Title: Insects

Grade: 2 (We talked on 7/8 about this grade level choice.)

Target: Mainstream class with integrated ELL students

Source of Written Reading Materials:
- Holt Science (student’s edition). Abruscato, Joseph; Fossaceca, Joan; Hassard, Jack; Peck, Donald; Holt, Rinehart and Winston, Publishers
- Carol McGrath
- Busy as a Bee. Riley, Gail B.; Scott Foresman

Source of Lessons*:
- Insects: Investigating Science. Miller, Beth; Smith, Valerie; The Education Center, Inc.
- Carol McGrath

Goals:
- I want my students to know the names of some insects.
- I want my students to know some of the characteristics that make an animal an insect.
- I want my students to know the stages of the life cycle of a butterfly.
- I want my students to know about bees and their work.

*The four lessons are part of a month-long unit on insects.
<table>
<thead>
<tr>
<th>KNOWLEDGE</th>
<th>LANGUAGE</th>
<th>CONTENT</th>
<th>LEARNING STRATEGIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key vocabulary: insect, head, thorax, abdomen, antennae, caterpillar, pupa, butterfly, queen bee, worker bee</td>
<td>1. names of insects 2. characteristics of insects 3. stages of butterfly’s life cycle 4. different jobs of bees</td>
<td>Creating and updating KWL charts to organize what we know and what we learn</td>
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<table>
<thead>
<tr>
<th>SKILLS</th>
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<tbody>
<tr>
<td>1. name insects 2. articulate characteristics of an insect 3. write sentences about insects 4. articulate stages of a butterfly’s life cycle 5. write creative paragraph synthesizing scientific information 6. read for information 7. orally participate in bulleting main ideas 8. participate in group discussions 9. write paragraph how he/she might act or feel as an insect 10. articulate jobs of bees</td>
<td>1. name insects 2. name characteristics of insects 3. summarize orally the life cycle of a butterfly 4. summarize orally the life cycle of a butterfly 5. recall bees’ jobs 6. synthesize facts about insects into creative, fictional journal entries</td>
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<tr>
<th>ATTITUDES/ AWARENESS</th>
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<tr>
<td>Appreciate that insects should be respected Appreciate expression: busy as a bee</td>
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</table>
Rationale For Modifications For ELLs In a Mainstream Classroom

I originally thought I had a good, kid-friendly science unit on insects. However, I quickly realized the content of the lessons was not really accessible to the ELLs in my mainstream classroom and these students seldom had the chance to engage in meaningful discourse. So I dug in, tried to put myself in their shoes, and began rethinking the lessons. The revisions and modifications I made in this first lesson, as well as all the lessons in this unit, were driven by my goal to help the ELLs get the main information to be successful in the science program and to increase their time using academic language at their unique English proficiency level.

Throughout this unit I have made modifications that address making the content more comprehensible, including activating prior knowledge both in English (see lessons 1.2,3,4) and Spanish for Latino ELLs (see lesson 1); the use of manipulatives, realia, photographs, and drawings of insects (see lessons 1,2,3,4); gesturing and modeling of directions (see lessons 1,2,3,4) and processes (see lesson 2); the use of pauses, simple grammar, repetition of key words to reduce the linguistic load for the ELLs (see lessons 1,2,3,4); the use of graphic organizers (see lessons 1,2,3,4), some individualized for different language proficiency levels (see lesson 2), listening guides (see lesson 3); highlighting (see lessons 1,2,3,4) and framing main ideas (see lesson 1) in text. Giving ELLs homework the night before a lesson also gives them a language window into the next day's content (see lessons 1,2,3,4). Also, allowing ELLs to listen to prerecorded text beforehand helps them better understand the content. (see lessons 3,4)

Revisions and modifications have been made in all four lessons that create more opportunities for the ELLs to interact with the content, the teacher, and peers. Using certain strategies and techniques allow them to use academic language at their own levels. These strategies include questioning techniques specific to different proficiency levels (see lessons
1,2,3,4), using small groups and pairs (see lessons 1,2,3,4), encouraging students to use their L1 in discussions and prewriting (see lessons 1,2,3,4), working in small group with teacher (see lesson 3), and using Instructional Conversation techniques (see lesson 4).

I think that now I have a good, kid-friendly science unit that is both safe and stimulating. for ALL the students in my class.
Lesson 1
Lesson 1

This is the first lesson of a unit on insects. The purpose of this lesson is to activate students' prior knowledge of insects and to "hook" students into the new unit. (However, my experience with second graders tells me very little "hooking" is needed when it comes to insects!)

Original Lesson:

• Display evidence of where insects have been: wasp nest, leaves with holes or missing edges eaten by insects, wood eaten by termites.
• Ask students to observe each item with magnifying glasses.
• Discussion: What could have caused this?
• Create a KWL chart about insects.
• Distribute "Interesting Facts" sheet; read aloud together.
• Read to class: Insects Build Their Homes by Gladys Conklin.
• Ask students to write in their science journals: What have you learned about insects today?

Materials For Revised Lesson:

./ wasp nest, leaves with holes or missing edges eaten by insects, wood eaten by termites or carpenter ants, empty honey comb
./ several magnifying glasses
./ large chart paper
./ sample of "Ms. Ima Insect" (See pocket 1.1)  
./ blank paper for students
./ copies of "Interesting Facts" (See pocket 1.2)  
./ Insects Build Their Homes by Gladys Conklin
./ drawing paper for students

Note: To help make this lesson more accessible, Ells were given a table of labeled insects to color for homework last night. (See pocket 1.3)  
Latino ELLs were given the same table, but the insects are labeled in both English and Spanish. (See pocket 1.4)
Content Objectives

Objective #1
A. Mainstream Ss and Advanced/Intermediate ELLs
   #1 Students will articulate main ideas for a KWL chart using complete sentences.
   Students will bullet the main ideas.
B. Beginning Intermediates/Early Production ELLs
   #1 Students will name some main ideas for a KWL chart, using 2-3 word English phrases and L1.
C. Preproduction ELLs
   #1 Students will listen to main ideas suggested for a KWL chart.
   Students will nod yes/no to Q: Did you know that?
   Students will give main ideas in L1.

