

Sunshine State Standards Grade Level Expectations Science

Introduction

Development of Grade Level Expectations

Sunshine State Standards

The Sunshine State Standards are the centerpiece of a reform effort in Florida to align curriculum, instruction and assessment. They identify what students should know and be able to do to for 21st century and are thus both content standards and performance standards. The standards are benchmarked at the developmental levels of PreK-2, 3-5, 6-8, 9-12 for the subjects of language arts, mathematics, science, social studies, the arts, health and physical education, and foreign languages. School districts are required to incorporate provisions for instruction of the Sunshine State Standards into their Pupil Progression.

Tools for Implementing the Sunshine State Standards

Implementation of the Sunshine State Standards is both state and locally guided. Districts and schools have the responsibility of designing instruction to teach the state standards. To assist them, the Department of Education has developed a number of implementation tools.

- *Florida Curriculum Frameworks* present the content standards with sample performance descriptions and correlations to Florida Education Goal 3's SCANS-like process standards as well as overviews of best practices in instruction, curriculum development, interdisciplinary instruction, classroom assessment, and program improvement. The frameworks have been distributed to every district, school, college of education, universities, teacher-preparation institutions, community colleges and others in print and on CD-ROM. A new curriculum framework for the elementary program addressing all subjects was distributed in early 1999.
- Selected state course descriptions for grades 6-12 incorporate the standards.
- The Curriculum Planning Tools, software for writing learning activities correlated to the standards have been distributed
- A multimedia best practices series on CD-ROM is under development.
- A number of training programs are available which address awareness of the standards initiative; local curriculum development; improving instruction; connections between curriculum, instruction and assessment; authentic assessment tools; assessing students with disabilities.

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- Publishers are now required to correlate instructional materials submitted for state adoption to the standards.

Most of these products are accessible on the Internet at the DOE home page: www.firn.edu.doe.

The new High Quality Education initiative stresses accountability for student achievement at each grade. The original Sunshine State Standards were structured to be benchmarked at grade clusters. This was done to provide flexibility to districts in designing curriculum based on local needs. However, a number of things have resulted in the state's decision to produce statewide grade level expectations. These include:

- the expanding national trend toward standards-based reform and accountability;
- section 232.245, Florida Statutes, (SB1956) which mandates each district develop expectations and assessments in reading, writing, and mathematics at each grade;
- concern for fully addressing low-achieving students' needs;
- the widely expressed need for providing teachers at each grade more precise information about what is expected of their students and of them;
- the plan to develop an expanded state assessment program that tests at grades 3-10.

As a result, Commissioner of Education Tom Gallagher charged the Curriculum Services Section in the Bureau of Curriculum, Instruction and Assessment to develop expectations for student achievement for each grade K-8. These Grade Level Expectations are based on the Sunshine State Standards and are organized by the Benchmarks. They have been developed in the subjects of language arts, mathematics, science and social studies.

In January 1999, committees of Florida educators met in Tallahassee to develop first drafts of the Grade Level Expectations based on work already done by Florida school districts and other states. During February and March, the Area Centers for Educational Enhancement (ACEEs) organized reviews of these drafts by focus groups that were representative of education stakeholders. In addition, district subject-area specialists, selected university faculty and other experts were sent copies to review. The Mid-Continent Regional Education Laboratory (McREL), nationally known as an expert in standards for education, also analyzed and made recommendations on the drafts before they were finalized by the Department of Education.

These Grade Level Expectations are recommended, not mandated, by the state, but they will eventually become the basis for state assessments at each grade 3-10 in reading and mathematics. Districts that have already developed grade level expectations may continue to use them, but should ensure they correlate to the new state Grade Level Expectations.

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The following guidelines were used to develop and review the drafts of the Grade Level Expectations.

General Guidelines

The Grade Level Expectations statements will

1. be based on current, accepted, and essential academic knowledge;
2. balance the mastery of important facts, ideas, and key terms with essential intellectual and practical skills that address present and future real-life needs of students;
3. require academic rigor of all students;
4. address the diversity of Florida's growing population as well as the international communities that make up the global society and economy;
5. reflect current and accepted instructional practices that address how students best learn;
6. be understandable by all education stakeholders;
7. provide the basis for further local curriculum development;
8. provide the basis for state, district, school, teacher and student accountability.

Specific Guidelines

The Grade Level Expectations statements will

1. be new or more specific statements, when appropriate, of what students need to know and be able to do at each grade level to achieve the grade-cluster benchmark and ultimately the exit standard; this requires that specific incremental prerequisite skills be assigned to benchmarks to various grades; in some cases, however, when a benchmark is addressed at only one grade in a grade cluster, the benchmark may be incorporated as is into the Grade Level Expectation;
2. be written at levels appropriate to student developmental abilities at the specified grades;
3. provide, if appropriate, more specificity and/or focus on smaller clusters of content than the benchmarks.

