



Oral Language Development in English-language Learners: Research Findings and Promising Practices

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About CREATE

CREATE is a National Research and Development Center funded through the National Center for Education Research (NCER), Institute of Education Sciences (IES), U.S. Department of Education. It addresses specific challenges in the education of English language learners in the middle grades (Grades 4-8)

CREATE is a partnership of researchers from several institutions:



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University of California-Berkeley

Elfrieda Hiebert



Vaughn Gross Center, University of Texas at Austin

Sharon Vaughn, Sylvia Linan-Thompson

Acknowledgements

My collaborators on the QuEST studies include

Center for Applied Linguistics: Julie Mazrum,
Jennifer Gray, Natalia Jacobson, Lauren Artzi,
Sarah Moore

Arlington County Public Schools, Arlington,
Virginia: Jennifer Powell and Michelle Lombard

Overview of Presentation

- Findings from the National Literacy Panel on Language Minority Children and Youth related to oral language development
- Promising practices for building the oral language proficiency of English-language learners in the context of content area instruction
 - Primary grades reading/language arts
 - Primary grades ESOL
 - Primary grades math
 - Middle grades science

Context for Literacy Development

- A large proportion of English-Learners in the US are from poor families
 - In 2000, 68% of ELLs in pre-k through 5th grade were poor; 60% of ELLs in grades 6-12 were poor which is twice the rate for English proficient students in these grade levels (Capps, et al., 2005)
- SES has a large impact on oral proficiency which is implicated in text-level literacy skills
 - Oral proficiency of middle and high SES ELLs is 7.2 points or half a standard deviation higher than low SES ELLs (Cobo-Lewis, et al., 2002)
- A large proportion of English-language Learners—64%--were born in the US (Migration Policy Institute, 2006)

Definition of Terms

- Oral language proficiency: phonology (ability to recognize and produce sounds and sound sequences that make up language), vocabulary, morphology, grammar, and discourse features
- Phonological processing: the ability to use the sounds of the language to process oral and written language
 - Phonological awareness: the ability to consciously attend to the sounds of language as distinct from meaning
 - Phonological recoding: processes required when a non-phonological stimulus, such as a written word or picture, is converted to phonological output (rapid naming of letters or pictures)
 - Phonological memory: coding information phonologically for temporary storage in short term memory (digit span or pseudo-word repetition tasks)

Definition of Terms (cont.)

- Word-level reading: word reading, spelling
- Text-level reading: comprehension, writing
- Working memory (WM)
 - Active manipulation of the information presented while simultaneously holding the information in memory (repeating letters or numbers in reverse order)
- Short-term memory (STM)
 - Direct recall of information

Development of Literacy

- The word-level literacy skills of English-language learners (e.g. decoding, spelling) are much more likely to be at levels equal to monolingual English speakers.
- However, this is not the case for text level skills (e.g., reading comprehension, writing). These skills rarely reach levels equal to monolingual English speakers.
- A crucial area of investigation is how to build the English proficiency skills of second-language learners because these skills impede students' ability to achieve to high levels in text level skills.

Relationship Between L1 Oral Proficiency and L2 Oral Proficiency

- Consistent evidence for cross-language relationships:
 - Working memory
 - Phonological awareness
 - Phonology (errors in L2 caused by L1)
 - Vocabulary (for higher level skills such as interpretation of metaphors and quality of formal definitions and for cognates)
- Inconsistent evidence for cross-language relationships:
 - Phonological recoding
 - Phonological short-term memory
 - Grammar (little overlap in focus of studies)

Relationship Between L2 Oral Proficiency and L2 Literacy Skills

- Measures of oral language proficiency in English (L2) correlate positively with word and pseudo-word reading skills in English, but are not strong predictors of these skills. However, various measures of phonological processing skills in English (e.g., phonological awareness) are much more robust predictors of English word and pseudo-word reading skills.
- In contrast, well developed oral proficiency in English is associated with well-developed reading comprehension skills and writing skills in English.

L2 Literacy Instruction

- Studies suggest that overall, the types of instruction that help monolingual English-speaking students are advantageous for second-language learners as well
- Effect sizes are lower indicating that successful interventions don't improve the literacy skills of second-language learners as much as they do for children learning in their first language
- Adjustments that take into consideration students' level of English oral language proficiency are beneficial
- Adjustments that build students' English oral language proficiency in the context of content area instruction are beneficial

Adjustments to Develop L2 Literacy

- **Capitalizing on Students First Language Strengths**
Previewing and reviewing story book reading in students' first language (Ulanoff & Pucci, 1999; Liang et al., 2005);
Instruction in the transfer of cognate knowledge from a first language to a second (Carlo et al, 2004).
- **Scaffolding**
Using videos to build background, illustrations and realia to make word meanings clear, and engaging children in motions and gestures (Roberts & Neal, 2004; Silverman, 2007)
- **Reinforcement**
Creating opportunities for teacher-student interaction around books to make them comprehensible during reading (Saunders & Goldenberg, 1999)

Overview of Primary Grades Work

- Four year study to examine the development of literacy in students in two program types in
 - Transitional Bilingual
 - English Only
- Collaborative work with the school district to improve the literacy skills of students
- Project located in South Texas where most students are language minority and Spanish is their first language
- District in which there are high levels of poverty

Overview of Primary Grades Work (cont.)

- 90 Minute Reading Block
 - Supplemental materials to build language proficiency in Spanish and English
- ESOL Block
 - Development of language proficiency through read-alouds of narrative and expository texts aligned with the curriculum, and related activities
- Math
 - Supplemental materials to build academic language in math



Ninety Minute Reading Block English

Instructional Plan

- Designed to complement the ninety minute reading/ language arts block
- Days 1 and 2:
 - 30 minutes of instruction that supports the weekly basal reading selection
 - Vocabulary instruction
 - Pre-reading of weekly selection from the basal reader
- Days 3, 4, and 5:
 - Supplemental materials designed to develop reading comprehension and other designated skills

Basal Selections

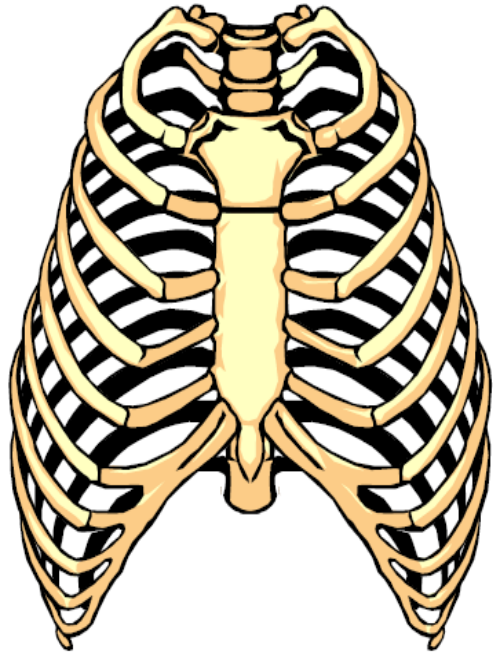
- **Great Adventures**
 - *Grandfather's Journey*
 - *Phoebe and the Spelling Bee*
 - *Opt: An Illusionary Tale*
 - *Max Malone*
 - *Champions of the World*
- **Nature Links**
 - *City Green*
 - *The Sun, the Wind, and the Rain*
 - *Dream Wolf*
 - *Spiders at Work*
 - *Web Wonders*
- **Be Creative!**
 - *Moses Goes to a Concert*
 - *The Little Painter of Sabana Grande*
 - *The Patchwork Quilt*
 - *Pecos Bill*
 - *A Very Cool Place to Visit*
- **Tell Me More**
 - *The Terrible Eek*
 - *In My Family*
 - *Cactus Hotel*
 - *Big Blue Whale*
 - *J.J.'s Big Day*
- **Turning Points**
 - *The Bat Boy and His Violin*
 - *Two Bad Ants*
 - *Do Animals Think?*
 - *Wilbur's Boast*
 - *The Koala Catchers*
- **Think It Through**
 - *Lon Po Po*
 - *Animal Fact/Animal Fable*
 - *The Many Lives of Benjamin Franklin*
 - *Cloudy with a Chance of Meatballs*
 - *Pure Power*

Instructional Schedule for Days 1 and 2

- Vocabulary instruction
 - Introduction of 3 Dolch words and 3 key words each day
 - Use of picture cards and glossaries
- Interactive reading of basal selection (half is done each day)
- Skills practice

Example: Key Word Card

RIBS



Ribs are curved bones that enclose your chest and protect your heart and lungs.