Language Objectives

Objective #1
A. Mainstream Ss and Advanced/Intermediate ELLs
   #1 Students will articulate main ideas for KWL chart using complete sentences.
   Students will bullet the main ideas.
B. Beginning Intermediates/Early Production ELLs
   #1 Students will name some main ideas for KWL chart, using 2-3 word phrases and L1.
C. Preproduction ELLs
   #1 Students will listen to main ideas suggested for KWL chart.
   Students will nod yes/no to Q: Did you know that?
   Students will give main ideas in L1.

Objective #2
A. Mainstream Ss and Advanced ELLs
   #2 Students will read text for information.
B. Intermediate ELLs
   #2 Students will read text highlighted with key words.
C. Early Production/Preproduction ELLs
   #2 Students will listen to text highlighted with key words.

Objective #3
A. Mainstream Ss and Advanced/Intermediate ELLs
   #3 Students will discuss "facts" using complete sentences.
B. Beginning Intermediate/Early Production ELLs
   #3 Students will discuss "facts" using 2-3 word phrases, L1.
C. Preproduction ELLs
   #3 Students will listen to discussion and use L1 to participate.
Objective #4
A. All Students
   #4 Students will listen for information needed to draw a picture.
Functional/Notional Chart For Lesson 1

<table>
<thead>
<tr>
<th>Function</th>
<th>Situation</th>
<th>Formulae</th>
<th>Grammar</th>
<th>Vocabulary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read</td>
<td>for information</td>
<td>There are ________.</td>
<td>complex sentences</td>
<td>insects all around us</td>
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<td></td>
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<td>exclamations</td>
<td>insects everywhere</td>
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<td>comparisons</td>
<td>hundreds of insects</td>
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<td>habitats</td>
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<td>more than</td>
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<tr>
<td>Discuss</td>
<td>facts about insects</td>
<td>✓ Insects live</td>
<td>synonyms</td>
<td>everywhere</td>
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<td></td>
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<td>✓ There are ________ kinds of insects.</td>
<td>adverbs</td>
<td>all around us</td>
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<td>adjectives</td>
<td>in different habitats</td>
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<td>hundreds of</td>
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<td>different</td>
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<tr>
<td>Listen</td>
<td>for subject matter</td>
<td>✓ ________ live in/ near ________</td>
<td>present tense</td>
<td>bumblebees</td>
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<tr>
<td></td>
<td>information</td>
<td>✓ ________ use ________ to make their homes.</td>
<td>subject/verb agreement</td>
<td>nectar</td>
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<td>nouns</td>
<td>pollen</td>
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<td>giant water bug</td>
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<td>shallow ponds</td>
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<td>cattails</td>
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<td>silk</td>
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<td>praying mantis</td>
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<td>frothy</td>
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<tr>
<td>Articulate</td>
<td>main ideas for KWL chart</td>
<td>✓ I know __________. ✓ I want to know __________. ✓ I wonder about __________.</td>
<td>✓ present tense</td>
<td>✓ will vary according to what students say they know or wonder about</td>
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<tr>
<td>Interpreting</td>
<td>subject matter visually</td>
<td>✓ Listen carefully. ✓ You will draw a picture of something you hear about in this book.</td>
<td>✓ command ✓ future tense</td>
<td>✓ listen ✓ carefully ✓ draw</td>
</tr>
</tbody>
</table>
This science lesson will last about 1 hour.

I. Discovery (15 minutes)
/. Display evidence where insects have been (Holt Science (TE):
  • wasp nest
  • leaves with holes or missing edges eaten by insects
  • wood eaten by termites or carpenter ants
  • empty honey comb
/. Ask students to observe each item with a magnifying glass.
/. Ask students to describe what they see.
/. Ask students, "What could have caused this? What could have made this (nest, comb)?"
/. Tell students that all of the involved animals are insects. Tell students that the next science unit will be about insects.

ELLs Modifications:
1. Hold up and point to the magnifying glass. Name it. Demonstrate how to use it for observing the items.
2. To engage Beginning Intermediate and Early Production ELLs, use questioning appropriate for their level of English proficiency and expect 1 or 2 word answers, such as:
   /. What am I holding? (leaf)
   /. What color is this? (green)
   /. Have you ever seen this before? (yes/no)
3. To engage Preproduction ELLs, use questioning appropriate for their level of English proficiency and expect students to give non-verbal responses, such as
   /. Find the leaf.
   /. Is this a leaf? (nods yes/no)
   /. Is this green? (nods yes/no)
4. Use gestures when asking, "What could have caused this?" (Shrug shoulders and point to the holes in the leaf.); "What could have made this? (Shrug shoulders and point to the honey comb.)
5. Write the word "insects" on the board. Point to the word and repeat the word and point to each of the items.

II. Activate Prior Knowledge (15 minutes)
/. Create KWL chart, Ms. Irma Insect (See pocket 1.1) on large chart paper.
Point out her three parts. Write "Know" on the head, "Want" in the middle, "Learned" in the last part. Explain: "The 'Know' stands for what we already know about insects. The 'Want' stands for what we want to know or wonder about insects. The 'Learned' stands for all of the cool things that we will learn in our unit on insects."
/. Put students into small groups. Say, "Let's get into small groups and brainstorm, think about, what we already know about insects." Choose one student to be the recorder for the group. Choose one student who will be the reporter when they share ideas with whole class. Tell students they will have 7 minutes to brainstorm.
Record what each group "knows" onto Ms. Ima Insect.

Brainstorm as a class what they want to know or wonder about insects. Record ideas on the "want" section of KWL chart.

Tell students, "We'll fill in the 'Learned' part of Ms. Ima at the end of our unit."

Ask students why they think a KWL chart is important. Be sure they understand that it helps them organize and summarize what they know and what they learn. Tell them it can be made for any subject.

ELLs Modifications:
1. When explaining Ms. Ima Insect, be sure to speak slowly and point to and repeat the words "Know," "Want to Know," and "Learned."
2. Group Beginning Intermediates, Early Production, and Preproduction ELLs with more English proficient students who share their L1. Encourage them to use their L1 to express what they know about insects. ELLs can use their table of insects. (See pockets 1.3, 1.4)
3. To promote native-language support and respect for LIs, include ideas given in Ll. Use Advanced Intermediate/Advanced ELLs who share the LIs to help you spell, pronounce, and translate into English.

III. Reading For Information (15 minutes)

Hand out "Interesting Facts". (See pocket 1.2)

Tell students, "We're going to read these sentences about insects. All of the sentences are 'facts'. A 'fact' is something that is true."

