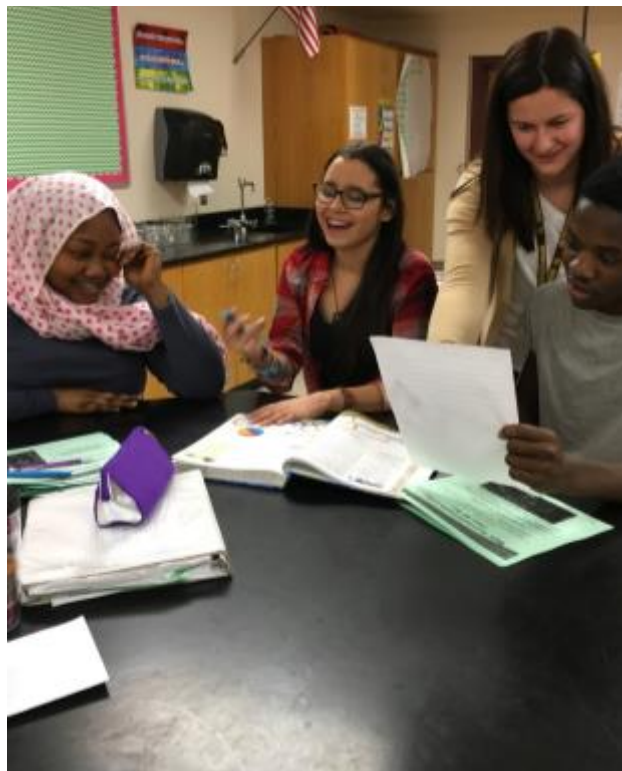


# *Instructional Strategies for Elementary and Secondary Classroom Teachers to use with English Language Learners*



## **By**

*Joan Oigawa Aus, Ed. D., Valley City State University*

*Michelle Bloom, M.A, Lodoen Kindergarten Center, West Fargo Public Schools*

*Andrea Butler, M.Ed., Fargo South High School, Fargo Public Schools*

*Courtney A. Johnson, Fargo South High School, Fargo Public Schools*

*Heather Kenkel, M.Ed., Fargo South High School, Fargo Public Schools*

*Judy Riley (Ret.), South Elementary, West Fargo Public Schools*

*Sara Roth, M.Ed., West Fargo High School, West Fargo Public Schools*

*Diana Schroeder, Magic City Campus High School, Minot Public Schools*

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## ***The Importance of Language Acquisition for English Learners (EL)***

*The changing demographics throughout the US make it necessary for educators to integrate the ways in which culturally and linguistically diverse (CLD) students acquire a new language and learn a new culture into their instruction. There is a relationship between how language proficiency levels within the socio-cultural contexts of schools affect access to content knowledge and academic success. ND belongs to the WIDA Consortium which has six levels of English language proficiency (ELP), these can be found at [www.wida.us](http://www.wida.us).*

*All classroom teachers need a basic knowledge base that includes: L1 and L2 acquisition theory, English language learner (ELL) and sheltered instruction methods; linguistic and cross-cultural contexts; curriculum development and assessment for ELLs (Fillmore & Snow, 2000; Short & Fitzsimmons, 2007) in order to best meet their students' needs. This does not mean that all teachers are expected to be EL teachers, but that all teachers should try to make their content understandable by using methods and strategies that are linguistically and content appropriate for all of their students.*

### ***Language Structure and Use***

*What is language? How can something so common be so complicated? There are four domains of language: reading, writing, listening and speaking. In order for an ELL teacher to be successful she or he must understand the universal subsystems of language as well as their application.*

*The first thing to know and remember is that all languages share five (5) universal features, which are:*

- *phonology*
- *morphology*
- *syntax*
- *semantics*
- *pragmatics*

*Much of a speaker's knowledge about these language features are acquired informally and then learned or refined in an academic setting. This handbook reviews the fundamentals of language structure and all teachers, regardless of their content area should know them. The concepts and terms that all teachers should know are:*

- ***The spectrum of phonology*** -this includes phonemic awareness, phonemic sequencing—diphthongs and digraphs, stress, pitch & rhythm, intonation patterns and pronunciation).
- ***Morphology- (this includes morphemes, word formation, and using morphemes in teaching).*** The cultural meaning attached to both free and bound morphemes such as prefixes and affixes make some morphemes more difficult for ELLs to learn than others.

- **Syntax-** in order to understand the importance of syntax a student must recognize that academic language is based on rigid grammar rules that govern the formation of phrases and sentences. An ELL student must first understand the language structure of English before he or she can become proficient at writing. With preliterate ELLs it often begins with subject and verb. Different languages conjugate verbs differently so ELLs must learn how English works.
- **Semantics-** *this sounds so easy, but is very complicated, because generally language has multiple meanings.* These meanings are related to academics, culture and background. Teaching vocabulary for ELs means providing the missing background knowledge that is often missing. ELLs find isolated spelling word lists incomprehensible.
- **Pragmatics-** *essentially this is breaking language down into three ways language is used, which is: the ability to use language appropriately for different functions (greeting, informing etc...) the ability to adapt or change language according to the listener or situation, and following rules for conversations (knowing when to listen and ask a questions, proper responses, etc...)*

#### *How Students Learn a Second Language*

*Let's begin with things we know about English learners (ELs) and reading:*

- We know that if ELs are literate in their native language, then they already have basic understandings of the reading/writing process that can transfer to the second language (Diaz-Rico & Weed, 2008);
- However, even if ELs are literate in their native language, they will need to build the background knowledge and support necessary to read and write in English (Freeman & Freeman,
- **ELs that are without literacy need special treatment and these three principles should be applied to their literacy instruction**
  - **Introduce literacy in a meaningful way with pictures, realia, graphic organizers**
  - **Make the link between oral language and print as natural as possible.**
  - **Give students the opportunity to enjoy reading and writing, by allowing them the opportunity for student mastery (Diaz-Rico, 2008).**
- **ELs need a balanced reading program that includes: 1) a strong literature, language, and comprehensive program that includes a balance of oral and written language, 2) and organized, explicit skills program that includes phonemic awareness, phonics, and decoding skills to address the needs of the emerging reader, 3) and ongoing diagnosis that informs teaching, and assessment that ensures accountability, and 4) a powerful early intervention program that provides individual tutoring for children at risk for reading failure (Diaz-Rico & Weed, 2008).**
- **The use of pre-reading, during-reading and after reading guides will enhance comprehension and retention of the information.**

