

CSCOPE

Science 1st Six Weeks 2008-2009

E-Newsletter

In this issue:

- Doc Spot: New Information in the IFD
- Tips and Tools for Managing Cooperative Learning: Think-Pair-Share
- English Language Proficiency Standards
- Preview of the First Six Weeks
- Upcoming Workshops

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This newsletter is written specifically for teachers and will include news and information to help you implement the CSCOPE curriculum. In it you will find tools for managing cooperative groups, explanations of CSCOPE documents, easy-to-implement and highly effective instructional strategies, along with a preview of the upcoming six weeks. We hope you enjoy this newsletter and find it useful and informative!



Doc Spot: New Information in the IFD

When planning out your first six weeks, remember to start

with the **Instructional Focus Document**. The IFD is an essential document in planning and guiding your instruction. There have been several sections added that provide a wealth of information.

At first glance, you will notice a section in the upper right hand corner that's titled **State Resources**. The Charles A. Dana Center's TEKS Toolkits, websites, and other various state resources are listed to provide instructional support and information for teachers and students throughout the year.

Misconceptions and underdeveloped concepts provides information to address areas where misconceptions in learning have been formed, as well as give insight to concepts students may have trouble understanding. The primary focus is to help build and strengthen student's conceptual knowledge through identifying these areas to highlight and address.

The performance indicators now provide information to tie in the **English Language Proficiency Standards (ELPS)**. This information will help in the planning process if modifications are needed for an ELL student to be successful with their performance indicator. Not sure what the ELPS are? Check out page 2 of this newsletter.

Key Academic Vocabulary Supporting Conceptual Development is an addition to the IFD that will help build a common vocabulary among our students. This section will provide key vocabulary and definitions to support the conceptual learning for the unit of instruction.

The enhancements to the IFD truly strengthen the document in its ability to help teachers gain valuable resources and plan for instruction.



Significant increases in the numbers of children with limited English skills in Texas classrooms make it vital that all teachers know something about how children learn a second language. When English Language Learners join your class, you receive information about their levels of English language proficiency. This is a good place to start to get to know your students, but what does it mean as you plan your classroom instruction? We know that our ELLs “require focused, targeted, and systematic second language acquisition instruction to provide them with the foundation of English language vocabulary, grammar, syntax, and English mechanics necessary to support content-based instruction and accelerated learning of English.” (ELPS document) To this end, the English Language Proficiency Standards (ELPS) will help to guide the instructional planning of all teachers.

ELPS What are the ELPS?

English Language Proficiency Standards (ELPS) were approved in November, 2007 to help us as educators be purposeful in meeting the needs of the English Language Learners in our classrooms. Whereas the ESL TEKS were tied to specific grade levels, the ELPS are tied to levels of English language proficiency (beginning, intermediate, advanced, and advanced high) that occur across grade levels. They address the speaking, listening, reading and writing needs of English Language Learners. The proficiency level descriptors outlined the ELPS show the progression of second language acquisition from one proficiency level to the next and serve as a road map to help content area teachers instruct ELLs in ways that are linked with students' linguistic needs. Students may exhibit different proficiency levels within the language domains of listening, speaking, reading, and writing. The standards guide teachers to meet these needs at a level of challenge that is appropriate for students' English language development levels.

The ELPS are to be implemented as an integral part of each area of the required curriculum for English Language Learners in Kindergarten through Grade 12 beginning this school year, 2008-09. The ELPS replace the English as a Second Language (ESL) ESL TEKS.

ELPS Background

The foundational concept underlying the ELPS is that all teachers are responsible for English language instruction so that students can master the TEKS. A consistent instructional approach to instruction that integrates effective language acquisition techniques with good content area instruction ensures that all students develop academic and social language necessary for success both in and out of the classroom.

Basic Interpersonal Communicative Skills (BICS) consist of the English needed for daily social interactions. These are the skills we often see evidence of in class discussions. Further observation reveals that these students are some-

times able to discuss concepts, but they lack the requisite academic language which would allow them to continue refining their understanding of academic concepts. Academic language proficiency, known as Cognitive Academic Language Proficiency (CALP), consists of the English needed to think critically, understand and learn new concepts, process complex academic material, and interact and communicate in English academic settings. It typically requires about two years after initial exposure to a second language to acquire conversational fluency; however, at least five years is usually required to catch up to native speakers in academic aspects of the second language (Cummins, 1981).