Day 2

Word 3 – Ribs

Ribs are curved bones that enclose your chest and protect your heart and lungs. There are 24 ribs on a human body [point to the picture].

Think about where ribs are located in the human body [point to the picture]. In addition to heart and lungs, what other body parts are close to ribs in the human body?

[possible answers: arms, shoulders, neck, stomach]

Example: Glossary

English MacMillan Reading, Grade 3 – Teacher Lessons, Week 18

MacMillan Words

Student Glossary Day 1

 <p>Many people build houses out of brick because brick is <u>tough</u> and strong.</p>	<p>tough</p> <hr/>
 <p>Ants are interesting <u>insects</u> to watch because they are so small.</p>	<p>insects</p> <hr/>
 <p>In the year 1848, many people got rich because gold was <u>discovered</u> or found in the state of California.</p>	<p>discovered</p> <hr/>

Dolch Words

 <p>Andrea likes to <u>bring</u> her father breakfast in bed on the weekends. Bring means to take something to someone.</p>	<p>bring</p> <hr/>
 <p>One day this puppy will <u>grow</u> into a big dog. Grow means to get bigger.</p>	<p>grow</p> <hr/>
 <p>The woman is giving the horse a <u>drink</u> of water. When you take a drink of water, you sip it.</p>	<p>drink</p> <hr/>

Example: Interactive Reading

Page no.	Teacher script
Pages 58 and 59	<p><i>BEFORE READING: This story is called “Cactus Hotel”. It was written by Valerie Flournoy.</i></p> <p><i>Who can tell us what a hotel is? [Anticipated response: A hotel is a place where people stay when they are away from home, etc..]</i></p> <p><i>AFTER READING: Look at the picture of the fruit on page 59. *Where did the fruit come from?[Anticipated response: It came from the saguaro cactus.] What is inside the fruit? [Anticipated response: Thousands of black seeds.]</i></p>
Page 60	<p><i>AFTER READING: How does the cactus seed end up under the paloverde tree? [Anticipated response: It gets stuck to the rat’s whiskers while it is eating the fruit, and then it falls off when the rat is under the tree.]</i></p>
Page 61	<p><i>AFTER READING: Why was it a good place for the seed to drop when it landed under the tree? [Anticipated response: Because none of the animals saw it there: they did not eat it.] What do you think will happen to the seed if the animals do not eat it? [Anticipated response: It could grow into a cactus.]</i></p>
Page 62	<p><i>AFTER READING: Is the cactus growing quickly? [Anticipated response: No, it is growing very slowly.] How do we know? [Anticipated response: We know because it took the cactus 10 years to grow only four inches.]</i></p> <p><i>Now, look at your student chart. We are going to talk about cause and effect. Paying attention to cause and effect will help us understand why things happen in the story. We know that the rat caused the cactus seed to drop in a safe spot. What was the effect? [Anticipated response: A cactus grew.] Great! Let’s write this cause and effect in our chart.</i></p>

Example: Interactive Reading (cont.)

Page 63	<i>AFTER READING: Why does the cactus look fat after the rainstorm? [Anticipated response: It looks fat because it is full of water – its roots have pulled in the water from the rainstorm.]</i>
Page 64	<i>AFTER READING: Why does the cactus look thin when there is no rain? [Anticipated response: Because it uses up the water that it has stored inside.] Now, let's think about cause and effect. If the cause is that there is no rain, what is the effect? [Anticipated response: The cactus uses its stored water, and looks thin.] This cause and effect has already been added to your chart for you.</i>
Page 65	<i>AFTER READING: Why do the different animals come to the cactus when its flowers are blooming? [Anticipated response: They come to drink the nectar that is inside of the flowers.] Cause and effect time: If the cactus' flowers blooming is the cause, what would the effect be? [Anticipated response: The effect would be that the animals come to drink the nectar that is inside the flowers.] Let's write this cause and effect in our chart.</i>
Page 66	<i>AFTER READING: What happens to the cactus after the flowers dry up? [Anticipated response: It grows fruit.]</i>
Page 67	<i>AFTER READING: Why does the cactus form a tough, or strong scab around the hole that the woodpecker makes? [Anticipated response: The scab helps to keep the cactus from drying out.] How can insects, or bugs, harm the cactus? [Anticipated response: Insects can bring disease to the cactus.] How does the woodpecker help the cactus? [Anticipated response: It eats the insects.]</i>

Example: Weekly Skills Practice



STUDENT SKILL CHART: Cause and Effect

As we read the story, think about what caused some of the important events in the story. Next, consider the effect of these events. Finally, write the cause and effect on your chart. Some examples have been done for you.

Cause	Effect
Day 1: Page 62	
Day 1: Page 64 There is no rain.	The cactus uses up the water it has stored inside, and it looks thin.
Day 1: Page 65:	
Day 2: Pages 68 The cactus is tall and prickly.	The birds feel safe living in the cactus.
Day 2: Pages 74 and 75:	

Supplemental Materials for Days 3-5

- Reading Review
- Test Prep Questions
- Word Study

Example: Reading Review

7. How long was Tomás at the library? How do you know? [Page 296]

8. What did the library lady say every time Tomás went to the library? [Page 297]

9. What did Tomás teach the library lady? [Page 298]

- a. Tomás taught the library lady some Spanish words.
- b. Tomás taught the library lady how to ride bike.
- c. Tomás taught the library lady how to pick vegetables.

10. What main event happens on page 300?

11. Why do you think Papá Grande now calls Tomás the "new storyteller"? [Page 302]

12. Put T for true if the sentence happened in the story. Put F for false if the sentence did not happen in the story. The first one has been done for you.

 T Tomás's parents work in the farm fields.

 Papá Grande loves to hear Tomás read stories in English.

 Tomás does not like the library lady. She is not very friendly.

 The librarian shows him books that bring his imagination to life.

 Papá Grande is known to be the worst storyteller in the family.

Example: Test Prep

A Pet for My Pet



1. The child in the story borrowed a cage for the lizard because –
 - the lizard liked to climb into the closet
 - the lizard was sad
 - the family was going on vacation
 - the lizard liked cages
2. In this story, the word cool means –
 - good
 - calm
 - a little cold
 - exciting
3. Which of these is a **FACT** in this story?
 - The lizard had a long, thin tail.
 - The lizard ate lots of insects.
 - The lizard liked his pet.
 - The lizard fell asleep on the way to the beach.
4. What is this story mostly about?
 - It is about the weather in the desert.
 - It is about the food that lizards like to eat.
 - It is about a pet lizard and its owner.
 - It is about a long drive.
5. Which of these happened first in the story?
 - The family drove to the beach.
 - The lizard seemed sad.
 - The child borrowed a cage for the lizard.
 - The dad left the hotel.

Example: Weekly Word Study

Word Study Activity: Compound words

Compound words are bigger words that are made up of two smaller, separate words. Look at the compound words in the word bank. First, draw a line between the two smaller words within each compound word. Then use the compound words to complete the sentences below. The first one has been done for you.