### ***Things to Remember When Teaching EL Students:***

*The teacher relationship is often perceived by EL students as a second parent, advocate, counselor, and mentor.*

- *Knowing and assisting with student needs: many students will not have things such as winter clothing, homework tools, sports equipment and often the teacher or school may need to fill the void.*
- *Sometimes students with ask teachers for assistance about life issues such as paying bills, making a doctor's appointment because teachers are perceived as the expert about life in the U.S.*

*Learn about each culture-research your students*

- *Research the culture of your either online or through your state database. Things such as food, religion, life in refugee camps, are critical things to know about EL students. ( See profile sheet in next section).*

*Specifics to address HS ELL students:*

- *Meet with the EL/ELL teacher and review Individual Language Plans (ILP) for your EL students. High school and middle school is often the time when EL students fall behind and become unmotivated to continue school.*
- *Know the ELP level of your ELL students and what level of English you can expect them to demonstrate in their academic work (Can Do Descriptors).*
- *MS/HS students often have much stronger oral language skill than reading and writing skills.*
- *When practical, use real-life materials such as ND Driver Tests, American Citizenship test, The Bill of Rights to teach literacy. These are motivators for New American ELs and other EL students.*
- *Understand the relationship between students' life situations and the challenges they face or have faced, and how it may impact his/her academic work.*
- *Use real-world scenarios to teach EL students problem-solving skills.*
- *Motivate students to achieve high school graduation and help them understand the long range benefits.*
- *Give EL students the opportunities to connect with native speakers as much as possible through intramurals, community or school activities.*

*Teacher Expectations-Schoolwork that is done at home must be child-centered and able to be completed independently by student. All materials necessary for completion of assignment must be supplied by school.*

- *Parents should not be expected to help, often the student is most literate in household.*
- *Large percentage of EL students are not literate in their first language.*
- *Allow EL students to read digital media, but give them suggested reading sites and monitor their reading.*

# Bhutanese Refugees in Nepal

## INSIDE:

- 2 Need for Resettlement
- 2 Characteristics of the Refugee Population
- 4 Resettlement Considerations

COR Center Backgrounders provide key information about new refugee groups for U.S. resettlement workers.

The contents of this Backgrounder were developed with funding from the Bureau of Population, Refugees, and Migration, United States Department of State.

The Cultural Orientation Resource Center (COR Center) at the Center for Applied Linguistics works to increase the capacity of overseas and U.S. refugee service providers to orient refugees to their new American communities and to inform U.S. communities about refugee orientation and new refugee groups.



The United States has launched a program to resettle tens of thousands of Bhutanese refugees from refugee camps in Nepal. The refugees, almost all ethnic Nepalis from southern Bhutan, have been living in camps in eastern Nepal since they were expelled from their homes in Bhutan more than 16 years ago. The refugees are unable to return to Bhutan or to settle permanently in Nepal.

Of the more than 100,000 refugees in Nepali camps, the United States will consider for resettlement at least 60,000. The first small group of refugees is expected to arrive in the United States before the end of 2007, with larger numbers anticipated by March and April 2008.

This Backgrounder provides Reception and Placement (R&P) agency staff and others assisting refugee newcomers with an overview of the Bhutanese refugees to help them prepare for the refugees' arrival and resettlement needs. The Backgrounder briefly discusses the causes of the refugee problem, explains the need for third-country resettlement, and describes the characteristics of the refugee population.

## Causes of the Refugee Problem

The great majority of Bhutanese refugees are descendants of people who in the late 1800s began immigrating to southern Bhutan—lowland, malarial-infested regions shunned by the Druk Buddhist majority—in search of farmland. There they became known as *Lhotsampas* ("People of the South").

Contact between the Druk in the north and the Lhotsampas in the south was limited, and over the years, the Lhotsampas retained their highly distinctive Nepali language, culture, and religion. Relations between the groups were for the most part conflict free. Under Bhutan's Nationality Law of 1958, the Lhotsampas enjoyed Bhutanese citizenship and were allowed to hold government jobs.

In the 1980s, however, Bhutan's king and the ruling Druk majority became increasingly worried about the rapidly growing Lhotsampa

*continued on page 2*

## **Accountability**

- *Secondary education teachers must be responsible for teaching not only their content, but also literacy.*
- *Hold high expectations and accommodate needs based on English language proficiency; yet do not allow students to expect the academic standards to be different for them because they are ELLs. Read the ELP Can Do Descriptors to familiarize yourself with the way your students can demonstrate their content knowledge.*
- *Hold your EL students accountable while allowing the child ownership of the tasks/expectations by reviewing the content standards with them via I Can Statements.*

*All students need accountability-especially high school students as this is an important life lesson and HS ELs need to feel they are learning the same information as their peers.*

- *Rigor – Use NDCSS and ELP Standards to drive instruction*
- *Responsibility-spelling, reading, or math homework*
- *EL students should expect to be held to the same academic standard with modified linguistic adaptations as their native English-speaking peers.*

### **Content Instruction**

*Some children learn to read holistically and some read phonetically--students CAN learn to read without knowing all of their letters.*

#### **Context/Vocabulary**

- *Building vocabulary helps ELLs connect to each lesson*
- *Teaching vocabulary is the foundation of effective literacy instruction*
- *Context clues are critical to use in developing comprehension*