Ask for volunteers to read each fact aloud.

Discuss reactions to facts.

ELLs Modifications:
1. ELLs will use a text that has key words highlighted. Some sentences of the text have been paraphrased, using simpler language and structure. (See pocket 1.2)
2. To actively engage Intermediate ELLs, use questioning that is both appropriate for their level of proficiency and stimulating, such as:
   . What is your opinion on fact #2?
   . Can you reread facts #1 and #4? Where have YOU seen insects?

IV. Listening/Art (15 minutes)

Bring students to a comfortable (preferably on the floor) area and display the book Insects Build Their Homes by Gladys Conklin. Ask a student to read the title.

Give purpose for listening: Tell students, "This is a book of facts. Everything in this book is true. It is a book about insects and their homes. Listen carefully. After I read parts of this book, you will draw a picture of something you heard in this book."

Read the following of Insects Build Their Homes to class.
(Introduction p.1-3; honey bee p.8-9; water bug p. 17-18; butterfly p.23-24; praying mantis p. 25-26; conclusion p. 33-35)
Give students large pieces of drawing paper. Tell them to draw something they heard in the book about insects' homes.

ELLs Modifications:
1. When giving the purpose for listening, speak slowly, use natural pauses and gestures. (The number in parentheses indicates how many seconds you should pause.) "This is a book of facts. (Hold up the book. Hold up the "Interesting Facts" sheet.) Everything (said slightly louder, stretching the word to indicate totality) in this book is true. (Nod head yes and flip through all of the pages of the book.) (1) Repeat naturally: Everything in this book is true. It is a book about insects (1) and their homes. Rephrase It is a book about insects and where the insects live. I want you to listen (point to your ears) carefully. After I read parts of this book, (1) you (point to students) will draw (hold up a box of crayons) something you heard in this book."
2. Encourage Preproduction/Early Production students to discuss in their L1 what they've heard with more proficient students who share their L1. Let these students see the pictures in the text, naming the insects and describing their home for them.

V. Conclusion
./ Tell students that tomorrow they will learn what makes an animal an insect.
<table>
<thead>
<tr>
<th>Student’s Name</th>
<th>Works in small groups</th>
<th>Gives main ideas</th>
<th>Listens for content</th>
<th>Comments</th>
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<tbody>
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</table>
Ms. Ima Insect

Know

Want to Know

Learned
Interesting Facts About Insects

- Insects live all around us. Insects are everywhere.
- Sometimes we do not even notice them because they are so small.
- There are hundreds of different kinds of insects. There are lots of insects.
- Insects can adapt to many different habitats. Insects can live anywhere.
- There are more insects than all other animals in the world put together!
Lesson 2
Lesson 2

This is the second lesson of a unit on insects. The purpose of this lesson is to develop an awareness of the main characteristics of an insect and to name insects.

Original Lesson Plan *:

- Review KWL chart. Make additions
- Create a list: What Makes an Animal an Insect?
- Ask students to write the list in their science journal.
- Brainstorm list of names of insects.
- Read to class: Grasshopper by Karen Harley.
- Ask students to write in their journals: What questions would you ask a grasshopper?

* Note: In revising this lesson, I eliminated the last two activities. However, Grasshopper by Karen Harley could be read during any transition period after science, like just before dismissal. This nonfiction book should also be available to students when working at the science center during activity time.

Materials For Revised Lesson:

- 1 large sheet of paper; large chart paper for review group work
- 1 Holt Science (SE)
- 1 photographs of puppies and grasshopper (See zippered pouch)
- 1 chart paper for brainstorm activity
- 1 word web graphic organizers (*See pocket 2.1,2.2,2.3)
- 1 chart paper for graphic organizer activity
- 1 All animal cards (See zippered pouch)

*Note

Intermediate ELLs were given a completed word web with key words for last night's homework. (See pocket 2.2)

Early Production and Preproduction ELLs were given a completed word web with key words and pictures last night for homework (See pocket 2.3)
Content Objectives
Objective #1
A. Mainstream Ss and Advanced/Intermediate ELLs
   #1 Students will name characteristics of an insect in complete sentences.
B. Beginning Intermediate/Early Production ELLs
   #1 Students will orally list characteristics of an insect, using two or three word phrases.
C. Preproduction ELLs
   #1 Students will point to pictures that show characteristics of an insect.

Objective #2
A. Mainstream Ss and Advanced/Intermediate ELLs
   #2 Students will name animals that are insects.
B. Early Production ELLs
   #2 Students will identify animals that are insects by responding Yes/No to Q. Is this an insect?
C. Preproduction ELLs
   #2 Students will identify insects by pointing to pictures.

Language Objectives
Objective #1
A. Mainstream Ss and Advanced ELLs
   #1 Students will read text for information.
B. Intermediate ELLs
   #1 Students will read highlighted text for information using a completed graphic organizer with key words in sentences.
C. Early Production/Preproduction ELLs
   #1 Students will listen to text being read aloud while looking at highlighted text and completed graphic organizer with pictures and key words.

Objective #2
A. Mainstream Ss and Advanced! Intermediate ELLs
   #2 Students will articulate characteristics of an insect using complete sentences.
B. Beginning Intermediate/Early Production ELLs
   #2 Students will name characteristics of an insect using graphic organizer.
C. Preproduction ELLs
   #2 Students will listen to individual characteristics of an insect and point to it on a picture of an insect.
Objective #3
A. Mainstream Ss and Advanced/Intermediate ELLs
   #3 Students will name animals that are insects.
B. Early Production ELLs
   #3 Students will respond Yes?No to Q: Is this an insect?
   Students will repeat the names of the insects after the teacher.
C. Preproduction ELLs
   #3 Students will point to pictures of insects.
   Students will listen to teacher name the insects.
Functional/Notional Chart For Lesson 2

<table>
<thead>
<tr>
<th>Function</th>
<th>Situation</th>
<th>Formulae</th>
<th>Grammar</th>
<th>Vocabulary</th>
</tr>
</thead>
</table>
| Name       | characteristics of an insect | ✔️ An insect has ______.  
✔️ Most insects have ______.  
✔️ Most baby insects look like their ______.  
✔️ An insect ______ from an ______. | ✔️ present tense  
✔️ singular nouns  
✔️ plural nouns  
✔️ indefinite articles: a/an  
✔️ -es on verbs | ✔️ insect  
✔️ three body parts  
✔️ six legs  
✔️ head  
✔️ thorax  
✔️ abdomen  
✔️ two antennae  
✔️ four wings  
✔️ parents  
✔️ hatches  
✔️ egg |
| Name       | insects                    | ✔️ This is a ______.  
✔️ A ______ is an insect. | ✔️ present tense  
✔️ indefinite articles: a/an | ✔️ grasshopper  
✔️ praying mantis  
✔️ butterfly  
✔️ bee |
| Read       | about subject information  | ✔️ All insects have three legs.  
✔️ Most insects have four wings  
✔️ Insects have three body parts.  
✔️ All insects lay eggs.  
✔️ Some baby insects look like their parents. | ✔️ present tense | ✔️ same vocabulary as first cell |
This science period will last about one hour.