WORD BANK

patch/work	backyard	upstairs	grandchild	masterpiece
sunlight	afternoon	earrings	everything	something

1. Grandma, Mama, and Tanya were working together to make a _____ quilt.
2. Tanya worked in the quilt in the _____ when she got home from school.
3. Tanya was Grandma's _____.
4. Tanya used old bracelets and _____ that she found in the attic for her Halloween costume.
5. When Grandma was sick, she stayed _____ in her bedroom.
6. Grandma called the quilt her _____.
7. Ted, Jim and Papa were building a new fence in the _____.
8. Grandma sat by the window because she needed the _____ to see what she was doing.
9. Tanya learned _____ she knew about making quilts from Grandma.
10. Tanya stopped working on the quilt because she knew that _____ was missing.

Grade 1 and 2 Resources

- Grammar
- Writing

Grammar Resources

- **Introduce Concept**
 - The skill is introduced in a mini-lesson.
- **Group Practice**
 - With direct instruction, the teacher guides students to complete one or two example questions.
- **Individual Practice**
 - On-level students practice the skill independently and teachers work with struggling students.
- **Review Individual Practice**
 - Teacher reviews individual practice with students, correcting any misconceptions.

Example: Grammar Resources

Week 26 DAY 1

Materials:

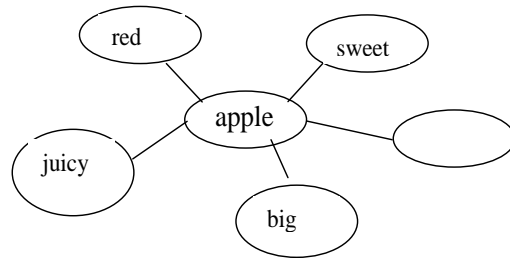
McGraw-Hill Grammar Practice Book: page 163

McGraw-Hill Grammar ELMO Chart 26

Grammar: Adjectives

1. Introduce Concept [10 minutes]

Draw a concept map on the board and write the word apple in the middle. Remind students that the word apple is a noun. Ask the students to close their eyes and think of words that describe an apple, like how it looks, smells and tastes. Select volunteers to describe their apple. Write the descriptions in the concept map.



Sketch an apple to match the adjectives given by students. Explain that they have just listed adjectives, or describing words. We use adjectives to describe a noun. Then describe an apple in contrast to the students' descriptions. For example- if students used words such as red, juicy, big, sweet – your description would be green, little, sour, etc. Explain that using adjectives can tell us exactly what kind of apple we want or see. They are important because they paint a picture so we can visualize what the noun is like.

Write the following sentences on the board:

The funny man gave a speech.

That is a big dog.

Tell students that some adjectives tell what kind. Ask students to tell what kind of man gave a speech. What noun does funny describe? Ask, What kind of dog is it? What does the word *big* describe? [dog].

Write the following sentences on the board:

The dog did three tricks.

The man had many friends.

Say **some adjectives do not tell what kind. Some adjectives describe numbers of things.** Have students identify the adjectives that tell how many and the nouns they describe. [three tricks; many friends].

Review the following rules. Use the information chart in the book. Have students place their finger on each bullet and read it with the class. Give further clarification as needed:

- An adjective is a word that describes a noun.
- Some adjectives tell what kind.
- Some adjectives tell how many.

Write the following on the board:

I saw a _____ dog. What kind of dog?

_____ dogs were barking. How many dogs?

Select volunteers to complete the sentences. Work with additional examples of further practice is needed.

2. Group Practice [5 minutes]

Display ELMO Chart 26. Have students orally add adjectives to the sentences and tell if they are adjectives that tell what kind or how many.

Example: Grammar Resources



3. Individual Practice [10 minutes]

McGraw-Hill Grammar Practice Book: p. 163- Adjectives

Distribute page 163 from the McGraw-Hill Grammar Practice Book. Give directions to the entire class. Complete questions 1 and 2 with the class. Let the students work independently or in pairs to complete the activity. Pair students so stronger readers are paired with weaker readers.

If necessary, you can work with a group of students who may be struggling to complete this activity.



4. Review Individual Practice [5 minutes]

Review the individual practice with students. For incorrect responses, have students circle the number of the question that was answered incorrectly but also have them make the correction. In this way you can grade their work, but they will have corrected it.

Writing Resources

- Process
 - Present Genre
 - Explore Genre
 - Group Brainstorm
 - Group Drafting
 - Individual Brainstorm
 - Individual Drafting
 - Genre Elements Revision
 - Writing Mechanics Revision
 - Final copy
 - Sharing Final Copy

Example: Writing Resources (Present Genre)

Sample Story Writing ELMO Chart Grade 2 English



A Rescue in Fuzz and Fur

There's a town called Fuzz and Fur where only animals can live. Mother Cat and her Kitten Sammy live there. There are monkeys who work in the Monkey Fire Department. Mrs. Mouse is the baker and Mr. Mutt is the mayor of this friendly animal town. The animals always help each other.

One day Sammy Kitten gets stuck up a tree. He is very frightened. He thinks he may fall off the high branch. Mayor Mutt tries to reach him but he can't. Then, Mrs. Mouse calls the Monkey Fire Department. The monkeys climb up the tree and hold on to each other's tails and form a chain that reaches all the way down to the ground. Sammy slides down the chain of Monkey Firefighters, all the way to the ground. "Thank you!" says Mother Cat. "I don't know what we'd do without the monkeys help!" "You're all heroes!" barks Mayor Mutt. Sammy agrees.

After this, Sammy Kitten is very careful whenever he climbs trees.

Genre Elements ELMO Chart: Story Writing Grade 2 English

Writing a Story:

- ✓ Provides character and setting descriptions (usually at the beginning)
- ✓ Tells a story following a sequence of events using time order words
- ✓ Has a beginning
- ✓ Has a middle
- ✓ Has an ending

The animals are friendly.
They help one another.
They live in a town where only animals can live.

One day Sammy gets stuck in a tree.
Mayor Mutt tries to help.
Then, Mrs. Mouse calls the Fire Department.
The monkeys make a ladder out of their tails.
Finally, Sammy slides down chain of Monkey Firefighters.
that tells about the characters:
Sammy Kitten Mrs. Mouse
Mayor Mutt Monkey Fire Department

that tells about the setting.
Fuzz and Fur Town

that states the problem:
Sammy Kitten gets stuck in a tree.
Everyone tries to help Sammy get down.

that states the solution to the problem:
The monkeys tie their tails together to help Sammy get down.

Example: Writing Resources (Explore Genre)

Genre Writing ELMO Chart 1 Grade 2 English

Writing a Story

Story

<p>Setting: Where does the story take place? How would you describe this place?</p>

<p>Characters: Who are the people in the story (and sometimes animals)? What are they like?</p>

<p>Problem: What problem/dilemma do the character(s) have to solve?</p>

Beginning	Middle	End

<p>Solution: How is the problem/dilemma resolved?</p>

Genre Writing ELMO Chart 2 Grade 2 English

Characters and Setting

Beginning
Event 1:
Event 2:
Event 3:

Middle
Event 1:
Event 2:
Event 3:
Event 4:

End
Event 1:
Event 2:
Event 3:

The Solution

Example: Writing Resources (Individual Drafting)

Student Writing Copy 1

Name: _____

Story Writing Checklist

- Do you describe the characters and the setting?
- Do you tell a story following a sequence of events?
- Do you have a beginning, a middle and an end?

Paragraph Guide

Character and Setting Description _____

Beginning _____

Middle:

1. _____

2. _____

3. _____

4. _____

End _____

Student Writing Copy 2

Name : _____

Writing Mechanics Checklist

- Does my writing a story use:
- Capital letters at the beginning of sentences?
 - Capital letters for all proper nouns?
 - Correct punctuation at the end of sentences?
 - Correct spelling for all the words?
 - Indent for new paragraphs?