#### **Content-driven language**

- *When comprehension is the goal, then fluency should not be assessed.*
- *Teachers need to decide the purpose of the lesson and give students the language they need to master the educational objectives.*
- *This may include limiting or reducing the number of vocabulary words students are held accountable for.*
- *Adapted study guides, or an adapted assessment are helpful.*
- *Scaffolding-don't teach grammar in isolation. It is more important that students learn to write in sentences, paragraphs and essays rather than diagramming sentences.*
  - *Teaching adjectives “chocolate and vanilla words” words that are descriptive;*
  - *Use graphic organizers to organize your ideas*
  - *Build background-use a sheltered content format – use a well-planned lesson plan*
- *The expectation is modeled for the students-teachers model how they think about the writing and how the writing is organized-can be an outline, graphic organizer, pictures in sequence*
- *All lessons must include objectives, activities, and assessment*



**English Language Learners-Objectives to Focus on at Proficiency Levels**

**Add in WIDA Can Do Descriptors and WIDA ELP**

**Reading Levels for English Learners (ELs)**

*I. Beginning*

*1L. Early Intermediate*

*III. Intermediate*

*IV. Early Advanced (Proficient)*

*V. Advanced (Fluent)*

**Grades K-2**

***I. Early Acquisition Levels (Proficiency levels 1-2)***

***A. Reading K-Early grade 1***

- 1. Distinguish letters from other symbols (numbers, shapes, etc.)*
- 2. Teach language of beginning sound*
- 3. Recognize and produce beginning sound of simple words*
- 4. Teach language of ending sound*
- 5. Recognize words that rhyme and those that don't*

***Reading Mid-grade 1-grade 2***

- 1. Produces rhyming words*
- 2. Hear and produce beginning and ending sound in one syllable words*
- 3. Teach sequence of story using pictures, words and/or phrases*
- 4. Identify text features (Ex: front cover, title, top of picture, where to start reading, which way do I read-left to right)*

**In using guided reading:**

- 1. Use pictures to predict simple text*
- 2. Build background with visuals, demonstration and realia*

3. *One-to-one correspondence with finger matching word in text*
4. *Teach students that text moves from left to right*
5. *Begin with one-line of text per page where the text is in a repetitive pattern. Ex: I run. I walk. I swing.*
6. *Rereading is VERY important to gain fluency and increase English vocabulary*

#### **B. Speaking**

1. *Repeat simple, known phrases Ex: I go to bathroom. Time for bus.*
2. *Uses simple social language in context*
3. *Uses limited academic vocabulary in context*
4. *Responds with words or simple phrases Ex: yes/no questions, questions related to personal information or experience*

#### **C. Writing**

1. *Writing progresses from top to bottom and left to right*
2. *Writes first name*
3. *Uses symbols or letters to represent words*
4. *Copies words frequently used/posted in the classroom*
5. *Uses pictures, letters, and words to write a message*

#### **D. Listening**

1. *Uses nonverbal responses to demonstrate understanding (points to an object or gestures)*
2. *Understands basic commands (sit down, come)*
3. *Shows understanding of a concept by sorting, matching, or pointing*
4. *Understands that letters have sounds and those sounds are used to enunciate words*

## **II. Intermediate Levels (Proficiency levels 3-4)**

### **A. Reading**

1. *Can look at a letter, name it, and say its sound (consonant sounds)*
2. *Reads simple sentences with nouns and verbs in present or past tense*
3. *Uses meaning (picture clues) and structure (does it look/sound right?) to read text-beginning to cross check and ask him/herself. Does it look right? Does it make sense?*
4. *Understanding of pronouns in text (he, she, it)*
5. *Recognizes sight words or high frequency words that have been taught and reviewed in daily reading tasks*
6. *Reads and follows simple directions.*
7. *Can read a sentence and choose the best answer choice among a.b.c.d*
8. *Knows stories have a beginning, middle and end*
9. *Responds to questions about text features such as title, characters, and setting*
10. *Can answer "how" "why" questions about text*

### **B. Speaking**

1. *Social language is appropriate in most settings*
2. *Uses some academic vocabulary related to a current concept*
3. *Uses inflected forms of verbs such as talked and running*
4. *Can tell a simple story using short sentences*
5. *Can express needs and wants orally*
6. *Uses content-driven vocabulary to answer simple questions*

### **C. Writing**

1. *Writes all upper and lowercase letters without copying*
2. *When given a sound, student writes associating letter*
3. *Hears sounds at beginning, ending and in the middle of words*
4. *Writes words phonetically by stretching the word to hear its sounds*

5. *Correctly spells many CVC words*
6. *Writes a number of high frequency words correctly*
7. *Writes simple sentences using a subject, verb and object*
8. *Capitalizes sentences and ends with punctuation*
9. *Writes two or three sentences about a given topic when given a model or graphic organizer*

#### **D. Listening**

1. *Hears sounds in words*
2. *Responds to questions asking who or how using short sentences*
3. *Understands directions using prepositions (Ex: Put the pencil next to the cup)*
4. *Understands directions using adjectives (Ex: Circle the tall tree)*
5. *Compare/contrast information using verbal and nonverbal responses when provided with a complete graphic organizer*

### **III. Transitional Levels (Proficiency levels 4-5)**

#### **A. Reading**

1. *Segments sounds in CVC words (Ex: cup-child says c-u-p)*
2. *Understands common digraphs (Ex: sh, ch, th)*
3. *Has a growing number of known, fluent high frequency words*
4. *Reads short paragraphs*
5. *Identifies text features such as title, illustration, text, as well as punctuation marks (period, question mark, quotation marks)*
6. *Reads and understands compound words and contractions*
7. *Uses context to gain meaning in grade level text*
8. *Is able to cross-check independently while reading. Will self-correct when reading word/s do not look right, sound right or make sense*

9. *Makes predictions about text based on prior knowledge and textual clues, discusses characters, setting and plot, identifies main idea and recognizes cause and effect*
10. *Comprehends grade-level content-driven text when vocabulary and context are provided to ensure prior knowledge is developed*

**B. Speaking**

1. *Uses content area vocabulary in discussion and answering questions*
2. *Consistently uses complete sentences*
3. *Uses details in personal experience stories*
4. *Retells stories with details*