1. **Review** (8 minutes)
   - Put students into groups of 5. Ask for a volunteer recorder and reporter from each group.
   - Pass out large papers and give each group 5 minutes to brainstorm and record key words or thoughts from yesterday's lesson.
   - Ask each group to report one entry to the class.
   - Write entries on chart paper.

   **ELLs Modifications:**
   1. Be sure each ELL is in a group with English proficient students.
   2. When giving directions use gestures to reduce the linguistic load: I want you to think (point to brain) about yesterday's (point behind you) lesson on insects (write insects on board). What do you remember about insects (point to insects on board)?

2. **Discovery** (5 minutes)
   - Display pictures of grasshopper and puppies (See zippered pouch). Pass them around for personal inspection.
   - Thumbs Up/Thumbs Down
     1. Hold up the picture of the puppies. Ask students to put their thumbs up if they think it is a picture of an insect. If the picture is not an insect, put their thumbs down.
     2. Hold up the grasshopper. Follow same thumbs up/thumbs down procedure.

   **ELLs Modifications:**
   1. Rewrite "insect" on the board.
   2. When giving directions for Thumbs Up/Thumbs Down
      1. Demonstrate thumbs up, gesture "yes" with head, and point to "insect" on board.
      2. Demonstrate thumbs down, gesture "no", and point to "insect" on board.
   3. After class has agreed that the grasshopper IS an insect, put "=" next to "insect" and write "grasshopper". Say: A grasshopper is an insect. (Gesture "yes")

3. **Brainstorming** (8 minutes)
   - Display photo (See zippered pouch) and drawing of grasshopper (See pocket 2.4).
   - Ask students: "How did we know that a grasshopper is an insect?" Rephrase: "What makes a grasshopper an insect?"
   - Write student ideas on a chart paper.

   **ELLs Modifications:**
   1. Model process using pauses to indicate your thinking: Say "Let's see. (2) The grasshopper is green. (2) But some fish are green. (2) I see these two things coming out of the grasshopper's head. (point to antennae) (2) I can't think of any other kind of animal with these two things. (1) Does anyone know what these things on the grasshopper's head are called? Antennae. I think that insects have antennae."
2. Questioning techniques to engage Early Intermediate ELLs:
   .t Describe what you see in this drawing.
   .t What does a grasshopper use to move?
3. Questioning techniques to engage Early Production ELLs:
   .t Yes/No? Does an insect have 4 legs? How many does it have?
   .t Do you think an insect has wings?

IV. Reading For Information (15 minutes)
   .t Ask students to open their science books to p. 27.
   .t Ask students "What is the title of this chapter?"
   .t Ask students "What is the name of this insect?"
   .t Tell students that they are going to read facts about insects on p. 27 and 28.
   .t Give purpose for reading text: Find out what makes an animal an insect.
   .t Ask students to read p. 27 and 28 aloud chorally, following your pace.
   .t (Holt Science, TE) Go back to p. 27. Ask, "Can you see the grasshopper's legs? Let's count the legs together... 1, 2, 3, 4, 5, 6. There are 6 legs." Ask, "Can you see the antennae? Where are they attached? The antennae are attached to the head. Let's count the antennae together... 1, 2. There are two antennae on the grasshopper's head."

ELLs Modifications:
1. When giving first direction, hold up Holt Science (SE) and write "page 27" on board.
2. When asking about the title, point to title; when asking about the insect, point to picture of the grasshopper, say "A grasshopper is an insect."
3. Ask the Latino ELLs, "Como se dice "grasshopper" en Espanol?"
4. Intermediate ELLs have highlighted texts and completed word webs with key words. (See pocket 2.2)
5. Early Production! Preproduction ELLs also have highlighted text and completed word webs with both key words and drawings. (See pocket 2.3)
6. When leading the choral reading of text, use an "early reader" pace and a slightly louder intonation when reading highlighted words.
7. Ask your Latino ELLs to teach the class how to count the legs/antennae in Spanish.

V. Graphic Organizer (15 minutes)
   .t While students hand out blank word webs (See pocket 2.1), draw web on chart paper.
   .t Display photo and drawing of grasshopper.
   .t Tell students that they are going to fill in this word web with answers to the question: What are the characteristics of an insect?" Ask students to refer to their brainstorming chart and their text to fill in web, one cell at a time. Students fill in personal web by copying from the chart.
   .t Use this activity to introduce advanced learners' key vocabulary: head, thorax, abdomen.
ELLs Modifications:
1. Ask preproduction and early production ELLs to hand out papers, affording them an active role in classroom.
2. Rephrase "What are the characteristics of an insect?" with "What makes an animal an insect?" Write this question on the board over your web. Read the question, pointing to the words. Underline "insects" with a colorful chalk/marker.
3. Tell ELLs to look at their completed web for help.
4. Questioning techniques to engage Preproduction ELLs:
   - Point to the grasshopper's 6 legs.
   - Find the grasshopper's wings.
   - Is this the grasshopper's head? (Student nods yes/no)
5. Questioning techniques for Early Production ELLs:
   - Does an insect have wings?
   - Does an insect lay eggs?
6. Say each word as you fill in each cell of the web; read each completed sentence and ask students to repeat the sentences.

VI. Naming Insects (8 minutes)
   .t Open Holt Science (SE) to p. 27. Remind students of the question at the bottom of the page: Can you name other insects?
   .t Ask students to brainstorm names of insects.

