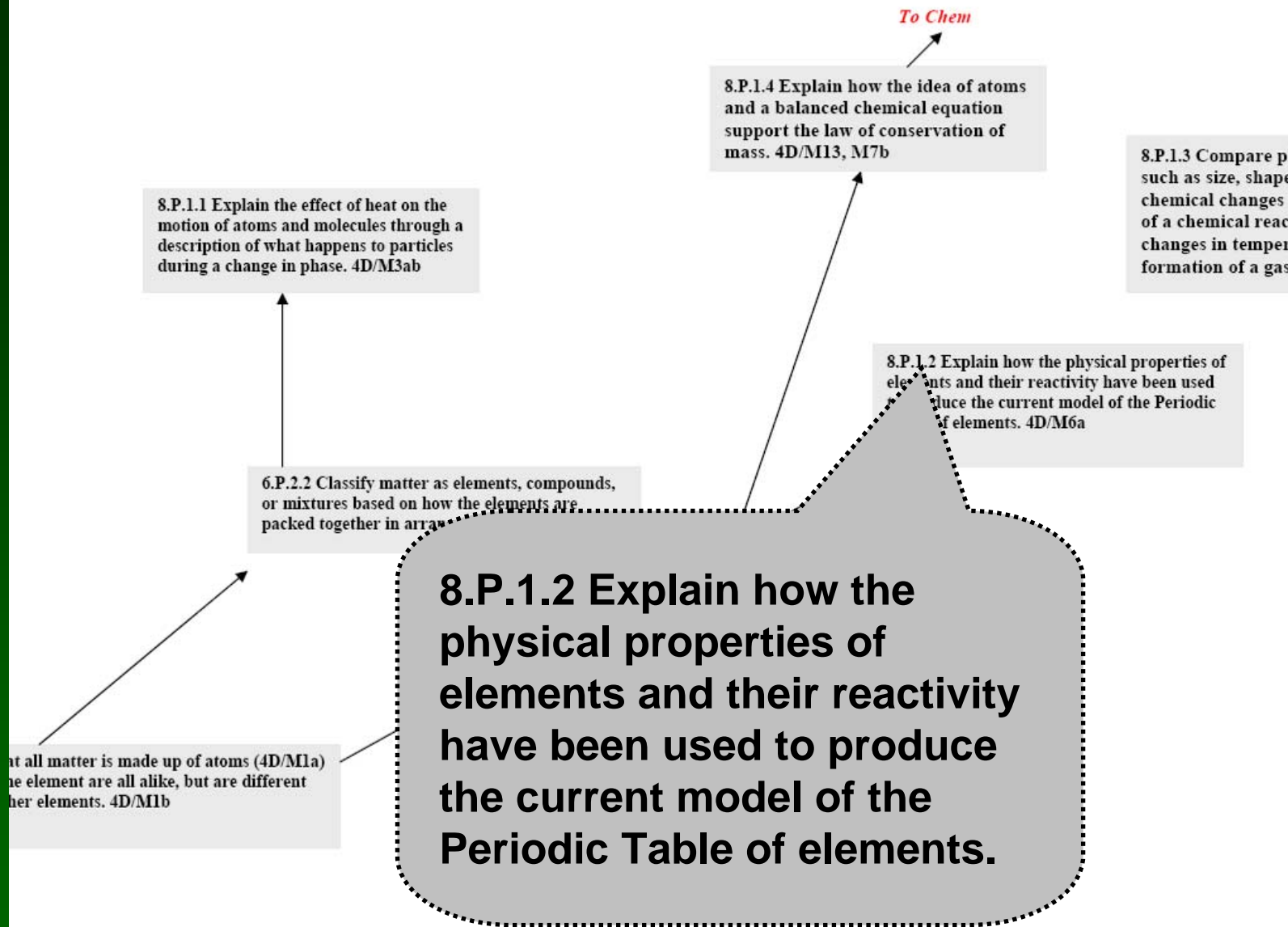
# Conceptual Development Map



## 3-5



# 6-8



9-12

**Chm.2.2.3 Analyze the Law of Conservation of Matter and how it applies to various types of chemical equations (synthesis, decomposition, single replacement, double replacement, and combustion).**

Chm.2.2.4 Analyze the stoichiometric relationships inherent in a chemical reaction.

Chm.2.2.3 Analyze the Law of Conservation of Matter and how it applies to various types of chemical equations (synthesis, decomposition, single replacement, double replacement, and combustion).

Chm.2.2.2 Analyze the evidence of chemical change.



## Addressing Content Placement:

Concern about where standards are placed (grade-level)

### How are we solving this?

- a. We are making choices based on the best possible research and ensuring that students get life, physical and earth from Pre-K
- b. Choices have to be made and we've anchored back to NAEP and AAAS Atlas



Phase II Feedback Open Through  
Feb 15<sup>th</sup> at

[http://www.ncpublicschools.org/acre/  
standards/phase2/](http://www.ncpublicschools.org/acre/standards/phase2/)





Goal: Institute an accountability model that...

- **improves student achievement**
- **increases graduation rates**
- **closes achievement gaps**

*Goal: Institute an accountability model that improves student achievement, increases graduation rates and closes achievement gaps.*



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# Indicators

# Uses

# Levels

*Goal: Institute an accountability model that improves student achievement, increases graduation rates and closes achievement gaps.*



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# Proposed Indicators

Student  
Performance

Post-Secondary  
Readiness

Student  
Growth

Graduation  
Rates

Academic  
Course Rigor

*Goal: Institute an accountability model that improves student achievement, increases graduation rates and closes achievement gaps.*



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# Proposed **Uses** *(of indicators)*

**Report**

**Reward and  
Sanction**

**Target Assistance**

# **Levels** at which indicators might be used

Student

Classroom

School

LEA

State

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## Indicators



## Uses



## Levels



## Post-Secondary Readiness

How should Post-Secondary Readiness be included in the model?

### Recommendation:

Include a requirement that each student takes at least *one* of a select set of approved post-secondary readiness assessments to be included in the accountability model.

Possible list (not-exhaustive) of assessments:

- Accuplacer
- Compass
- ACT
- WorkKeys
- SAT

## Student Performance

How and when should constructed response items be used on summative tests?

### Current Recommendation:

- **Optimize** inclusion of constructed response items by using where most needed to validly assess complex skills (e.g. objectives requiring students to *create*)
- **Split up** testing window (CR earlier; MC at end of year)
- **Phase-in** constructed response starting with
  - English 10;
  - Biology;
  - US History;
  - Explore feasibility of implementing other subjects