**C. Writing**

1. *Spells phonetic, one-syllable words with blends and digraphs correctly (Ex: much, when)*
2. *Correctly spells high frequency irregular words (Ex: they, what)*
3. *Uses correct noun and verb forms (Ex: men instead of mans, went instead of goes)*
4. *Writes simple sentences and questions using correct structure*
5. *Uses transitional words in writing (Ex: first, then, last)*
6. *Stories include logical sequence, details, as well as descriptions of characters, setting, and events*
7. *Begins to write a paragraph about one topic*

**A. Listening**

1. *Understands some idioms (Ex: give me a hand) Good resource is picture book *There's a Frog in My Throat**
2. *Understands most prepositions, negations (Ex: not, none) and specific descriptors (Ex: the very small car)*
3. *Follows multiple step directions*
4. *Can compare/contrast, explain, summarize and express opinion*

**A. Early Acquisition Levels (Proficiency levels 1-2)**

*(For students new to English at this level refer to K-2 objectives in addition to these)*

**A. Reading**

- 1. Work on initial and final sounds with one-syllable words*
- 2. Read and understand common regular singular and plural nouns*
- 3. Read and understand common regular verbs in present tense.*
- 4. Read and understand basic high frequency words (sight words)*
- 5. Read and understand simple content related words along  
with commonly used phrases and simple sentences.*
- 6. Read and understand one-step directions for classroom activities*
- 7. Respond appropriately to literal questions about a simple text.*
- 8. Show comprehension through drawing, demonstration or  
short verbal responses*
- 9. Identify characters and setting in simple texts.*

**In using guided reading:**

*Build background with visuals, demonstrations and realia*

*Pre-teach vocabulary in meaningful ways*

*Do a picture walk through the text making predictions*

*Use patience in allowing the student to sound out words*

*Reinforce vocabulary and comprehension through questioning*

*Provide some form of writing activity as a follow-up*

*Build fluency through repeated reading of the same text*

**B. Speaking**

- 1. Use repetition of poems, rhymes and chants.*
- 2. Produce inflected forms (talked, running) and common*

*irregular plurals (ex. Men, children)*

3. *Use necessary social and academic vocabulary*
4. *Expand to short phrases to define meaning*
5. *Respond to simple questions using yes, no, and basic personal information*

### **C. Writing**

1. *Print uppercase and lowercase letters*
2. *Relate written alphabet letter with its sound*
3. *Provide missing words in sentence patterns*
4. *Spell CVC words correctly*
5. *Label familiar objects with approximate spelling*
6. *Build on writing simple words used in grade-level*
7. *Uses subject, verb, object sentence pattern*
8. *Use end marks appropriately*
9. *Use uppercase letters in proper nouns and sentence beginnings*
10. *Write a simple story with a beginning and end using a graphic organizer*

### **D. Listening**

1. *Hear and discriminate most sounds*
2. *Recognize patterns of sounds in oral language*
3. *Understand key words and phrases in the social and classroom setting (raise your hand)*
4. *Respond to simple directions and questions*
5. *Respond to greetings and requests on a one to one*
6. *Demonstrate comprehension of simple stories through pointing, gesturing or word phrases*

## **II. Intermediate Levels (Proficiency levels 3-4)**

### **A. Reading**

- 1. Read and understand common prefixes and suffixes*
- 2. Read and understand simple present and past tense verbs*
- 3. Read and understand pronouns*
- 4. Use word-attack skills and context to understand meaning*
- 5. Follow 2-3 step directions for classroom activities*
- 6. Understand and use table of contents and chapter titles*
- 7. Make predictions, inferences, understands cause/effect*
- 8. Comprehend key concepts in near grade level content area*
- 9. Recognize simple idioms, analogies and figures of speech*
- 10. Use a dictionary to find word meanings*
- 11. Apply correct meaning to multiple meaning words*
- 12. Identify main ideas and details in near grade-level text*
- 13. Identify fact and opinion in near grade-level text*
- 14. Understand and identify different genre*
- 15. Understand and use charts, maps, illustrations to gain meaning*
- 16. Identify character traits in main characters*

### **B. Speaking**

- 1. Use inflected forms of verbs*
- 2. Use appropriate vocabulary in social interactions*
- 3. Use academic vocabulary and technical words*
- 4. Use simple sentences to express needs and in discussion*
- 5. Use sentences to identify main ideas and details of stories*
- 6. Summarize, define and explain content information in sentences*
- 7. Use possessives correctly*



### **C. Writing**

- 1. Write and spell high frequency words (sight words)*
- 2. Write common contractions*
- 3. Use correct forms in plural nouns*
- 4. Write near grade level vocabulary with spelling approximations*
- 5. Use phrases and simple sentences to respond to writing prompts*
- 6. Write correct pronouns and possessives*
- 7. Write correct forms of many homophones*
- 8. Use commas and apostrophes*
- 9. Write and understand commands and exclamatory statements*
- 10. Write short, descriptive paragraphs with one idea*
- 11. Write short narratives that include setting, characters  
and events using a graphic organizer*

### **D. Listening**

- 1. Understand many grade-level terms and concepts*
- 2. Understand some common idiom expressions.  
(give me a hand)*
- 3. Respond to simple and complex questions with words,  
phrases and sentences*
- 4. Understand key concepts of new content information and  
use of diagrams, poster, and graphic organizers*
- 5. Follow 3 or more step directions.*

## **III. Transitional Levels (Proficiency levels 4-5)**

### **A. Reading**

- 1. Use root words, prefixes and suffixes to gain meaning from grade-level text*
- 2. Use multiple-meaning words correctly*
- 3. Read and understand common homographs*

- 4. Read and identify examples of fact/opinion and cause/effect*
- 5. Understand and use glossaries and indexes*
- 6. Evaluate texts with inferences, drawing conclusions and generalizations*
- 7. Recognize author's purpose*
- 8. Understand simple idioms, analogies and figures of speech*
- 9. Read and understand compound and complex sentences*

### **B. Speaking**

- 1. Use technical, expanded and descriptive vocabulary*
- 2. Produce simple, compound and complex sentences*
- 3. Relate personal experiences with detail and in logical order*
- 4. Retell or paraphrase stories with descriptive details*
- 5. Contribute to content area discussions by asking and responding to questions*