ELLs Modifications:
1. Display all of the animal cards. (See zippered pouch)
2. Questioning techniques to engage the Preproduction ELLs:
   - Find a picture of an insect.
     After student finds a picture of an insect, say the name of the insect.
   - Ask Latino ELLs, "Como se dice" "en Espanol?"
3. Questioning techniques to engage the Early Production ELLs:
   - Holding up a picture of an animal, ask, "Is this an insect?"
     After student responds, say the name of the insect. Ask the student to repeat it.
   - Ask Latino ELLs, "Como se dice" "en Espanol?"

VI. Conclusion
   .t Hold up picture of butterfly. (See zippered pouch.)
   .t Ask students to name this animal.
   .t Tell them that they will learn all about this insect tomorrow.

ELLs Modifications
1. When naming the picture, ask Latino students "Como se dice "butterfly" en Espanol?"
2. Use a slow pace and gestures to tell students about tomorrow's lesson: Tomorrow (point to calendar) (2) we will learn about this insect (point to picture of butterfly). Say, "A butterfly is an insect."
### Lesson 2 Assessment Checklist

<table>
<thead>
<tr>
<th>Student’s name</th>
<th>Names characteristics of insects</th>
<th>Names insects</th>
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</table>
A grasshopper is an insect. All insects have six legs. Insects have three body parts. Can you see the body parts and legs? Most insects have four wings. The grasshopper's wings are folded down. Can you name other insects?
This is an adult praying mantis. It is an insect.

All insects lay eggs. Some baby insects look like their parents. These praying mantis babies just hatched. They are very tiny. But they look like their parents. Each baby has six legs. Each baby has three body parts.
What makes an animal an insect?
A grasshopper is an insect. All insects have six legs. Insects have three body parts. Can you see the body parts and legs? Most insects have four wings. The grasshopper's wings are folded down. Can you name other insects?
This is an adult praying mantis. It is an insect.

All insects lay eggs. Some baby insects look like their parents. These praying mantis babies just hatched. They are very tiny. But they look like their parents. Each baby has six legs. Each baby has three body parts.
An insect has 6 legs.

An insect has 3 body parts: head, thorax, abdomen.

Most insects have 4 wings.

An insect has 2 antennae.

An insect lays eggs.

Some baby insects look like their parents.
A grasshopper is an insect. All insects have six legs. Insects have three body parts. Can you see the body parts and legs? Most insects have four wings. The grasshopper's wings are folded down. Can you name other insects?
This is an adult praying mantis. It is an insect.

All insects lay eggs. Some baby insects look like their parents. These praying mantis babies just hatched. They are very tiny. But they look like their parents. Each baby has six legs. Each baby has three body parts.
Lesson 3
Lesson 3

This is the third lesson of a unit on insects. The purpose of this lesson is to develop an understanding of the life cycle of the butterfly.

Original Lesson:

• Review the characteristics of an insect. Make additions to KWL chart.
• Read aloud Holt Science (SE) p. 29.
• Hand out "Watch the Butterfly Grow" graphic organizer.
• Ask students to color and paste the six pictures in order to show the stages in the life cycle of a butterfly.
• Show the video of The Very Hungry Caterpillar by Eric Carle.
• Ask students to write in their science journals: If you were a hungry caterpillar, what would You eat? Why?

Materials For Revised Lesson:

./ photograph of bee and graphic organizer of bee (See pocket 3.1).
./ Holt Science (SE).
./ overhead projector
./ transparencies for "Watch the Butterfly Grow" (* See pocket 3.6 ).
./ photographs of caterpillars, pupae, and butterflies (See zippered pouch A)
./ photographs of life cycles of different butterflies (See zippered pouch B)
./ Wedged-shaped pieces of drawing paper, each one fourth of a large circle.
./ Video: **The Very Hungry Caterpillar** by Eric Carle.
./ Copies of listening guide (See pocket)
./ Cloze writing sheets (See pockets 3.8,3.9)
./ Pictionaries

Note:

*Intermediate, Early Production, and Preproduction ELLs were given a labeled diagram of the life cycle of a butterfly for last night's homework.
Latino ELLs were given the same diagram labeled in both English and Spanish.(See pockets 3.4, 3.5)

**During "activity center" time in the morning, students will listen to The Very Hungry Caterpillar by Eric Carle. (See pocket 3.7)
**Content Objectives**

Objective #1

A. Mainstream Ss and Advanced/Intermediate ELLs
   #1 Students will summarize orally the life cycle of a butterfly using complete sentences.

B. Beginning Intermediate and Early Production ELLs
   #1 Students will orally list stages in the life cycle of a butterfly.

C. Preproduction ELLs
   #1 Students will point to the stages of the butterfly's life cycle in order.

**Language Objectives**

Objective #1

A. Mainstream Ss and Advanced ELLs
   #1 Students will read text for information.

B. Intermediate/Early Production ELLs
   #1 Students will read highlighted text for information using labeled diagram.

C. Preproduction ELLs
   #1 Students will listen to text being read aloud while using a labeled diagram.

Objective #2

A. Mainstream Ss and Advanced/Intermediate ELLs
   #2 Students will articulate the stages of the life cycle of a butterfly using complete sentences.

B. Beginning Intermediate/Early Production ELLs
   #2 Students will name in order the stages of the life cycle of a butterfly using labeled diagram.

C. Early Production ELLs
   #2 Students will listen to the names of the individual stages of the life cycle of a butterfly and identify it by pointing to a picture. They will put the pictures in order.

Objective #3

A. Mainstream Ss and Advanced ELLS
   #3 Students will write an imaginative paragraph synthesizing scientific information.

B. Intermediate ELLs
   #3 Students will write imaginative sentences synthesizing scientific information.

C. Beginning Intermediate/Early Production ELLS
   #3 Students will complete imaginative sentences that synthesize scientific information.