ELPS What do the English Proficiency Standards mean for teachers? Because students often have different levels of English proficiency in speaking, listening, reading and writing, it is challenging to plan instruction. The ELPS assist us here because they delineate the progression of English literacy skills and what they look like at each of four levels of proficiency. Furthermore, the ELPS identify appropriate strategies for continued growth. The good news? The identified strategies are not complicated or new; they include skills that teachers already address in their classrooms such as

- using prior knowledge;
- using visual, contextual and linguistic support to enhance and confirm understanding;
- using and sharing information in cooperative learning interactions; and
- expressing ideas and opinions.

The ELPS identify strategies and approaches aligned with language acquisition levels. Most of these strategic learning strategies are familiar to teachers as well: concept mapping, drawing, memorizing, comparing and contrasting.

Acquisition of academic language does not occur by accident. The ELPS are designed to cause us to consciously plan for and be mindful of how to meet the needs of our ELLs. As students become more proficient with English, teachers will plan for gradually increasing the linguistic complexity of the English students read and hear, and are expected to speak and write.

ELPS Where are the ELPS referenced in CSCOPE?

The Performance Indicators described in the Instructional Focus Documents reference the ELPS using the icon that has preceded each paragraph of this article; they are listed in the Exemplar Lessons as well. For example, if a Performance Indicator refers to ELPS 1A, this would mean the student is expected to use prior knowledge and experiences to understand meanings in English. Of course this is something that you use to engage all of your students, but now you have documented that you have used the ELPS in planning, implementing and assessing.

(continued on page 3)

Tips & Tools for Managing Cooperative Learning...Think-Pair-Share

Think-pair-share is a strategy that gives students “wait time” to think, and allows an opportunity to share their thoughts with a partner in a focused way. This strategy gives the teacher an opportunity to listen in on student thinking while moving around the room, to identify strengths and needs, and then to facilitate a large group discussion by sharing some of the conversations that best respond to the lesson focus. The high level of student response required by this method keeps students engaged in learning.

What is the procedure for think-pair-share?

1. Prepare.

Seat students in fours, with two pairs of students facing one another. In this way, you may change partners for easily as necessary.

Tell students they will be doing a think-pair-share.

Ask an open-ended question or pose a problem to be solved.

2. Think. Tell students that they are to think about the question posed without discussing it. Give students sufficient time to think quietly about their responses. Walk around the room to prompt silent, individual thought.

3. Pair. Announce that students will discuss their thoughts with shoulder partners. Instruct students to share thoughts with their partners, and to ask for clarification when they don't understand. Listen to student conversations as you move around the room.

4. Share. At first, ask for student pairs to volunteer to share. As students become used to this routine, increase student accountability by calling on students randomly. Not every pair will share on every question. Announce that students will interact with eyeball partners. Ask another question, following the same think-pair-share procedure.

Use think-pair-share when students are:

- making predictions.
- discussing results.
- drawing conclusions.
- developing concepts.
- discussing opinions.
- solving complex problems, individually at first, and then comparing answers.
- discussing solution options to a problem.
- summarizing learning.

Benefits of think-pair-share.

- Fosters active student involvement. All students have an opportunity to share their thoughts with at least one other student.
- Increases quality of student responses. They have time to reflect during “think time” before responding.
- Increases retention of lesson concepts as students have opportunities to reflect on manageable chunks of information rather than an entire lesson.
- Activates prior knowledge/experience.
- Assists in identification of student misunderstandings and questions in a smaller, safer paired environment.
- Decreases stress for students who are shy about sharing in front of the whole class.
- Provides students opportunities to interact with other points of view.
- Serves as pre-writing. May lead to increased student willingness to respond and greater depth in writing. Increases options for what students share, whether it's their own thinking, their partners, or some combination of the two.

Think-Write-Pair-Share. This strategy introduces writing into the procedure. As students **think** about the question, they also **write** their response to the question. (They may use a visual representation such as a web or Venn diagram, draw a picture, write a paragraph. You may want to post options for written response as you introduce this strategy.) As in **think-pair-share**, students pair up with another student, adding to, deleting from, and editing their initial response as appropriate. Responses are then **shared** with the rest of the class.

Sources.

Kawas, T. Writing in mathematics. Retrieved August 25, 2008, from Mathwire.com Web site:
<http://www.mathwire.com/writing/writing1.html>

Samson, F. Think write pair share. Retrieved August 26, 2008 from Geocities.com. Website:
http://www.geocities.com/feliciasamson/think_write_pair_share.html.