### **C. Writing**

- 1. Correctly spells regular multi-syllabic words*
- 2. Correctly spells most high frequency and function words*
- 3. Use correct forms of homophones and pronouns*
- 4. Correctly uses abbreviations*
- 5. Correctly uses possessives*
- 6. Correctly uses commas and quotation marks*
- 7. Responds appropriately to a writing prompt in narrative, expository and persuasive writing*
- 8. Writes clear and accurate descriptions and comparisons*
- 9. Writes from a point of view consistently in a piece of writing*

### **D. Listening**

- 1. Understands grade level terms and concepts*

- 2. Understands complex content-related questions through comparison, generalizations and inferences*
- 3. Demonstrates comprehension through summarizing, explaining, or paraphrasing content information*

**I. Early Acquisition Levels (Proficiency levels 1-2)**

**A. Reading**

1. *Uses phonics and decoding to aid in word and text comprehension.*
2. *Identifies main character(s) and setting of story.*
3. *Shows understanding through drawing or short verbal phrases.*
4. *Comprehends sequencing of story events.*
5. *Understands and uses simple graphic organizers to aid in comprehension.*
6. *Makes simple predictions (e.g., picture walk).*

**B. Speaking**

1. *Uses some appropriate verb and noun endings to indicate possession (e.g., girl's book), number (e.g., three books), and tense (e.g., calls, called).*
2. *Uses simple social and academic vocabulary (not at grade-level).*
3. *Restates information by using words, phrases and simple sentences.*
4. *Responds to simple content-based questions by using words, phrases and simple sentences.*

**C. Writing**

1. *Uses correct spelling for many words appropriate for lower grades.*
2. *Uses correct forms of regular plural nouns and some common irregular plurals.*
3. *Correctly uses capital letters in all proper nouns.*
4. *Uses correct forms of common regular and irregular verbs in simple present tense.*
5. *Uses regular verbs in simple past tense.*

- 6. Uses words and phrases to write about academic and personal experiences.*
- 7. Correctly uses all forms of end punctuation in simple sentences.*
- 8. Uses simple sentences to write a brief narrative with a clear beginning, middle and end.*

#### **D. Listening**

- 1. Understands key words, common phrases, and simple sentences in both social and academic settings.*
- 2. Responds to greetings and requests with nonverbal action, one or two words answers, or short phrases.*
- 3. Follows simple one-step directions.*
- 4. Demonstrations understanding of content through pointing, moving, matching, drawing, labeling, classifying, categorizing, gesturing, using pictures or objects, and responding with short words or phrases.*

### **II. Intermediate Levels (Proficiency levels 3-4)**

#### **A. Reading**

- 1. Uses some vocabulary near grade-level and understands their meanings.*
- 2. Comprehends and illustrates understanding of story elements (characters, plot, setting, etc...).*
- 3. Uses context clues to aid in text comprehension.*
- 4. Uses prediction and inference to aid in comprehension.*
- 5. Identifies fact from opinion.*
- 6. Identifies different genres.*

#### **B. Speaking**

- 1. Uses appropriate verb and noun endings to indicate number and tense.*

- 2. Uses technical, descriptive vocabulary to answer questions about age-appropriate topics.*
- 3. Acquires grade-appropriate vocabulary and uses them in social and academic speech.*
- 4. Uses simple and some complex sentences to answer factual comprehension questions and inference questions.*
- 5. Communicates information by using simple and some complex sentences to summarize, define, give opinions, explain, or apply knowledge.*

**C. Writing**

- 1. Uses correct spelling for many grade appropriate words.*
- 2. Uses present and past perfect tenses of regular and irregular verbs.*
- 3. Uses common verbs, nouns and high frequently modifiers.*
- 4. Correctly uses idioms with prepositions (e.g., wait at vs. wait for).*
- 5. Correctly uses subject-verb agreement in sentences.*
- 6. Formulates compound and some complex sentences.*
- 7. Writes an expository composition that includes a thesis and supporting information.*

**D. Listening**

- 1. Understands many grade appropriate terms and concepts related to classroom procedures and subject matter.*
- 2. Responds appropriately to questions requiring classification, application, or summarization of information.*
- 3. Follows multi-step directions.*
- 4. Demonstrates comprehension of material approaching grade level.*

**III. Transitional Levels (Proficiency levels 4-5)**

### **A. Reading**

- 1. Uses vocabulary close to grade level and understands their meanings.*
- 2. Comprehends story elements and identifies them.*
- 3. Clearly summarizes a variety of text or close to grade level.*
- 4. Evaluates the story and draws conclusions.*
- 5. Predicts with evidence-based information.*

### **B. Speaking**

- 1. Consistently uses appropriate verb and noun endings to indicate number and tense.*
- 2. Indicates possession with the appropriate noun endings.*
- 3. Almost always uses correct verb tenses.*
- 4. Uses technical, expanded, and descriptive subject matter vocabulary.*
- 5. Uses complex syntactic formations as appropriate (e.g., subordinate clauses).*
- 6. Uses language to paraphrase, justify, examine, defend, interpret, contrast, associate, assess and conclude.*

### **C. Writing**

- 1. Uses correct spelling for key concepts and discipline-specific terms.*
- 2. Uses all verbs correctly, including present, past, and future perfect tenses.*
- 3. Consistently uses grade-appropriate vocabulary in written work.*
- 4. Correctly uses transitional words (e.g., however, thus).*
- 5. Correctly uses subordinate and relative clauses.*

*6. Responds appropriately to grade appropriate prompt asking for narrative, expository, or persuasive writing.*

*7. Develops a clear thesis supported with evidence.*

*8. Presents and justifies a point of view.*

#### **D. Listening**

- 1. Understands grade-appropriate terms and concepts related to classroom procedures and subject matter.*
- 2. Follows complex directions involving multiple options and choices.*
- 3. Comprehends extended classroom discourse (e.g., short lectures).*
- 4. Demonstrates understanding of grade-level material (stories, content area information, and oral presentations) by analyzing, evaluating, and examining.*
- 5. Responds to questions requiring inference, comparison, generalization, summarization, explanation, point of view, debate, or discussion.*



