Lesson Plan Template

Instructions: This lesson plan template provides a space for you to plan lessons around the Education Connections model of Sheltered Instruction (SI), which includes four strands—*define, modify, cultivate, apply*. (See page 4 of this document for more information on the four strands). Fill out the information about your lesson plan in the space provided in the left-hand column, *Lesson Information and Activities*. While you plan, list which strand(s) relates to this portion of your planning in the right-hand column, *SI Strand(s)*, along with any notes about how the strand can be implemented effectively in this lesson.

<table>
<tr><th>Lesson Information and Activities</th><th>SI Strand(s)</th></tr>
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Lesson Title: Framing Academic Language for Math_____

Content Area: Math _____ **Grade Level(s): 8th Grade**_____

Unit Description: _____

_____

Length of lesson: 90 minutes_____ **Number of ELs:** _____

Proficiency Levels						
ELs (numbers and/or names)						

Program Model: _____

Other relevant student information: _____

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Standards and Objectives

	Language Objectives	English language proficiency standards
1	Students will be able to discuss and compare solutions using a table and a graph.	**WIDA Standard 1:** English language learners **communicate** for **Social** and **Instructional** purposes within the school setting **TESOL Standard 1:** English language learners communicate for social, intercultural, and instructional purposes within the school setting.
2	Students will be able to choose the best option and support their response in writing using mathematical expressions and academic language.	**WIDA Standard 3:** English language learners **communicate** information, ideas and concepts necessary for academic success in the content area of **Mathematics** **TESOL Standard 3:** English language learners communicate information, ideas, and concepts necessary for academic success in the area of mathematics

</td><td>DEFINE</td></tr>
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Lesson Information and Activities			SI Strand(s)
	Content Objectives	Content Standards	
1	Students will be able to orally compare two options using mathematical expressions.	CCSS.MATH.CONTENT.8.F.A.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).	
2	Students will be able to read written information and write their decisions, supported by solving a mathematical problem using a table and a graph.	CCSS.MATH.CONTENT.8.F.A.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.	

Lesson Information and Activities	SI Strand(s)

Incorporating all four language domains

Identify how the language demands of the tasks are related to each language domain.

	Written	Oral
Receptive	Reading Students will read the math problem.	Listening Students will listen to the teacher and their peers.
Productive	Writing Students will compose a written response to support their choices.	Speaking Students will compare two choices and describe the best solution.

DEFINE

Key language for students (words and phrases, grammatical structures, sentence types, structure and amount of speech/text, organization of ideas, genre, etc.)

General academic language	Language specific to the content area
See p. 6 of the Academic Language Function Toolkit	graph, table, x- intercept, y- intercept, slope, unit price, cost, equation

MODIFY

Key characteristics of teacher talk (ways to make the content comprehensible for all students, ways to model key language, etc.)

Model using academic language using the popsicles and lollipops first so students learn how to use the sentence frames, cue words, and sentence starters. To further scaffold, the teacher could choose to model a compare/ contrast paragraph using the lollipops and popsicles or a supplemental mathematical problem.

How the lesson will incorporate bilingualism/students' native languages as resources

Students could be paired during discussion based on their native languages.

CULTIVATE

Materials and Texts

Name	Genre (e.g., narrative)	Level	Connection to Students (What will this mean to them? How can you make it even more meaningful?)
Math Problem	Non-fiction		Using math to compare prices and options will help students to become informed consumers.

Supplementary Materials and Realia

Lollipops and popsicles (half of the class will get lollipops and half will get popsicles)