Revision

CREATE

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ESOL Block

Instructional Plan

Each 8 week unit contains:

- 2 weeks that focus on narrative texts that are aligned with the social studies curriculum
 - 1 narrative per week
- 5 weeks that focus on building academic language in science
 - 1 review week

Vocabulary Instruction During Interactive Reading

Types of Words

- Key Words
- Discipline Specific Words
- Function words and phrases

Materials

- Vocabulary Cards
- Glossaries that include definitions and opportunities for practice

Techniques

- Instruction in context
- Rephrasing
- Choral Response
- Total Physical Response
- Partner Talk

Social Studies Themes

- **Learning About Communities**
 - Communities Are People
 - Communities Are Places
- **Citizenship and Government**
 - People and Their Local Government
 - Our Nation's Government
- **Communities Are Everywhere**
 - A Community's Geography
 - Thinking Like A Geographer
- **Many Kinds of People**
 - American Culture
 - The Many People of a Community
- **Communities over Time**
 - Learning About the Past
 - Our Nation's History
- **People Working in a Community**
 - Making and Selling Products
 - Being a Thoughtful Consumer

Lesson Plan: Social Studies Themes

Each daily 30 minute lesson includes:

- Introduction of 2-3 vocabulary words each day
- Interactive reading for a portion of the selection to build additional word knowledge and comprehension
- Discussion questions with written responses

Word Card: Social Studies Theme

Week 9N – Key Vocabulary
Word 1 – Soar
Image 1

SOAR



Word 1 – Soar
Image 2

Here is another picture of soar.

Partner talk: turn to your partner and talk about why this picture demonstrates the word soar.

Ask one or two pairs for their response.

[Anticipated possible response: the airplane is soaring in the sky; the airplane is flying high up into the air.]

Word 1 – Soar
Image 2

SOAR



Word 1 – Soar
Image 1

Now, let's look at a picture that demonstrates the word soar. This eagle [point to the eagle in the picture] is soaring in the sky. It is flying quickly through the air toward the buildings in the background [point to the skyline in the back].

Interactive Reading: Social Studies Theme

1. INTRODUCE CONCEPT

Teacher Talk



[Note: This story is aligned with Social Studies chapters 5 and 6 – “A Community’s Geography and Thinking Like a Geographer.” Please have a map of the United States and Europe ready, to show where the desert, Mississippi, France and England are.]

We have read stories that happen in different places, and saw that those places look different.

Annie lived in the desert.

[Show the map of the United States—point out the desert region of the southwestern United States.]

And Little Joe lived in Mississippi [point to Mississippi on the map].

Call on One Child



Imagine that Little Joe in Mississippi wanted to visit Annie in the desert. What forms of transportation could she use to get there?

CALL ON ONE CHILD

[Anticipated response: She could have someone drive her, take a bus, take a train, or take a plane.]

What would be the fastest way?

CALL ON ONE CHILD

[Anticipated response: It would be much faster to take a plane than any of the other options.]

Teacher Talk



A plane can take somebody from one state to another in just hours. We can fly over high mountains and enormous oceans in no time. But planes are a new invention. Many people who are still alive today were not able to take planes from one place to another, because they had not been invented yet.

Teacher Talk



[Show the map of England and France.]

Today we will read a story that takes place in a country called France [point to France on the map]. It is a story about a man who lived in France a long time ago, before airplanes were developed.

This man wanted to get to England [show England].

Interactive Reading (cont.)

Just ahead, on the narrow street, is the wagon of Alphonse Juvet [point to the man driving the wagon],
full of pumpkins.
Also his son César [point to the boy],
and many cabbages.

Call on One Child



What do you think this man and his son are going to do with the pumpkins and cabbages?

CALL ON ONE CHILD

[Anticipated response: They have probably come from their farm to sell the pumpkins and cabbages at a market in the city.]

Page 10

“CRUMP!” goes the car . Into the cart of Alphonse Juvet.
The strange sound from the air is forgotten.

Call on One Child



Who remembers what the sound from the air was?

CALL ON ONE CHILD

[Anticipated response: *Clacketa...clacketa...clacketa..!*]

Papa Blériot was driving very slowly, but even so the cart is on its side [point to the cart].

Page 11

Pumpkins all over!
No one is hurt, but there are bruised cabbages and angry faces.
Fists are raised.

Movement



Let's pretend we are the angry people. Show me your angry faces! Let's raise our fists too!

Call on One Child



Why is everybody so angry?

CALL ON ONE CHILD

[Anticipated response: Papa Blériot ran into the cart full of pumpkins and cabbages, and it overturned.]

Discussion Question: Social Studies Theme

Day 1: GLORIOUS FLIGHT



DISCUSSION QUESTION

Let's think about the question we asked at the beginning. What are some of the forms of transportation that people in France used in 1901?

Interactive Reading: Science

- In second grade, each 30 minute lesson included a read-aloud of a science text, using a similar format as narrative texts, with an overarching question and brief experiment
- In third grade, each daily 20 minute lesson included a focus on academic and discipline-specific language in science

Science Topics

- Measurement
- Magnetism and Electricity
- Structures of Life
- Earth Materials

Lesson Plan: Science Topics

- Introduce words using word strips
- Pre-teach general academic and science vocabulary
- Picture walk
- Interactive reading with questions
- Reinforcement with glossaries
- Assessment

Examples of General Academic and Science Vocabulary

- general academic vocabulary: average; assemble, acquire, core
- science vocabulary: monument, pyramid, rubble, obelisk, granite, outcropping, dome, magma, solid, hollow

Word Card (Side 1): Science

Week 12S – Key/Science Vocabulary
Word 4 – Erosion
Image 2

EROSION



Teacher Talk



1. Another word in the text is erosion. Erosion occurs when rock or soil is worn down or moved by rivers, the sea or the wind.
2. En español “erosion” quiere decir erosión. La erosión ocurre cuando se produce un desgaste o un movimiento de las rocas o la tierra por efecto de los ríos, el mar o el viento.
3. Erosion in English and erosión in Spanish are cognates.
4. Now, let’s look at a picture that demonstrates the word erosion. These rocks have been eroded or worn down by the wind, which is why their shapes are unusual [point to the picture].

Word Card (Side 2): Science

Week 12S – Key/Science Vocabulary
Word 4 – Erosion
Image 1

EROSION



Partner Talk



Teacher Talk



5. Here is another picture of erosion.

Partner talk: turn to your partner and talk about why this picture demonstrates the word erosion.

[Anticipated possible response: the rock was eroded or worn down by the water and wind]

6. Say erosion with me three times – erosion, erosion, erosion.

Interactive Reading: Science

TEACHER READER

Week 12

DAY ONE: TREASURE UNDERFOOT

People have extracted or taken minerals from the ground for thousands of years. At first, people used shovels to move the layer of soil covering the minerals. They dug mines or underground holes where mineral are found using picks. It was a dirty and dangerous job. At times, children were forced to do the work.

Today mining is done in many ways. Excavating machines or machines that dig in the earth and backhoes are used to move earth. Mechanical shovels with spinning teeth cut through rock. Explosive charges break rock into pieces.

The minerals are turned into tools, pottery, and jewelry. But did you know the first iron used to make tools was not mined but came from meteorites.



backhoe



shovel



explosive
charges



pick

1. In earlier times, what did people use to extract minerals from the ground?
2. What do people use now to take minerals from the ground?
3. What are some things that people make with minerals?
4. Where did the first iron for tools come from?