Saskatoon Public Schools. What is think pair share?. Retrieved August 25, 2008, from Instructional Strategies Online Web site:
<http://olc.spsd.sk.ca/DE/PD/instr/strats/think/>

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The ELPS may be accessed online at <http://www.tea.state.tx.us/curriculum/biling/elps.html>.

You may access an explanation of the alignment of CSCOPE, the 5E's, and the ELPS at http://www5.esc13.net/cscopec/docs/elps_cscopec_5e_connection.pdf.

Cummins, J. (1981). The role of primary language development in promoting educational success for language minority students. *Schooling and language minority students: A theoretical framework*. Los Angeles: California State University; Evaluation, Dissemination, and Assessment Center.

Using the CSCOPE documents to plan instruction...

If you are new to CSCOPE, this article is for you!

This information is adapted from a planning process used by Elgin ISD in Central Texas and shared by Krista Marx, curriculum instructional specialist, Glenell Bankhead, principal of Neidig Elementary, and instructional staff at Neidig.

1. **Read through the Instructional Focus Document (IFD).** (Choose your subject from the Home Page. Click the unit you are studying. Be sure to use only units that end in 08-09. When the unit opens on the right side, click View IFD and save it to your desktop.)

- What are the main points of the *rationale*?
- What are the *concepts* addressed in the unit?
- What are the *Key Understandings* in this unit?
- Read the *misconceptions/underdeveloped concepts*. Are there others you can think of based on your classroom experience?
- What *academic vocabulary* will you need to use and emphasize?
- What are the *performance indicators*? Notice the rigor. Have your students typically been expected to perform at this level before? If not, what supports do you need to put into place for student success?
- Read the *ELPS* that are covered by this performance indicator. Not sure where or what they are? See page 2.
- What *TEKS* are covered in the lesson? Review the specificity and highlight any that seems new, or that you maybe haven't typically emphasized enough previously.

2. **Find the TEKS in the Vertical Alignment Documents.** (At the upper left corner of the webpage, click CSCOPE Resources. Choose your subject and then Vertical Alignment Documents.)

- Look at the TEKS from the previous grade level. What TEKS from the previous grade level support

your grade level?

- Look at the TEKS from the next grade level. How does what you teach support what students will learn next year?

3. **Scan each lesson and plan a tentative instructional calendar.** If you give your calendar to students, you may want to include the Performance Indicators, Key Understandings and Guiding Questions.

4. **Plan the activities for your unit.**

- What *handouts or cardsets* will you print? Some handouts can be made into transparencies only and do not need to be printed for each student. Also students may be able to draw the tables or graphic organizers in their journals or spirals, so these may not need to be printed.
- What *materials or manipulatives* do you need to gather?
- Look at the *Guiding Questions*. Can these be posted in the classroom, used in parent newsletters, or placed on the syllabus?
- What is the *new vocabulary* that students will be using? How can this vocabulary be explicitly taught?
- How can this lesson be accommodated for ELL students? Where are the *ELPS* that are referenced in the IFD used in the lesson?
- How can this lesson be accommodated for *students with IEPs*?
- What will I use from our *district resources*? Be certain that outside resources match the Key Understandings and Performance Indicators.

Quick Website Tips

Check out some of the valuable **CSCOPE Resources**. In the upper left hand corner of your CSCOPE screen, select **Curriculum Elements**. Select **CSCOPE Resources** from the drop-down menu. Select the **Science** tab. You'll see four choices.

- The **TEKS Verification Document** shows the six/nine weeks that a TEKS is taught.
- Materials and Resources** contains the list of materials and resources you'll need for the CSCOPE lessons. Currently these are for 2007-2008, so don't download them yet.
- Vertical Alignment Documents** (VADs) should be saved to your desktop for easy access. They will also be easier to read.
- Year At A Glance**—This is the pdf of the Year At A Glance.



1st Six Weeks Lesson Preview

Science



Kindergarten

As kindergarten children enter school for the first time, they will begin to learn about themselves and the world around them. **Unit One Exploring How I Change and Grow** focuses on students learning and developing ideas about how people and other animals, live, grow, feed, move, and use their senses. Students will create a year long notebook to track and record their growth and relate this learning to the life stages of humans. In **Unit Two The Properties of Matter**, students will build knowledge and understanding of how to group objects by their measurable properties.