### ***Strategies that Promote Reading and Writing***

There are four skills that must be mastered to learn to read:

1. ***Skill with print;***
2. ***Decode text;***
3. ***Utilizing prior knowledge;***
4. ***Comprehension.***

Regardless of how English learners are classified what becomes the differentiating factor is their existing knowledge of ***sound/symbol , word order (syntax) and semantics (meaning and context)***. Some successful writing strategies that work with English learners are:

1. ***Language experience approach***
2. ***Interactive Writing***
3. ***Literature response groups***
4. ***Different types of graphic organizers (see pages 158-162 in Diaz-Rico)***
5. ***Shared reading***
6. ***Guided reading***
7. ***Readers' Theater***
8. ***Literature Response Groups***
9. ***Cloze: Using Context to Create Meaning***

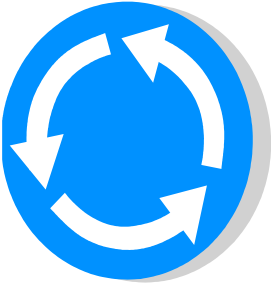
All of these methods can be adapted to a variety of literacy levels--***always remember that the purpose of an ELL/EL teacher is teach academic content while promoting English language proficiency.*** Many existing reading programs such as Success for All and Reading First with their heavy emphasis on phonics have resulted in low reading test scores for ELLs/ELs (Diaz-Rico, 2008). These programs tend to be low interest for ELs, so they become frustrated and quit reading, true comprehension never comes.

#### ***Math ideas to make it more accessible***

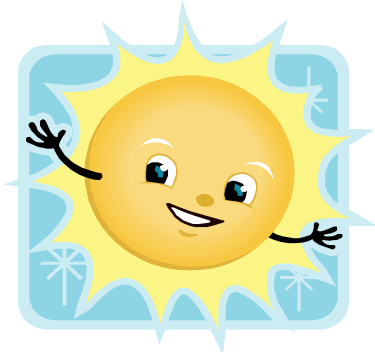
- *Teach the whole child-this includes math*
- *Use ELL supplements with content while considering that those supplements are not complete*
- *Vocabulary must be your premise for teaching math*
- *Use visuals-picture, definition-must be there as a tool throughout the unit*
- *Don't underestimate student's understanding of concepts-hands on demonstration and manipulatives are essential to ensuring student understanding of concepts as students can SHOW they understand*
- *Simplify and clarify directions and keep the organization of the page/worksheet consistent to allow for practice and lack of confusion with directions*
- *Certain curriculums are not as effective for ELL students-it is imperative that the curriculum be comprehensible for ELL students so instruction must be re-taught*
- *Instruction, check for understanding, re-teach, then move on to independent practice and go back to the skill a few days later*
- *Allow students to work together and in small groups to interact*

***Effective Assessments must be adapted for ELLs:***

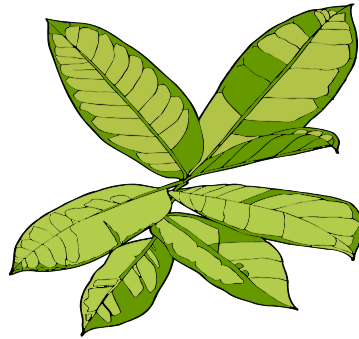
- *True/false tests are not effective for ELLs*
- *Project-based assessments or demonstrations are more authentic*
- *Reduce number of choices of options in multiple choice tests (limit to three)*
- *Avoid the use of timed assessments*
- *Allow use of adapted study guides during assessment*
- *Open book tests are ineffective due to the emphasis on reading, if used chunk information and cluster questions to align with text*
- *Small groups or individual testing*
- *Oral responses are acceptable for beginning and early intermediate*