Math

Modules to build academic and
discipline-specific language in math

Math

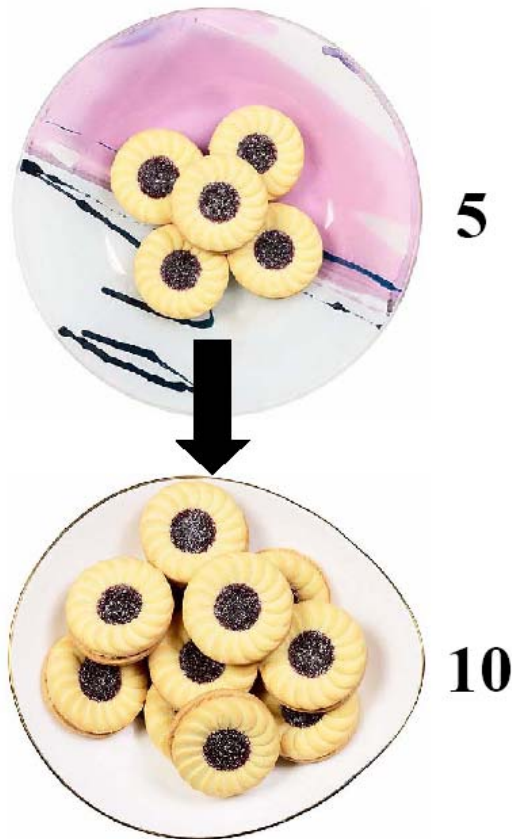
- Follows SIOP model
- Prior to the math lesson
 - State math and language objectives
 - Build academic vocabulary
 - Related to math concepts (e.g. compare, represent, difference)
 - Crucial to understanding word problems (e.g. receive, originally)
 - Develop knowledge of academic language structures (e.g. comparisons using the word than, such as shorter than, more than, etc.)

Example: Math Academic Language Card

Unit 6, Lesson 1, Day 3
Word 5 – Double

Unit 6, Lesson 1, Day 3
Word 5 – Double

DOUBLE



Teacher Talk



1. Double
2. In English, *double* means to make two of something, or to make something twice as big.
3. En español, *double* significa *doble*. Quiere decir hacer dos de algo, o hacerlo a algo dos veces más grande.
4. This picture demonstrates the word *double*. At first, there are 5 cookies on the plate. You can *double* the amount of cookies by adding 5 more. The second plate has 10 cookies, or *double* the amount.

Teacher Talk



5. If you had 10 cookies on a plate, how many would you have if you *doubled* the amount?
[Anticipated response: You would have 20 cookies.]

Teacher Talk



6. What is the focus word? Say it with me three times: double, double, double.

Partner Talk



7. What does double mean? Tell your partner.
8. Ask one or two pairs for their response.
[Anticipated response: see definition above.]

Example: Math Academic Language Card

Unit 6, Lesson 1, Day 2
Word 3 - Multiple

Unit 6, Lesson 1, Day 2
Word 3 - Multiple

MULTIPLE



Teacher Talk



1. Multiple
2. In English, *multiple* means more than one, or many.
3. En español, *multiple* significa *múltiple*. Quiere decir más que uno o mucho.
4. These pictures demonstrate the word multiple. In the first picture, there are *multiple*, or many, people on a sled. In math, multiples are also the numbers you say as you are skip counting. When you are skip counting by fives, you will say 10, 15, and 20. Ten, 15, and 20 are multiples of 5.

Teacher Talk



5. Think of a time when you did something with multiple friends.
[Anticipated response: responses will vary.]
6. Skip count by 2. Then name some multiples of 2.
[Anticipated response: Multiples of 2 can be 2,4,6,8,10, etc.]

Teacher Talk



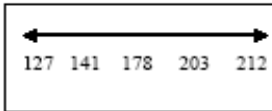
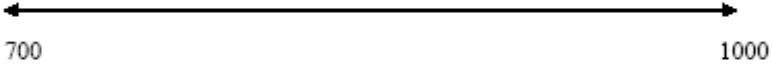
7. What is the focus word? Say it with me three times:
multiple, multiple, multiple.

Partner Talk



8. What does multiple mean? Tell your partner.
9. Ask one or two pairs for their response.
[Anticipated response: see definition above.]

Example: Math Glossary

Unit 5, Lesson 3, Day 1 Academic Words Glossary											
Picture and sentence	Practice										
<p style="text-align: center;">Organize</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"><p>127 141 178 203 212</p></div> <p>We can organize the numbers, or put them in place, from least to greatest on the number line.</p>	<p>Organize the numbers in the number box from least to greatest on the number line.</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"><p style="text-align: center;">Number Box</p><table style="width: 100%; border-collapse: collapse;"><tr><td style="padding: 5px;">783</td><td style="padding: 5px;">903</td><td style="padding: 5px;">867</td><td style="padding: 5px;">874</td><td style="padding: 5px;">901</td></tr><tr><td style="padding: 5px;">745</td><td style="padding: 5px;">916</td><td style="padding: 5px;">832</td><td style="padding: 5px;">731</td><td></td></tr></table></div> <div style="text-align: center; margin-top: 10px;"><p>700 1000</p></div>	783	903	867	874	901	745	916	832	731	
783	903	867	874	901							
745	916	832	731								
<p style="text-align: center;">Solution</p> <div style="border: 1px solid black; padding: 5px; text-align: center;">$1,090 - 30 = 1,060$</div> <p>The solution, or answer, to the problem is 1,060.</p>	<p>What operation would you use to find the solution, addition or subtraction? Answer in a complete sentence. Use the word solution in your sentences. The first one is done for you.</p> <p>1) The school has 98 students in first grade, 101 students in second grade and 107 students in third grade. How many students total are in grades one through three?</p> <p style="text-align: center;"><u>I would use addition to find the solution.</u></p> <p>2) Chris earned \$17 last week by babysitting his cousin. This week he spent \$15 to buy his mom a birthday present. How much does he have left?</p> <hr/> <hr/>										



Project QuEST

Quality English and Science Teaching

Units to develop science knowledge
and language proficiency in middle
grades science classrooms

Overview

- QuEST integrates
 - Science
 - NSF model of science instruction that includes engagement, exploration, explanation, elaboration, and evaluation
 - Activities to build language and literacy development, including writing
 - Methods based on findings from the National Literacy Panel on Language Minority Children and Youth
 - Motivation
 - Methods based on work by John Guthrie
 - Ongoing assessment
 - Professional development and mentoring

Introduction: Teacher Guide

Topic: Inside Cells

TEKS 6.10b

Science Explorer pages 142-143

Preparation

- Copy student activity charts and make one teacher copy of each chart to use with the Elmo.
- Read and follow the preparation listed on page 148 of the teacher's guide for A Magnified View of Life.
- Make sure you have fresh Elodea plants and prepared slides of animal cells

Materials

- Student activity charts and teacher copy for Elmo
- Plastic dropper
- Water
- Microscope slide
- Microscope
- Forceps
- Cover slips
- Elodea
- Colored pencils
- Prepared slides of animal cells

Introduction: Teacher Guide

Introduction

1. Student Activity A: Show What You Know Quiz
2. Student Activity B: Warm-Up - have students respond to the question "Plant cells have a cell wall which supports and protects the plant cell. Why do you think animal cells don't have a cell wall?" Discuss responses.

[Expected Response: students should say that most animals have something else that provides them with structure, like a skeleton (an internal or exoskeleton), or they may say that some animals or other non-plant cells are unicellular and do not need that type of support.]

Application and Wrap-Up: Teacher Guide

Application

1. Student Activity C:

Review the instructions for A Magnified View of Life with students. See student activity charts for lab procedure. The lab was adapted from *Unit 2 Resources*, page 28. Make sure students know what diagrams and questions to complete. Review the rules of microscope use and the techniques for using a microscope.

2. Have students complete the lab.

Wrap-Up

1. **Student Activity D:** Students respond to the question “What are the main differences between plant and animal cells?” Discuss as time permits. You may want to post the differences in a prominent place to refer to during the rest of the cell unit.