The price of oil going down, down

Math in the Real World Text Set

Academic Language Function Toolkit, p. 6

Lesson Information and Activities	SI Strand(s)
Estimated Time: 90 minutes **Language Domains**: X Reading X Writing X Listening X Speaking **Grouping**: X Independent Work X Pair X Small Group X Whole class Reason for grouping: X First language ☐ English proficiency ☐ Reading level X Content understanding ☐ Interest ☐ Other: **Preview**: Connections to past learning or the larger unit sequence 1. Tell students that they will compare and contrast two solutions. When comparing and contrasting things, there is specific language and structures we use. 2. For example. Let's compare these lollipops and popsicles. Divide the class in half. Give half of the class lollipops and the other half of the class the popsicles. 3. Tell students to eat the treats they were given and record all the words they can think of to describe the treats. (For students at beginning proficiency levels, a word bank could be used) 4. Put students into groups of 4 consisting of 2 students who had lollipops and 2 who had popsicles. 5. Tell students to draw a Venn diagram for their group to complete together. (Model the Venn diagram on the board). 6. Tell students to complete the diagram by talking with their group members. 7. After the diagram is complete the group will write a summary using academic language. 8. Refer to p. 6 of the Academic Language Function Toolkit. Write the cue words, found on p. 6, on the board. Write the sentence frames and "Language of Agreeing" sentence starters from p. 6 on the board. 9. Tell students that they will collaborate to write their summary using the cue words, sentence frames, and language of agreeing on the board. 10. Groups will share their summaries with the class. **Presentation**: Primary activity steps associated with lesson implementation Differentiation, scaffolding, modifications, strategies employed, interaction activities, materials integrated that function to shelter language and content for the EL students 1. Mingle to Music: Tell students that you will play a song and when the music stops, they will stop and pair up with the closest person to make a group of 2-3 students. (be sure to pre- select and pre- screen the song to use) 2. Ask students: How do you know if you are getting a good deal? Play the music and tell students to walk around until the music stops. Stop the music and repeat the question. Tell students to discuss. 3. Play the music again, stop the music, and tell students to discuss. Tell students that this time, you'll ask for students to paraphrase what their partner said. 4. Choose a student to share their partner's answer with the class. 5. Tell students to return to their seats. 6. Ask students: Which factors do you consider when deciding if something is a good deal or not? 7. Discuss as a whole class.	**MODIFY** **APPLY**

Lesson Information and Activities	SI Strand(s)
8. Tell students that they will solve a problem. The problem will require them to analyze two solutions and choose the best one. They will have to defend their answer using mathematical language and the compare/ contrast language they practiced earlier. 9. Distribute the math problem. Tell students to work individually to solve the problem. **Assessment**: Activities for formative and summative assessment during and after primary lesson activities. How does assessment account for the language demands embedded in core content for ELs? 1. Divide the class into groups of four students. Tell students that they will compare answers with their group members. The group must come to consensus about which gas station charges more per gallon and then they will write about the solution. 2. As a whole class, brainstorm a list of math words that groups should use in their answers. For example: graph, table, x- intercept, y- intercept, slope, unit price, cost, equation. 3. Tell each group that they will collaborate to write a paragraph to justify their choice. They must use sentence frames, cue words, sentence starters, and mathematical language in their written responses. 4. Give time for students to write (15-20 minutes). 5. Select a representative from each group to share their paragraph. 6. Ticket out: Choose a sentence starter, cue word, sentence frame, or mathematical word and create a new sentence (one not written in your paragraph)	**APPLY**
How are parents, families, and the community invited into or associated with the content, delivery, or extension of this lesson? Students could discuss with parents and family members how they design a budget. They could talk about which items they need to budget for and how they prioritize their budget. They could also discuss the factors they consider when choosing where to shop. Students could discuss their findings with the class.	**CULTIVATE**

Education Connections' Four Strands of Sheltered Instruction

Sheltered Instruction is an approach that makes academic content, as well as language development, more accessible for EL students. The Education Connections activities are based on ***Four Strands*** of Sheltered Instruction. They are: Define, Modify, Cultivate, Apply.

Define

- **Develop, define, refine, communicate, and assess *content objectives* for every lesson**
- **Develop, define, refine, communicate, and assess *language objectives* for every lesson**
- **Ensure objectives derive from, and are aligned with, English language proficiency (ELP), as well as content standards**

Modify

- **Differentiate instruction through lesson adaptation and instructional modifications**
- **Scaffold instruction in response to students' individualized language and content learning needs**
- **Identify the language demands and domains embedded in lessons and explicitly address language use and needs for both teaching and learning**

Cultivate

- Explicitly identify and acknowledge the **cultural competence, human capital, knowledge, experiences, and resources students bring to the classroom**
- Invite parental and/or familial involvement in the school and classroom and make connections that extend beyond the core curriculum
- **Support native language** maintenance, additive bilingualism, and biliteracy development

Apply

- **Directly promote language use through interaction with peers, teachers, as well as the core content**
- **Encourage and facilitate language use in both English, as well as students' home languages**
- **Develop and implement activities that require use of all four language domains**