**Circle of Life Activity**



**Sun**



**Plant**



**Soil**

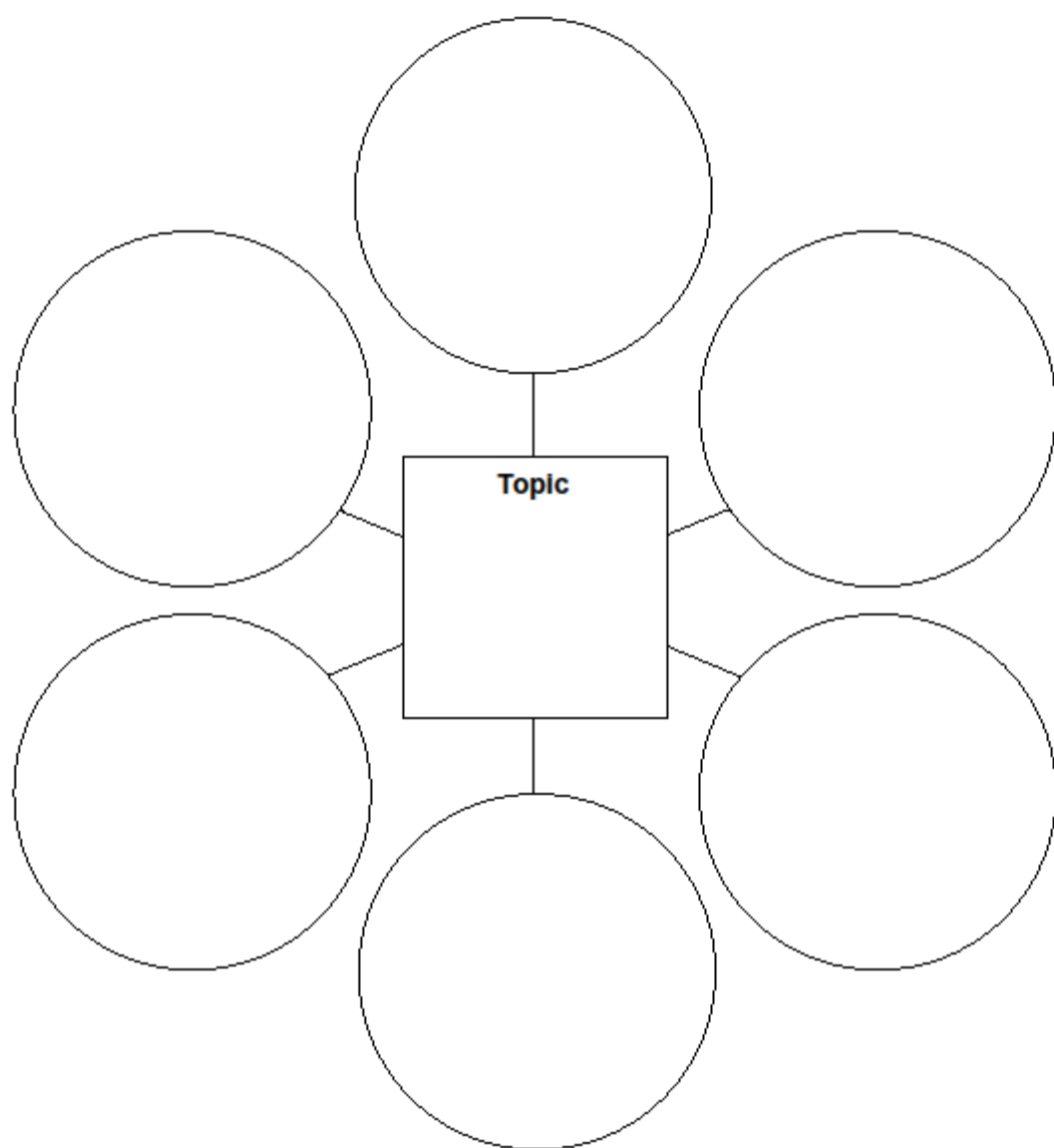


**Air**

Name \_\_\_\_\_ Date \_\_\_\_\_

### Cluster/Word Web 3

Write details about your topic in the circles.



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Author:

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## table of contents

special type

**captions**

## glossary

## index



Name \_\_\_\_\_ Date \_\_\_\_\_

### Sequence Chart

List steps or events in time order.

<b>Topic</b>
<b>First</b>
<b>Next</b>
<b>Next</b>
<b>Next</b>
<b>Next</b>
<b>Next</b>
<b>Next</b>
<b>Last</b>

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Name \_\_\_\_\_ Date \_\_\_\_\_

### Story Map 1

Write notes in each section.

<b>Setting:</b>	<b>Time:</b>	<b>Place:</b>



<b>Characters:</b>



<b>Problem:</b>



<b>Plot/Events:</b>

<b>Resolution:</b>

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	<b>1</b>	<b>2</b>	<b>3</b>
<b>Landforms chosen reflect those found in native country</b>	Landform vocabulary may be incorrect and/or chosen landforms may not be found in student's native country	Chosen landforms are in native country but may not be major features	Student chosen resources can be found in native country and are major features
<b>Written message gives information about where the student is (hypothetically) and writes about landforms there</b>	Lists either a place or landforms but does not connect the two things in writing	Student lists the home country and some landforms but may not explain that they are connected	Student writes where he/she is and what landforms are seen there
<b>The illustrations and the writing match by showing and telling about the same thing</b>	Some of the writing and illustrations may match, but not all	Most of the writing and illustrations match	The illustrations and writing match well

**Student Name** \_\_\_\_\_

**Native Country** \_\_\_\_\_

**Landforms chosen** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Total Possible Score: 9**



**Student Score: \_\_\_\_**

**Teacher Comments:**

---



## Native American Homes of the Plains

Type of Home	Natural Resources used to build the home	Special Features of the home	Picture of the Home
Teepee or Tipi	<b>Trees</b> for poles <b>Buffalo</b> hides	Could be put up or taken down in minutes  Warm in winter and cool in summer  Smoke from inside the tipi came out through a hole in the top	
Earth Lodge	<b>Clay</b> <b>Grass</b>	Partly underground  Strong  Used by tribes who were part-time farmers  A village may have about 60 earth lodges	

<http://www.kstrom.net/isk/maps/houses/housingmap.html>  
site for pictures of Native American homes

Ansary, M. (2000). Native Americans Plains Indians. Heinemann, Chicago.

## ELL Student Profile

Student-

Grade-

Classroom Teacher-

Date of Birth-

US Entry Date-

Birth Country-

Language-

<b>Parent/Guardian</b>	
<b>Address</b>	
<b>City</b>	
<b>State</b>	
<b>Zip Code</b>	
<b>Telephone</b>	

Siblings at this school-

Interpreter name and phone number-

## ***Definition of Terms***

*English language learner (ELL) - A person who is in the process of learning English and has a first language other than English, or a background that contains non-English, this could include Native America, Alaskan Native, new immigrant, political refugee and migrant students. A student doesn't have to possess an intact native language to be an ELL student.*

*English learners (EL) - A person who is in the process of learning English. This term was used almost exclusively in California and has been adopted in North Dakota in 2015.*

*English as a Second Language (ESL) - A person who is in the process of learning English; it can also refer to a program model in which students' classes are conducted in traditional English language Arts.*

*Content-based ELL - Learning English through content.*

*Culturally and linguistically diverse (CLD) - Students whose culture, heritage, and native language differs from native English U.S. speakers.*

*English language proficiency (ELP) - Refers to a student's level of linguistic fluency: pre-operational, beginning, developing or intermediate, expanding or proficient, fluent.*

*Sheltered instruction - Teaching ELL students in an environment where the language of instruction and the academic content have been linguistically adapted and comprehensible teachings strategies are used. Generally, the language minority students are in one classroom while receiving instruction.*

***Secondary Education Lesson Plans with EL Adaptations and Strategies with Graphic Organizers:***

***1. Biology***

- *Cell Reproduction,*
- *Darwin and Natural Selection*
- *Environmental Science*