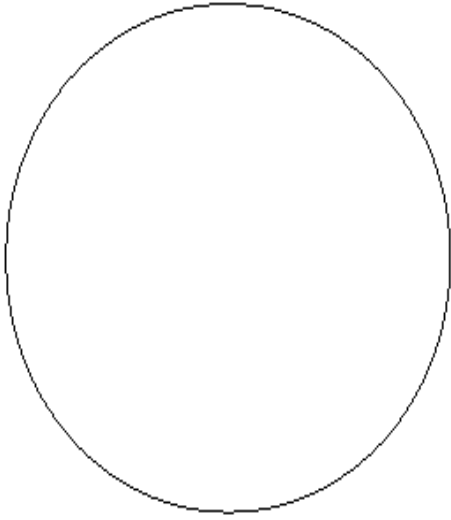
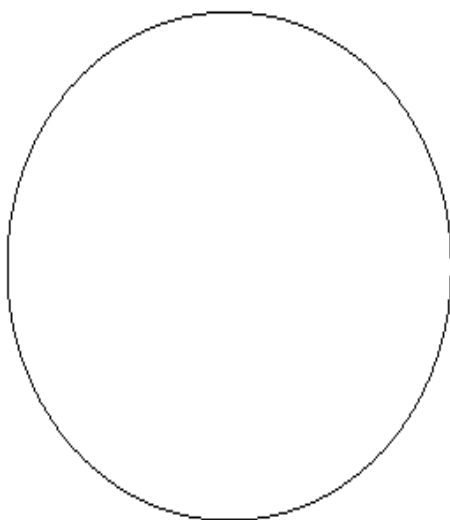
[Expected Response: plant cells have chloroplasts and cell walls. Animal cells do not. Plant cells are usually rectangular in shape, while animal cells are often round.]

2. **Student Activity E:** Introduce Academic Words Glossary Part One homework.

Application: Student Guide

Part Two: Observing Animal Cells

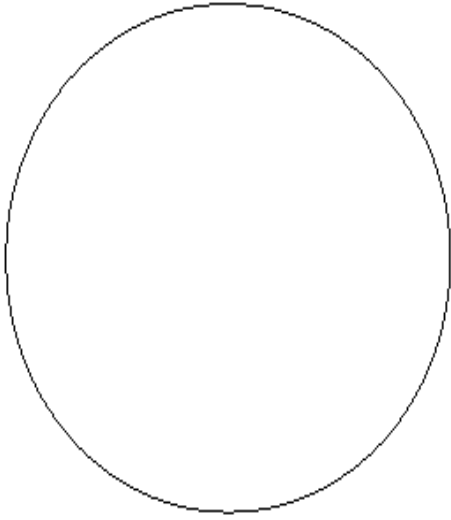
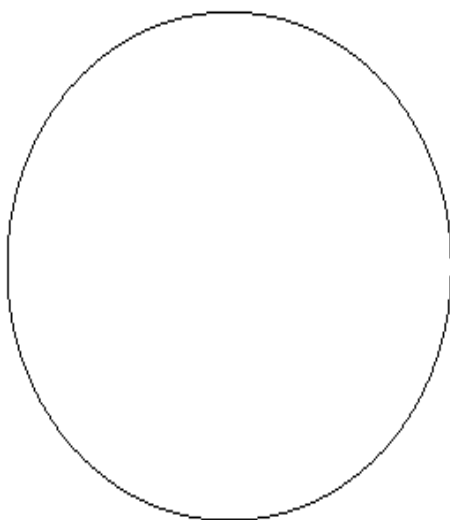
1. Put a prepared animal slide under the microscope.
2. Observe the animal cell under low power and high power.
3. In the space below, draw and label what you see under low power and high power. Make sure you remember to label the organelles that you see. Give your drawing a title and record the magnification. Make sure you include the power in your title as well.

<hr/> 	<hr/> 
Total Magnification: _____	Total Magnification: _____

Application: Student Guide

Part Two: Observing Animal Cells

1. Put a prepared animal slide under the microscope.
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<hr/> 	<hr/> 
Total Magnification: _____	Total Magnification: _____

Application and Wrap-up: Student Guide

Part Three: Thinking About Observations.

Answer the questions below.

1. What natural color appeared in the plant cells? What structures give the plant cells this color?

2. Why is it important to record your observations while you are examining a specimen?



Student Activity D

WRAP UP

What are the main differences between plant and animal cells?



Student Activity E

GLOSSARY HOMEWORK

Complete *Week 5 Academic Words Glossary, Part One*. For each word, read the definition, and then write a sentence using that word.

Activities to Build Academic Language in the Context of Science Instruction

- Guided reading
- Writing
- Word-learning strategies
 - Cognates
 - Base words
 - Word roots
 - Nominalization
- Comprehension strategies
- Academic and technical vocabulary
 - Glossaries and assessments (note: there were weekly science assessments also)
- Review

Guided Reading: Teacher Guide

A cell membrane is usually permeable to substances such as oxygen, water, and carbon dioxide. On the other hand, the cell membrane is usually not permeable to some large molecules and salts. Substances that can move into and out of a cell do so by one of three **methods**: diffusion, osmosis, or active transport.

A 3: Name some things that can easily permeate the cell membrane.
(Oxygen, water, and carbon dioxide can permeate the cell membrane.)

O: Name some things that cannot easily permeate the cell membrane.
(Large molecules and salts cannot permeate the cell membrane.)

Have students answer Key Question #1 in their student charts.

Key Question 1: How does the structure of the cell membrane relate to its function?

(The cell membrane is structured so that substances can only move into and out of a cell by either diffusion, osmosis, or active transport. The cell membrane's structure does not allow all substances to pass through it.)

Writing: Student Guide

QUEST: Week Five, Day Five
Student Activities B - D, Student Chart and Teacher



INSIDE CELLS, Part Two Day 3



Student Activity A WARM UP

Fill out the chart below to describe the characteristics of a plant, animal, and bacterial cell. During groupwork, you will use this information to help you write a compare/ contrast paragraph.

Characteristic	Plant Cell	Animal Cell	Bacterial Cell
Cell Membrane			
Cell Wall			
Chloroplast			
Cytoplasm			
Nucleus			
Shape			

Writing: Student Guide



Student Activity C WRITING FOR SCIENCE!

In this assignment you will be comparing two kinds of cells. You have already brainstormed for your writing in **Student Activity A** from Day 3. You will be using that brainstorm for the next part. Follow the steps below to write a compare/contrast paragraph.

Step 1: Choose your topic

Use **Student Activity A** from Day 3 to choose your topic. Out of the three types of cells (plant, animal and bacterial), which two are you going to compare? For example, you could compare plant and animal cells.

_____ and _____

Step 2: Plan your writing

Use **Student Activity A** from Day 3 to help you plan your writing.

- Choose two different characteristics to compare. For example, you could compare the cell wall and the nucleus of both plant and animal cells.
 - Characteristic #1: _____
 - Characteristic #2: _____
- Examine the similarities and differences of the characteristics.
 - How is Characteristic #1 the same in both cells?

 - How is Characteristic #1 different in both cells?

 - How is Characteristic #2 the same in both cells?

 - How is Characteristic #2 different in both cells?

Writing: Student Guide

- Write a **topic sentence**. Explain what you are going to write about in your paragraph. Introduce the topic to the reader.

Topic Sentence: _____

- Write a **concluding sentence**. End your paragraph by explaining what you wrote in your paragraph. End the paragraph well.

Concluding Sentence: _____

Step 3: Write!

Use the space below to write you paragraph.

Word-learning Strategy: Student Guide



Student Chart 6.4A
Warm-Up

English Word	English Meaning	Spanish Word	Spanish Meaning
Necessary		Necesario	
Flexible		Flexible	
Pie		Pie	



Student Chart 6.4B

Work with a partner to find all the cognates in the paragraph. There are nine more.