Using the Grade Level Expectations

The Sunshine State Standards provide direction for student learning of science content and processes. The Sunshine State Standards are divided into eight strands categorizing broad areas of knowledge within science. This division does not mean that learning should be fragmented. The science strands and expectations are interdependent. In fact, several expectations might often be combined in a single teaching or assessment activity. Further, when used effectively, instructional activities will include grade level expectations from other science strands and from other subjects. Research indicates that learning is most effective when new information is related to previous knowledge and has some immediate application in the life of the learner.

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The Grade Level Expectations are not intended to take the place of a curriculum guide, but rather to serve as the basis for curriculum development to ensure that the curriculum is rich in content and is delivered through effective instructional activities. The Grade Level Expectations are in no way intended to limit learning, but rather to ensure that all students across the state receive a good educational foundation that will prepare them for a productive life. Districts, schools, teachers, and students are encouraged to extend the content and achievement expected as they feel it is appropriate.

In middle school, districts are required to offer courses as listed in the Course Code Directory. In science, districts have the choice of offering discipline specific courses (MJ Earth Space Science, MJ Life Science, MJ Physical Science) or a spiraling comprehensive set of courses (MJ Comprehensive Science 1, 2, 3). The grade level expectations may be different in each scenario. However, no matter which approach is taken, students should have the opportunity to achieve all science benchmarks for grades 6-8 by the end of the eighth grade.

Several approaches for wording and formatting are found in the Grade Level Expectations.

Concepts that are important for students to know and use at each grade are repeated at more than one grade. In some such cases, the repeated expectations are differentiated by higher level applications or by different examples as the student progresses through the grades. In other cases the expectations are stated in the same language. In all cases, it is expected that students will be achieving the grade expectation using materials and tasks appropriate to that grade. The district, school, or classroom teacher must make decisions as to which instructional materials and activities and which tasks to assess achievement of the expectations are appropriate.

Some expectations may appear to require students to know a broad expanse of knowledge about a topic. Such expectations do not require second graders to know all things about the topic. The district or school must choose curriculum materials or the teacher would need to select for study some things that would contribute to the student's understanding of the topic. Instruction at each grade should do its part to prepare students to achieve the more general expectations for students at the end of twelfth grade that comprise the standards.

Higher order thinking terms like *understands* or *knows* are used unless more specific demonstrations of behavior, such as *applies*, are more appropriate. Assessment developers, whether at the state, district or classroom level, need to identify specific behavior required by each assessment item, but at the Sunshine State Standards level, the terms *understanding* and *knowing* are the primary terms for expectations.

As you examine these expectations for each grade that were derived from the benchmarks, please work to find as many ways as possible to integrate and implement the expectations into the

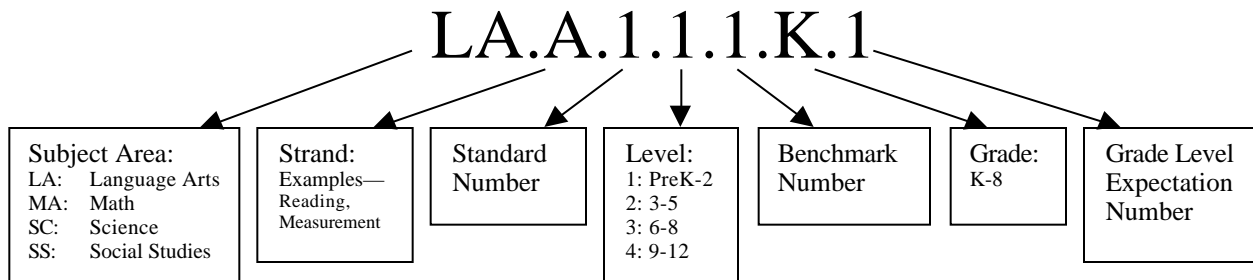
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curriculum. It may be necessary to modify existing curriculum. Please give attention to the research on teaching and learning and to your students and their needs to provide the most effective classroom instruction.

Short lists of content examples are included in many of the grade level expectations. These are included to provide guidance to teachers and curriculum developers and are not meant to define or limit instruction.

Numbering System for the Grade Level Expectations

For easy reference, each Grade Level Expectation has been assigned a unique identification code. The numbering system used builds upon the already existing numbering system for the strands, standards, and benchmarks that make up the Sunshine State Standards.



Example: LA.A.1.1.1.K.1 The student uses titles and illustrations to make oral predictions.