D. Preproduction ELLs
   #3 Students will respond to a prompt by drawing pictures and labeling them using a pictionary.
# Functional/Notional Chart For Lesson 3

<table>
<thead>
<tr>
<th>Function</th>
<th>Situation</th>
<th>Formulae</th>
<th>Grammar</th>
<th>Vocabulary</th>
</tr>
</thead>
</table>
| Read             | for information                  | ✓ This is a ________.  
 ✓ A (An) ______ changes into a (an) ______. | ✓ present tense  
 ✓ demonstrative pronouns  
 ✓ indefinite articles  
 ✓ nouns | ✓ egg  
 ✓ caterpillar  
 ✓ pupa  
 ✓ pupa  
 ✓ chrysalis  
 ✓ cocoon  
 ✓ butterfly |
| Articulate       | stages in butterfly life cycle   | ✓ First( Next, Then, Finally) it is a ______. | ✓ transition words | same as above cell |
| Sequence         |                                  |                                                                          |                                |                               |
| Synthesize       | scientific information into      | ✓ I ate ________ because they are ________. | ✓ complex sentences  
 ✓ adjectives | ✓ because  
 ✓ sweet  
 ✓ sour  
 ✓ salty  
 ✓ tasty  
 ✓ delicious  
 ✓ spicy |
|                   | imaginative narrative            |                                                                          |                                |                               |
This science period will last about 1 hour.

I. Review (10 minutes)
/. Pass around the photograph of a bee. (See pocket 3.1).
/. Ask students, "Is a bee an insect?" and "How do we know a bee is an insect?"
    draw web on board and fill center space with "A bee is an insect." Pill each cell with
students' responses ..
/. Put students in pairs. Pass out drawing of bee (See pocket 3.1).
/. Ask pairs of students to label the different parts of a bee.

ELLs Modifications:
1. After "How do we know a bee is an insect?" rephrase the question with
   "What makes a bee an insect?"
2. Before students start brainstorming, hold up yesterday's word web (See pocket 2.1). Tell
   ELLs: "Take out this paper. It is in your science journal." (Hold up the paper and
   someone's journal.)
3. After completing web, reread each cell slowly and point to each word.
4. Be sure less proficient ELLs are paired with English-proficient students to complete the
   labeling of bee.

II. Reading For Information (10 minutes)
/. Ask students to take out Holt Science (SE) and open to p.28.
/. Direct students to look at the photograph on p.28.
/. Ask students to tell how the baby insects look like their parent.
/. Tell students, "Today we will see that some baby insects do NOT look like their parents
   when they first hatch from eggs".
/. Direct students to Holt Science (SE) p. 29.
/. Name pictures on the page. Hold up different photographs of caterpillars and butterflies.
   (See zippered pouch A.)
/. Give purpose for reading: Find out what happens after a butterfly hatches from its egg?
/. Ask students to read p.29 aloud chorally, following your pace.
/. Use this time to present advanced learners with synonyms for "pupa":
   chrysalis and cocoon.

ELLs Modifications:
1. Hold up Holt Science (SE) and write p.28 on board when giving opening directions.
2. Use gestures for second direction: "Let's look (2) at the picture (point from your eyes to
   the picture of the praying mantis). A praying mantis is an insect."
3. Use appropriate questioning techniques to engage Early Production and Beginning
   Intermediates:
   . Does the parent have 6 legs?
   . Do the babies have 6 legs?
   . Does the parent have 3 body parts?
   . Do the babies have 3 body parts?
4. Intermediate Early Production, Preproduction ELLs have highlighted texts.
5. ELLs (except Advanced) have labeled diagram of the life cycle of a butterfly.
6. During choral reading of text, use an "early reader" pace with slightly louder intonation when reading highlighted words.
7. Point out for Latino students that "chrysalis" and the Spanish word "crysola" are cognates.

III. Life Cycle Activity (25 minutes)
1. Draw a circle on the board. Write "cycle and circle" on the board.
2. Explain that a circle goes around and around. Explain that a "cycle" is something that happens over and over again, around and around.
3. Put the "Watch the Butterfly Grow" transparency onto overhead projector. (See pocket 3.6)
4. Explain that the life of a butterfly is a "cycle." It goes around and around.
5. Display the six transparency pictures (See pocket 3.6) and ask students to help you arrange the different stages of the butterfly's life in order.
6. Label the 4 key stages: egg, caterpillar, pupa, butterfly (3.6).
7. Hold up photographed series of the four key stages (See zippered pouch B) Note that the eggs, caterpillars, and pupa look different for different kinds of butterflies.
8. Ask students to articulate the life cycle story.
9. Put students in teams of four. Ask each person in each team to pick a number from 1-4. Tell students they will draw one of the 4 main stages in the life cycle of a butterfly:
   - ones will draw the egg on a leaf
   - twos will draw a caterpillar
   - threes will draw a pupa
   - fours will draw a butterfly.
10. Students will draw and label their part of the life cycle on a wedge of drawing paper*.
    - Holt Science (TE).
11. Put each team's "cycle" piece together as a circle on the science center's bulletin board.

ELLs Modifications:
1. When you draw the circle, ask Latino students, "Como se dice "circle" (point to circle) en Espanol?
2. When explaining the continuity of a circle and a cycle, gesture around and around the drawing on the board.
3. When labeling the pictures on the overhead, ask Latino students:
   - "Como se dice "egg" en Espanol?"
   - "Como se dice "caterpillar?"
   - "Como se dice "pupa?"
   - "Como se dice "butterfly?"
Ask other students to repeat the words in Spanish.
4. When showing photos of the life cycle, tape them onto a large enough circle of paper that has been folded in fourths and numbered 1-4. This will serve as a model for the team effort.

5. Ask Preproduction ELLs, to help you label (zippered pouch B) these photos. Hold up each label. Read it. Repeat. Use questioning techniques for their level of proficiency:
   . / Find the pupa.
   . / Can you find the caterpillar?
   . / Is this the egg?

6. When giving directions for the team effort: Hold up a card with number 1 and say, "If you are a "one" you will draw an egg on a leaf. (Hold up a photo of a butterfly's egg.) Do the same for the twos, threes, and fours.

7. Ask Preproduction and Early Production ELLs to pass out wedges of art paper, affording them an active role in classroom.

* Note: While students are working in teams, on the science center's bulletin board put up a sentence strip that reads: A butterfly is an insect.

IV. Video (4 minutes)
   . / Show video of picture book *The Very Hungry Caterpillar* by Eric Carle.

   ELLs Modifications:
   1. Give Preproduction/ Early Production/Beginning Intermediate ELLs the same listening guide used this morning at the listening center. (See pocket 3.7.)

V. Writing (20 minutes)
   . / Tell students they are going to write a story. Tell them they will need to pretend they are caterpillars. Say, "Picture in your mind that you have just hatched from a tiny egg. You are a very small caterpillar. You are sitting on a nice green leaf. Suddenly you are very hungry. You need something to eat. You start to eat the nice green leaf, but you decide you want something different to eat."
   . / Tell students that now they will finish this story using this story starter.