1st Grade

Unit 1 Investigating Weather bundles student expectations that address properties and patterns of events, specifically the weather and seasons, observing and recording the weather day-to-day and over seasons, and introduces students to some tools that help measure and record data. This unit will lay the foundation for careful observations and accurate recording of events in the natural world and provide students with experiences to make observations that will help them recognize patterns and changes over time.

2nd Grade

In **Unit 1 Patterns and Properties of Objects** students will classify objects based on their properties including, color, size, shape, texture, and physical state. In **Unit 2 Change Occurs** through inquiry lessons, students will learn how to identify and measure change.

3rd Grade

During **Unit 1 Investigating The Solar System**, students will expand their knowledge to include not just the Earth, sun, and moon, but the rest of the planets in our solar system. After exploration of the planets, students will better understand the Earth's role in our solar system.

4th Grade

This six weeks focus in **Unit 1 Investigating the Universe** addresses the sun's energy immense role for our planet in order to connect many processes on Earth (weather, winds, plant growth, water cycle, etc) back to the average star at the center of our solar system. Studying the sun as an inexhaustible energy source is a great way to start the year. The sun is essential to life. A small section of this six weeks will be focused on weather, in order for weather observations to begin at the first of the year and continue through many seasonal or weather changes.

5th Grade

This six weeks, students will experience **The Physical Properties of Matter**. This unit's purpose is to set a foundation for understanding that addition or removal of energy causes change. In lesson one, students begin to classify matter through magnetism, electricity, and conductivity. Through hands on activities, they will then discover mixtures and solutions, and end the unit on investigating the constant properties of matter.

6th Grade

Unit 1 Chemical and Physical Properties address the progression of understanding matter to demonstrating that new substances can be made from chemical reactions. Students will gain an understanding that physical changes are about energy and states of matter, and chemical changes happen on a molecular level. Students will be able to identify substances as a solid, liquid or gas. They will conduct experiments and make observations to evaluate if chemical or physical reactions have occurred. In **Unit 2 Force and Motion** students will investigate the relationship between force and motion in order to introduce the laws of physics. During this unit students will gain an understanding that forces cause changes in an object's position, speed and direction, and that changes in motion can be measured and graphically represented.



1st Six Weeks Lesson Preview

Science



7th Grade

Unit 1 Organism Response to the Environment introduces students to the process of photosynthesis. The students are to identify the parts of plants that are involved in photosynthesis as well as the products and reactants involved. Students will also investigate the forces and tropisms at work on the growth of plant through lab activities. In **Unit 2 Ecosystems** students will focus on food chains, webs, and the transfer of energy in a system. Students will then engage in research and application of knowledge of biotic and abiotic factors of various ecosystems.

8th Grade

In **Unit 1 Atomic Structure** students will use models to investigate the parts of an atom. Students will also research various models of an atom to see how models change as new information is gathered. During **Unit 2 Physical and Chemical Properties** students will identify how the properties of atoms relate to their placement on the periodic table through the use of models. They will also investigate the physical and chemical properties of substances and relate them to the development and application of everyday materials. **Unit 3, Interactions of Matter and Energy** focuses on investigations of chemical reactions through laboratory activities and using models to represent the law of conservation of mass. Students will also investigate interactions between matter and energy through several lab activities.

Biology

In **Unit 1 Science Safety, Methodology, and Contributions** students are introduced to policies and procedures concerning classroom safety. They will review and demonstrate their ability to conduct a controlled experiment, and gauge abilities in understanding and conducting scientific investigations. Students will conduct research on the contributions of science to society and evaluate promotional claims, conduct research on contributions of scientists, and research science-related careers.

During **Unit 2 Ecology** students explore biomes and compare variations, tolerances, and adaptations of organisms in different biomes. They will analyze and interpret relationships and the flow of matter and energy in food chains and food webs. Students will also explore ecological pyramids, biological magnification, and analyze flow of matter through the carbon, oxygen, nitrogen, and water cycles.

Unit 3 Biochemistry focuses on reviewing chemistry concepts of the structure and function of carbohydrates, proteins, lipids, and nucleic acids. Students will conduct lab investigations identifying the presence of sugar, starch, protein, and lipids in foods, and will design an investigation to determine the effect of temperature on enzyme action.