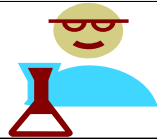
The Chemicals of Life The cells of all living things are composed of chemical substances. The most abundant chemical substance in cells is water. Other chemical substances called carbohydrates (kar boh HY draytz) are a cell's main energy source. Two other chemical substances, proteins (PRO teenz) and lipids (LIP idz), are the building materials of cells, much like wood and bricks are the building materials of houses. Finally, nucleic (noo KLEE ik) acids are the genetic material—the chemical instructions that direct the cell's activities.

Word-learning Strategy: Student Guide

 **Student Chart 7.4B**

Spanish	English Cognate	Letter(s) in Spanish, not in English
sustancias	substances	
químicas	[chemicals]	
célula	[cells]	
compuestas	[composed]	
abundante	[abundant]	
energía	[energy]	
carbohidratos	[carbohydrates]	
proteínas	[proteins]	
lípidos	[lipids]	
materiales	[materials]	
finalmente	[finally]	
ácidos	acids	
nucleicos	[nucleic]	
genético	[genetic]	
instrucciones	[instructions]	
dirigen	[direct]	
actividades	[activities]	

Word-learning Strategy: Student Guide

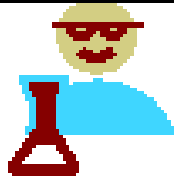


Student Chart 7.4C Identification of Sound Differences

Using the ELMO, show students the following Likert Scale. Explain to students that some of the cognates sound more alike than others. Direct students to identify how alike or not alike the sets of cognates sound on a scale of 1 to 4.

Sounds completely different	Sounds slightly different	Sounds similar	Sounds exactly alike
1	2	3	4
substances / substancias			
1	2	3	4
chemical / químicas			
1	2	3	4
cell / célula			
1	2	3	4
compose / compuestas			
1	2	3	4
abundant / abundante			
1	2	3	4
energy / energía			
1	2	3	4
protiens / proteínas			
1	2	3	4
carbohydrates / carbohidratos			
1	2	3	4
lipids / lípidos			
1	2	3	4
materiales / materials			
1	2	3	4

Word-learning Strategy: Student Guide



Student Chart 11.4B

Practice turning verbs and adjectives into nouns.

Noun	Verb	Adjective
diffusion	diffuse	diffused
	concentrate	
		required
removal		
engulfment		
	locate	

Rules: If you take off the ending of a verb or adjective and add 'ion', 'al' or 'ment' it turns into a noun

Example: 'diffuse' minus 'e' plus 'ion' = diffusion; 'diffused' minus 'ed' plus 'ion' = diffusion.

Comprehension Strategy: Teacher Guide

You have probably noticed that offspring tend to resemble their parents. Maybe you see that your cousin's hair is the same color as his mother's. If you save seeds from sunflowers in the fall and then plant them the next spring, the flowers that grow look like sunflowers. They don't look like tulips or lilies. The new sunflowers resemble the flowers of the plants that produced the seeds.

Partner Talk: Summarize the information in this paragraph (Call on several pairs.)

Offspring resemble parents because organisms **inherit** characteristics from their parents. The physical characteristics that an organism can pass on to its offspring are called **traits**. Human **traits** include such characteristics as eye color and whether hair is straight or curly. Some **traits** of sunflowers are the color and shape of the petals, the shape of the leaves, and the way leaves are arranged on the stem.

Ask: What are traits? (Traits are the physical characteristics that an organism can pass on to its offspring)

Partner Talk: Make up as many questions as you can about this paragraph. (For each question posed, have other students answer it.)




Selection of Vocabulary

- Choose the highest frequency words indicated by the *Academic Word List*

Glossary

Week Seven Vocabulary Glossary

Read each word's definition and write notes or a sentence of your own.

<p>microscope</p>	<p>A <u>microscope</u> is an instrument that makes small objects look larger.</p> <p><i>Un <u>microscopio</u> es un instrumento que amplifica la imagen de objetos pequeños.</i></p> <p>Your notes:</p> <hr/> <hr/>	
<p>concept</p>	<p>A <u>concept</u> is a general idea or understanding of something.</p> <p><i>En español "concept" quiere decir <u>concepto</u> o idea general o entendimiento de algo.</i></p> <p>The boy had only a vague concept of what the answer might be.</p> <p>Your notes:</p> <hr/> <hr/>	
<p>organ</p>	<p>An <u>organ</u> is a group of tissues that perform a specific function.</p> <p><i>En español "organ" quiere decir <u>órgano</u> o estructura en el cuerpo que está compuesta de diferentes tipos de tejidos.</i></p> <p>The organ in the picture are lungs</p> <p>Your notes:</p> <hr/> <hr/>	

Vocabulary Assessment



Student Activity A

SHOW WHAT YOU KNOW Vocabulary Quiz.

network
cell membrane
attached
encounter

organelles
constant
nucleus
specific

distribute
mature
cell wall
regulate

1. _____ means happening all the time and never stopping.
2. A _____ is a system of things that cross or connect.
3. _____ means adult or fully grown.
4. _____ means connected.
5. _____ means to spread something out over a large area.
6. _____ means exact or particular.
7. _____ means to control or to manage. It also means to adjust or to keep at some standard.
8. To _____ something means to meet or interact with it.
9. _____ are smaller structures within the cell that carry out specific functions.
10. _____ is a structure of the cell that is either located just inside the cell wall or is an outside boundary that separates the cell from its environment.

Review: Teacher Concept Map

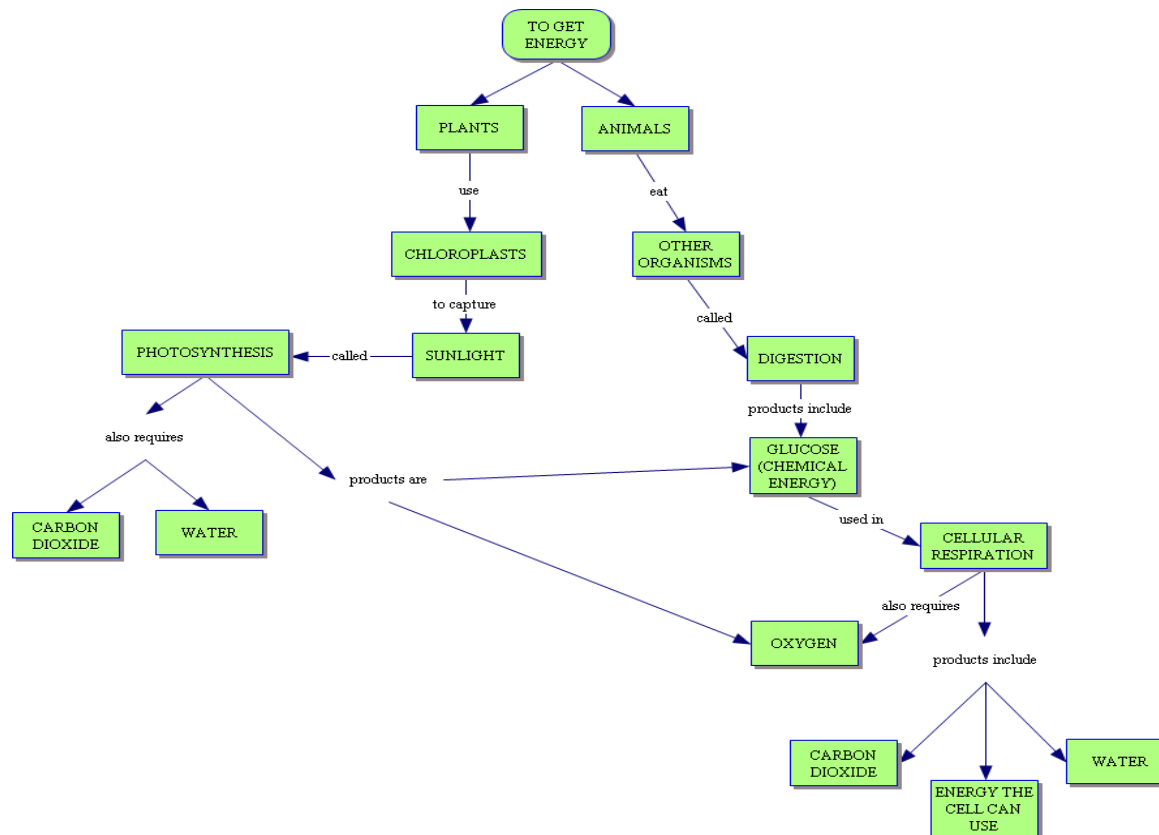


Teacher Chart 12.4C1 Concept Map Practice

Title: Cell processes

Word Bank: CHLOROPLASTS, OTHER ORGANISMS, PHOTOSYNTHESIS, OXYGEN, CARBON DIOXIDE, WATER

Use the word bank above to fill in Energy concept map below.