   Write it on the board:
   I am a very hungry caterpillar. I need something to eat, so I....

   . / Tell them to include why they choose to eat certain foods.
   Tell them they will need the word "because."
   Write this example on the board:
   I ate the apples because they were very red.

   . / Tell students that if they have extra time, they should illustrate their stories.

   . / Tell students they will have the chance to share their work at the end of the day and that you will read them tonight.
ELLs Modifications:

1. While starting students off on the imaginary journey use gestures, pictures, realia, and pauses: "Pretend in your mind (point to brain) that you (point to students) just hatched from a tiny egg (hold up photograph of egg). (Quickly point again from the egg to students and nod yes.) You are a very small (Use fingers to indicate small) caterpillar. (Hold up photo of a caterpillar.) (Quickly point again from the caterpillar to the students and nod yes.) You are sitting on a nice green leaf. (Hold up a leaf.) Suddenly you are very hungry. (Rub tummy and repeat "very hungry.") You need something to eat. (Demonstrate chewing and rub tummy again.) You started to eat the nice green leaf (Bring leaf to mouth.), but you decide (shake head no) that you want something different to eat."

2. Early Production and Beginning Intermediates will complete a cloze activity with choices. (See pocket 3.8) A pictionary will be available.

3. Preproduction ELLs will meet with the teacher. Using the food page from a pictionary, ask students questions that are appropriate for their proficiency like:
   - Find the apple. Do you like apples?
   - Point to the candy. Do you like candy?
   The students will complete a cloze activity by drawing pictures of the foods they like to eat. They will label their pictures, copying from the pictionary. (See pocket 3.9)

VI. Conclusion

- Hold up the picture of the bee. (See pocket 3.1)
- Ask students if they like bees. Why or why not?
- Tell them that they will learn more about this insect tomorrow.

ELLs Modifications:

1. When holding up the bee, say: "A bee is an insect."
   Ask Latino students, "Como se dice "bee" in Espanol?"
## Lesson 3 Assessment Checklist

<table>
<thead>
<tr>
<th>Student’s Name</th>
<th>Reads for content</th>
<th>Sequences stages of butterfly life cycle</th>
<th>Completes creative narrative</th>
<th>Comments</th>
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</table>
Label the bee.
3 body parts

Word Bank
4 wings
6 legs
2 antennae
head
abdomen
thorax
Some baby insects do not look like their parents. This is an egg laid by a butterfly.

The baby that hatches is called a caterpillar. The caterpillar eats and grows.

Soon it stops eating. It stays very still. It changes into a pupa.

Inside the pupa the insect is changing. A grown-up butterfly climbs out.
Some baby insects do not look like their parents. This is an egg laid by a butterfly.

The baby that hatches is called a caterpillar. The caterpillar eats and grows.

Soon it stops eating. It stays very still. It changes into a pupa.

Inside the pupa the insect is changing. A grown-up butterfly climbs out.
Life Cycle of a Butterfly

egg → caterpillar → butterfly → pupa

A butterfly is an insect.
A butterfly is an insect.
Watch the butterfly grow.
... out of the egg came a tiny caterpillar.

... He ate through 1 apple.

... He ate through 2 pears.

... He ate through 3 plums.

... He ate through 4 strawberries.

... He ate through 5 oranges.

... He ate through 1 ice cream cone.

... I slice of watermelon.

... He ate through 1 nice green leaf.

... He was a big, fat caterpillar.

... He was a beautiful butterfly!
I am hungry.

1. I would like to eat (an apple / a banana).
   I like (apples / bananas) because they are (red / yellow).

2. I would like to eat (grapes / cherries).
   I like (grapes / cherries) because they are (purple / red).

3. I would like to eat (cake / a lemon).
   I like (cake / a lemon) because it is (sweet / sour).

4. I would like to eat (ice cream / popcorn).
   I like (ice cream / popcorn) because it is (cold / salty).
Name ________________________________

I am a [caterpillar] . I like to eat ___________________________.

caterpillar

I like to eat ___________________________. I like to eat ___________________________.
Bog Copper Butterfly
Cabbage White Butterfly

Caterpillar of the Common Buckeye Butterfly
Pupa of the Tiger Swallowtail Butterfly

Pupa of the Monarch Butterfly
American Painted Lady Butterfly

Monarch Butterfly
Red Spotted Purple butterfly

Little Yellow Butterfly
Egg of the Giant Swallowtail Butterfly

Caterpillar of the Giant Swallowtail Butterfly
Pupa of the Giant Swallowtail Butterfly

Giant Swallowtail Butterfly

© Jay Cossey 1999
Caterpillar of the Tawny Emperor Butterfly

Eggs of the Tawny Emperor Butterfly

© Jay Cossey 1999
Pupa of the Tawny Emperor Butterfly

© Jay Cossey 1999

Tawny Emperor Butterfly
Lesson 4
<table>
<thead>
<tr>
<th>Student’s Name</th>
<th>Names jobs of bees</th>
<th>Participates in discussion</th>
<th>Completes written sentences</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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</tbody>
</table>
The Well-Dressed Bee
Busy as a Bee

by Gail Blasser Riley
illustrated by Dale Verzaal
Did you ever hear anyone talk about being busy as a bee? Do you know why people say that? Try to remember.

They say that because bees are so very, very busy. Some bees, called workers, almost never stop working. They are the busiest bees of all.
Do you have a big family? There are many, many bees in a bee family.

The queen is the biggest bee. Hundreds of bees live in the hive with her.

About two thousand bees can live in one hive! The queen is the mother of every bee in the hive.
Each bee’s life began when the queen laid an egg.
Bees look like little worms when they are born. They have no legs. They have no wings.

Worker bees seal up each baby bee. A baby bee eats and grows for many days. When it comes out, it is a grown-up bee with legs and wings.
Workers bees do many different jobs. They build the hive. They fix the hive. Try to picture how much work that is!

Worker bees make honey for all the bees in the hive. Do you remember how many bees live in a hive? All those bees need so much honey!
Worker bees also watch the hive.
And they clean the hive all the time.
What happens in the hive when it’s very cold? Bees gather around the queen. They stay close together to get warm.

Worker bees keep the queen warm.