Chemistry

Unit 1 Laboratory Management students will look at safety and the use of tools and equipment in the chemistry classroom. This unit is designed to give students an overview of safety issues that are specific to the classroom where they will do their labs. **Unit 2 Matter**, bundles student expectations that focus on the properties of matter. A thorough understanding of matter gives students a building block to begin their study of chemistry. In **Unit 3 Atomic Structure and the Periodic Table** students gain thorough understanding of both the atomic structure of the atom and how that structure relates to the periodic table. Understanding how to read and use the periodic table will be a key factor in the success of the students in future units.



1st Six Weeks Lesson Preview

Science



IPC

Unit 1, Laboratory Management bundles student expectations that look at safety and the use of tools and equipment in the IPC classroom. This unit is designed to give students an overview of safety issues that are specific to the classroom where they will do their labs. In **Unit 2 Properties of Matter: Physical Properties** students will investigate the components of density (mass and volume) and explore using water displacement to determine the volume of an irregularly shaped object. They will also review their knowledge of elements, compounds, and mixtures and will create simple models to demonstrate the differences between the three in a tactile way. During **Unit 3 Properties of Matter: Chemical Properties** students will study the history of atomic theory, the challenges scientists have gone through, and the technology they have used to make new discoveries. Students will investigate the periodic table and be able to understand its importance in determining which elements will bond with others to form compounds. At the end of this unit, students gain an understanding of how scientists use spectral analysis to determine the chemical content of substances.

Physics

Unit 1 Laboratory Management is designed to give students an overview of safety issues that are specific to the classroom where they will do their labs. Focus on the organization and setup of a laboratory notebook and the introduction of other classroom organization tools and activities can also be introduced at this time. In **Unit 2 Graphing Motion** students build upon prior experiences with reading graphs depicting motion by measuring objects in motion, graphing the motion of objects, and correlating different graphs to specific types of motion. Students will finish the six weeks with **Unit 3 Kinematics of 1D and 2D Motion**. This unit addresses motion described with equations (Kinematics). This is the normal starting point for most physics courses, and the skills and concepts learned in this unit will be used throughout the year.

Upcoming Professional Development

Look for these and other workshops in the e-Campus catalog (<http://www5.esc13.net/index.html>).

Maximizing Student Performance: Effective Classroom Strategies. (FA0813009) October 10, 2008
Participants will experience and learn about a variety of instructional grouping strategies. The focus will be on easy to manage and time saving strategies that will successfully engage all types of students in learning.

Maximizing Instructional Time: What do your students really know? (FA0814356) December 9, 2008
Why wait until the end of the unit to know what your students know? This course will focus on assessing student knowledge during the unit without the use of time-consuming quizzes. You will examine CSCOPE lessons and identify opportunities for providing feedback on students' work. You will then learn practical, easily implemented processes to plan subsequent instruction using the data you collect. (Please note that this is not a workshop that addresses the CSCOPE unit assessments. The focus is on ongoing assessment for learning.)

Go to the following link for more information about other trainings:

<http://www5.esc13.net/cscope/trainings.php#trainings>.

(Continued on page 8)



2nd and 3rd Six Weeks SPARCs

Grade	Workshop ID	Dates
Kinder Math/Science	FA0812914	9/15
	FA0812941	10/20
1st Math/Science	FA0812940	9/17
	FA0812955	10/22
2nd Math/Science	FA0812931	9/16
	FA0812948	10/21
3rd Science	FA0812961	9/19
	FA0812967	10/24
4th Science	FA0812939	9/17
	FA0812957	10/22
5th Science	FA0812927	9/16
	FA0812952	10/21
6th Science	FA0812964	9/19
	FA0812968	10/24
7th Science	FA0812943	9/17
	FA0812959	10/22
8th Science	FA0812934	9/16
	FA0812954	10/21
Biology	FA0812937	9/16
	FA0812970	10/28
IPC	FA0812966	9/19
	FA0812974	10/31

These workshops are held at Region XIII from 9:00-4:00 and cost \$50 each.

Feedback from 1st Six Weeks SPARCs...

- * *I got great idea for the kids from the first day of school.*
- * *Great workshop...look forward to more in the future.*
- * *What I liked the most was that I got to visit with other math teachers and received much encouragement as a brand new teacher.*
- * *Great presentation and great learning time with other colleagues.*
- * *Very helpful hints on how to adapt lesson to make more dynamic in the classroom. Also how to use lessons for formative assessment.*
- * *This was great and look forward to more. I wish you had these last year.*