Review: Student Concept Map

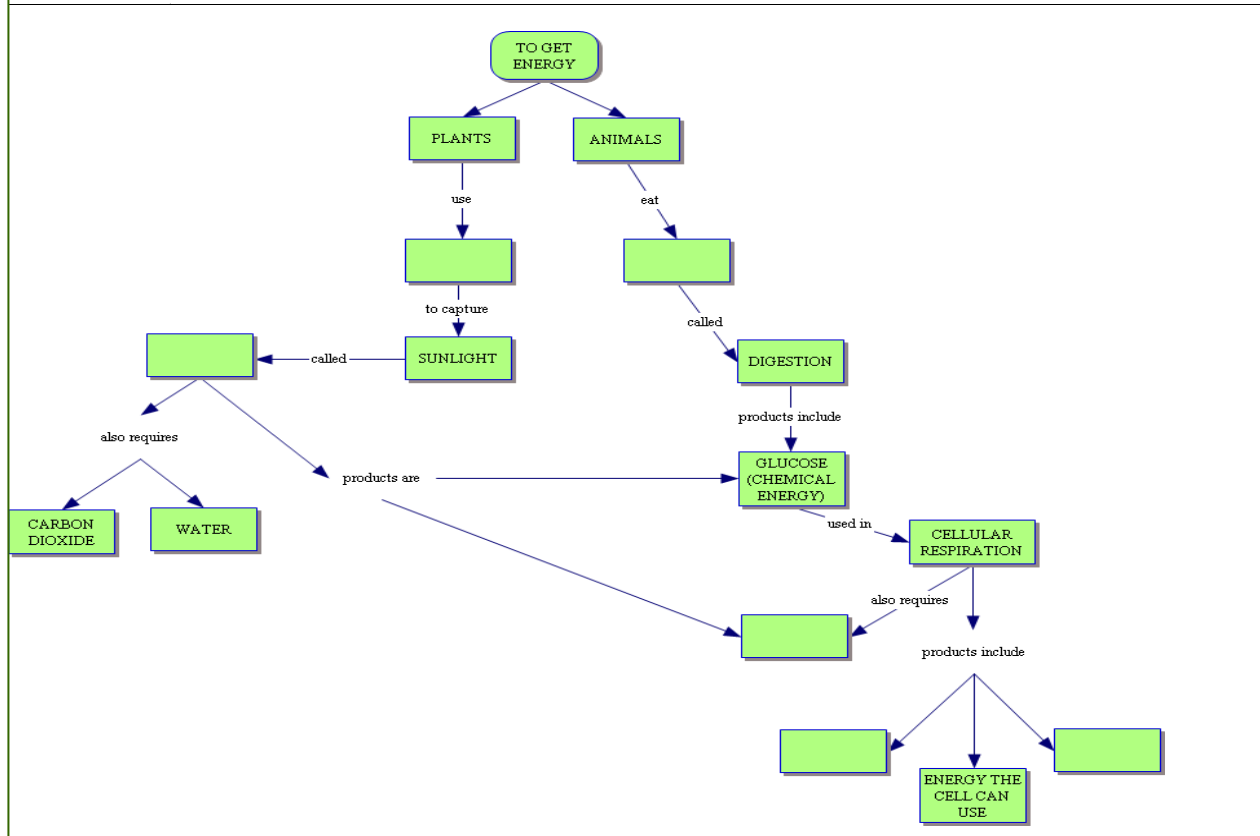


Student Chart 12.4C1 Concept Map Practice

Title: Cell processes

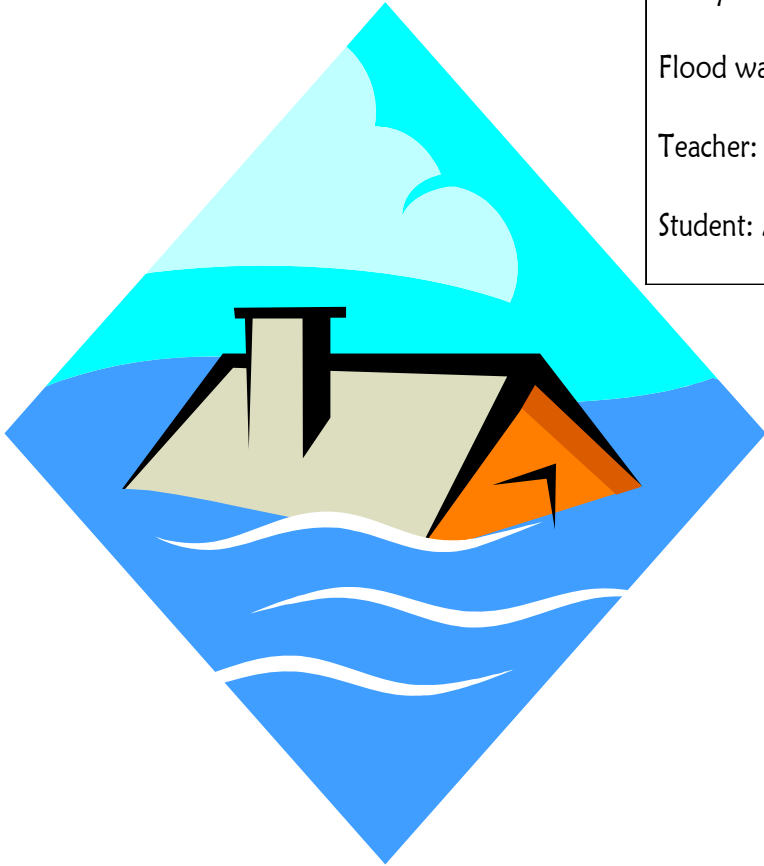
Word Bank: CHLORPLASTS, OTHER ORGANISMS, PHOTOSYNTHESIS, OXYGEN, CARBON DIOXIDE, WATER

Use the word bank above to fill in Energy concept map below.



Review: Vocabulary Cards

ENGULF



To engulf is to cover or swallow up or surround someone or something.

En español “engulf” quiere decir cubrir, envolver o rodear algo o a alguien.

Flood waters engulf the house.

Teacher: Can you think of a city where many houses were engulfed by a flood?

Student: A city where many houses were engulfed by a flood is: _____.

Overarching Theme: Differentiation and Scaffolding

- Differentiation
 - Use of same activity in different ways (concept map example)
 - Partnering with high and low proficient students working together, while teacher pulls group of struggling learners
 - Use of on-level supplementary materials for students who are more advanced
- Scaffolding
 - Guided reading where teacher reads the text
 - Lots of teacher modeling (e.g., discussion then writing)
 - Clear written instructions; written examples of what students have to produce
 - Hands-on activities and visuals prior to reading the text

Questions? Comments?

Contact CREATE

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