When it’s hot, bees fan their wings to cool the hive. Sometimes, worker bees bring in water. This makes the hive cooler.
What do you do when you want something to eat? You might try asking someone in your family for help. Of course, bees can't ask the way you do. Instead, bees dance to tell each other where to find food.

Bees have two kinds of dances. One dance tells where to look for food that is near the hive. Another dance tells where to look for food that is far away.
Sometime you may hear someone talk about being busy as a bee. Then stop. Think about the bees in this book. Try to remember all they do. Try to think about what it is like to be a busy, busy bee.
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Template for large "T" frame.
<table>
<thead>
<tr>
<th>queen bee</th>
<th>worker bee</th>
</tr>
</thead>
<tbody>
<tr>
<td>- lays eggs</td>
<td>- builds the hive</td>
</tr>
<tr>
<td>- is the mother</td>
<td>- makes the honey</td>
</tr>
<tr>
<td></td>
<td>- cleans the hive</td>
</tr>
<tr>
<td></td>
<td>- keeps the queen warm</td>
</tr>
<tr>
<td></td>
<td>- brings food to the hive</td>
</tr>
<tr>
<td></td>
<td>- brings water to the hive</td>
</tr>
<tr>
<td></td>
<td>- dances to “talk” to other bees</td>
</tr>
</tbody>
</table>
Busy As a Bee

I think the coolest job in the hive is _________________.

I would like this job because ______________________________________________________
Template for
Butterfly Life Cycle Puzzle.
pupa
egg
butterfly
caterpillar
pupa
egg
caterpillar
butterfly
Checklists
## Grammar Checklist

<table>
<thead>
<tr>
<th>Grammar</th>
<th>Lesson</th>
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</thead>
<tbody>
<tr>
<td>Complex sentences</td>
<td>1,3,4</td>
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<tr>
<td>Exclamations</td>
<td>1</td>
</tr>
<tr>
<td>Comparisons</td>
<td>1</td>
</tr>
<tr>
<td>Synonyms</td>
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</tr>
<tr>
<td>Adverbs</td>
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</tr>
<tr>
<td>Adjectives</td>
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<tr>
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<td>Subject/verb agreement</td>
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<tr>
<td>Nouns (singular/plural)</td>
<td>1, 2, 3</td>
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<tr>
<td>-es on verbs</td>
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<tr>
<td>Demonstrative pronouns</td>
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<td>Transition words (for sequencing)</td>
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<tr>
<td>Commands</td>
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<tr>
<td>Future tense</td>
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<tr>
<td>Functions</td>
<td>Lesson</td>
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</tr>
<tr>
<td>Read</td>
<td>1, 2, 3, 4</td>
</tr>
<tr>
<td>Discuss</td>
<td>1, 4</td>
</tr>
<tr>
<td>Listen</td>
<td>1, 2, 3, 4</td>
</tr>
<tr>
<td>Articulate</td>
<td>1, 3, 4</td>
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<tr>
<td>Interpret</td>
<td>1</td>
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<tr>
<td>Name</td>
<td>2</td>
</tr>
<tr>
<td>Synthesize</td>
<td>3</td>
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<tr>
<td>Sequence</td>
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<td>Analyze</td>
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<td>Infer</td>
<td>4</td>
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<td>Predict</td>
<td>4</td>
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<tr>
<td>Write</td>
<td>3, 4</td>
</tr>
<tr>
<td>Justify</td>
<td>4</td>
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</tbody>
</table>
FLA 518: TAT Sheltered ELL Strategies Checklist

Write the PAGE NUMBERS and any other identifying features to identify those parts of your lessons that employ the following strategies.

<table>
<thead>
<tr>
<th>I. Contextualize Lesson</th>
<th>Lesson 1</th>
<th>Lesson 2</th>
<th>Lesson 3</th>
<th>Lesson 4</th>
<th>Lesson 5</th>
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</thead>
<tbody>
<tr>
<td>I.1.a Visuals (Realia, Manipulatives, Gestures)</td>
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<td>p.4,5</td>
<td>p.3,4,5</td>
<td>p.3,4</td>
<td>p.5,6</td>
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<tr>
<td>I.1.b Model (Instructions, Processes)</td>
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<td>p.4</td>
<td>p.5,6</td>
<td>p.4,6</td>
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</tr>
<tr>
<td>I.2. Activate Background Knowledge</td>
<td>p.4,1</td>
<td>p.3,4</td>
<td>p.1,3</td>
<td>p.4</td>
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</table>

<table>
<thead>
<tr>
<th>II. Make Text Comprehensible</th>
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<tr>
<td>II.2. Develop Vocabulary</td>
<td>p.1</td>
</tr>
<tr>
<td>II.3. Simplify Written Text</td>
<td>p.5</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>III. Make Talk Comprehensible</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>III.1. Graphic Organizers; Listening Guides (checklists, etc.)</td>
<td>p.4</td>
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<tr>
<td>III.2. Frame Main Ideas</td>
<td>p.4</td>
</tr>
<tr>
<td>III.3. Pace Teacher’s speech</td>
<td>p.6</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>IV. Engage: Opportunities for Output</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IV.1. Teacher Questioning and Response Strategies; Instructional Conversations</td>
<td>p.6</td>
</tr>
<tr>
<td>IV.2. Small Group Work (including Information gap activities)</td>
<td>p.4</td>
</tr>
<tr>
<td>IV.3. Meaningful, real-life activities; Students as researchers</td>
<td>p.4</td>
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</tbody>
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<table>
<thead>
<tr>
<th>V. Engage at Appropriate Language Proficiency Levels</th>
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</thead>
<tbody>
<tr>
<td>V.1. Use questions appropriate for language levels</td>
<td>p.4,5</td>
</tr>
<tr>
<td>V.2. Assign appropriate tasks for varying levels</td>
<td>p.6</td>
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<thead>
<tr>
<th>VI. Literacy/Academic Development</th>
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</thead>
<tbody>
<tr>
<td>VI.1. Allow use of L1 for planning and conceptualizing</td>
<td>p.5,6</td>
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<tr>
<td>VI.2. Lots of real oral and written language</td>
<td></td>
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</tbody>
</table>

*Please note that for each lesson, all graphic organizers, transparencies in pockets, and photographs in zippered pouches.*
Sources for Revised Lessons


Cossey, Jay. http://images.on.ca/JayC


http://www.terminix.com/Kids