***2. Physical Science***

***3. Algebra***

***4. Geometry***

- *Similarity*
- *Constructions*
- *Dilations*

***5. English Language Arts***

**Subject: Biology**

**Unit Focus: Cell Reproduction**

**Grade Level: 9-10**

*English Language Proficiency Levels: 2-4*

*Standard(s): 9-10.4.6: Compare and contrast the results of mitosis and meiosis*

*Lesson Topic: Comparing Mitosis & Meiosis*

*Objectives:*

*Language Objectives*

- Students will be able to define Cell Reproduction.*
- Students will be able to summarize the processes of Mitosis and Meiosis.*
- Students will be able to explain the differences between Mitosis and Meiosis.*

*Content Objectives*

- Students will be able to identify the different steps of Mitosis and Meiosis.*
- Students will be able to compare and contrast Mitosis and Meiosis.*

*Key Vocabulary: Cell Reproduction, Mitosis, Meiosis, Prophase, Metaphase, Anaphase, Telophase*

*Materials: Bell Ringer WS, Mitosis & Meiosis Notes and Skeleton Notes, Meiosis vs. Mitosis WS- What does it look like?, Mitosis vs. Meiosis Venn Diagram.*

*Motivation: Post, read, and explain the content and language objectives for the day*

*Warm Up/Building Background Knowledge*

*-Bell Ringer: What is Cell Reproduction? (Explanation A)*

*-Students will share out their ideas of what Cell Reproduction is and we will review what we covered about Cell Reproduction the previous day.*

*-Get them thinking about "Where/How do we get new cells?" Get them to understand that new cells come from already existing cells.*

*Presentation*

*-Student Notes on Mitosis & Meiosis. (Explanation B)*

- Power Point Presentation with Skeleton Notes for the students to fill in.
- What kinds of cells does Mitosis and Meiosis produce?
- Identify the basic steps of Mitosis & Meiosis and what happens in each step.
- How many divisions occur in each process?
- How many daughter cells are formed from Mitosis? And Meiosis?

### *Practice/Application*

- Mitosis & Meiosis Vocabulary Builder WS—Students will be able to use their notes to fill in the key concepts about Mitosis & Meiosis. (Explanation C)
- Mitosis vs. Meiosis—What does it look like? WS: Students will use the support of their notes and textbook to put visual and written meanings to the different steps in Mitosis and Meiosis. (Explanation D)

### *Review/Assessment*

- Define Compare and Contrast—What does it mean? What are other words that we can use for Compare and Contrast? (Similarities and differences) (Explanation E)
- What is a Venn Diagram? What information goes into each section?
- Mitosis vs. Meiosis Venn Diagram—Students will use the knowledge and understanding that they have gained from the lesson to compare and contrast Mitosis and Meiosis using the Venn Diagram.

### **List of Explanations**

**Explanation A:** Bell Ringer activities can be done in a variety of ways. For ELL students it is important for them to have purposeful academic conversations embedded into their lessons. Doing the Bell Ringer in a format that allows for them to academically share what they know is very beneficial. Some ideas could include small group discussion, Think-Pair-Share, verbal brainstorming, or simply sharing their ideas with the class. The Bell Ringer is also a great way to incorporate writing into daily lessons.

**Explanation B:** Providing students with a skeleton note outline is very helpful. It allows them to **still** fill in the notes, but they are still able to follow along with what is being said and discussed in class. Feel free to leave blanks for things like key words or phrases. Another tip for doing notes would be to either underline or bold information that is very important.

**Explanation C:** Explicitly teaching vocabulary to students is very beneficial. Although terms may have been addressed in notes or lecture, for ELL students it is important to provide additional opportunities for language practice. The Frayer Model can be adapted in a variety of ways to make it applicable for different classes.

**Explanation D:** Providing students with multiple opportunities to work with new ideas or concepts is important. Having students connect pictures with what is happening within a process creates a stronger understanding of the information.

**Explanation E:** Don't assume that ELL students know or understand common academic terminology (ex: compare/contrast, explain, analyze, describe). Be sure to explicitly tell students what these words mean and what you want them to do. Make sure to check for understanding. The same can be said for basic graphic organizers (KWL Chart, Venn Diagram, Cause and Effect).

**\*\*Sample Skeleton Notes.**

## **Mitosis**

Mitosis: \_\_\_\_\_

\_\_\_\_\_

-Many organisms especially unicellular ones reproduce by mitosis.

-Reproduction by mitosis is considered to be \_\_\_\_\_, since the cells produced by mitosis are genetically \_\_\_\_\_ to the parent cell.

-Mitosis is the source of \_\_\_\_\_ when a \_\_\_\_\_ organism grows and develops.

## **Chromosomes**

-In \_\_\_\_\_ cells, the genetic information that is passed on from one generation of cells to the next is carried by \_\_\_\_\_.

-Chromosomes are made up of \_\_\_\_\_.

-DNA carries

1. \_\_\_\_\_

2. \_\_\_\_\_

-The cells of every organism have a specific number of chromosomes.

-Example: \_\_\_\_\_ cells have 46 chromosomes

-Chromosomes are not visible, except during cell division.

-Prior to cell division, each chromosome is replicated, or \_\_\_\_\_.

-Each chromosome consists of two identical \_\_\_\_\_.

-When the cell divides the chromatids separate from each other. One goes to each of the two new cells.

-Each pair of chromatids is attached at an area called the \_\_\_\_\_.

-Centromeres are usually located near the \_\_\_\_\_ of the chromatids.

## **Events of Mitosis**

-Biologists divide the events of mitosis into four phases:

- 
- 
- 
- 

-Depending on the type of cell, the process of mitosis could last anywhere from a few \_\_\_\_\_ to several \_\_\_\_\_.

### **Phase 1: Prophase**

-The first and \_\_\_\_\_ phase of mitosis.

-Can take as much as \_\_\_\_\_ percent of the total time required to complete mitosis.

-The chromatin condenses into chromosomes. The centrioles separate, and a spindle begins to form. The nuclear envelope breaks down.

### **Phase 2: Metaphase**

-Often only lasts a few \_\_\_\_\_.



*-The chromosomes line up across the center of the cell. Each chromosome is connected to a spindle fiber at its centromere.*

### **Phase 3: Anaphase**

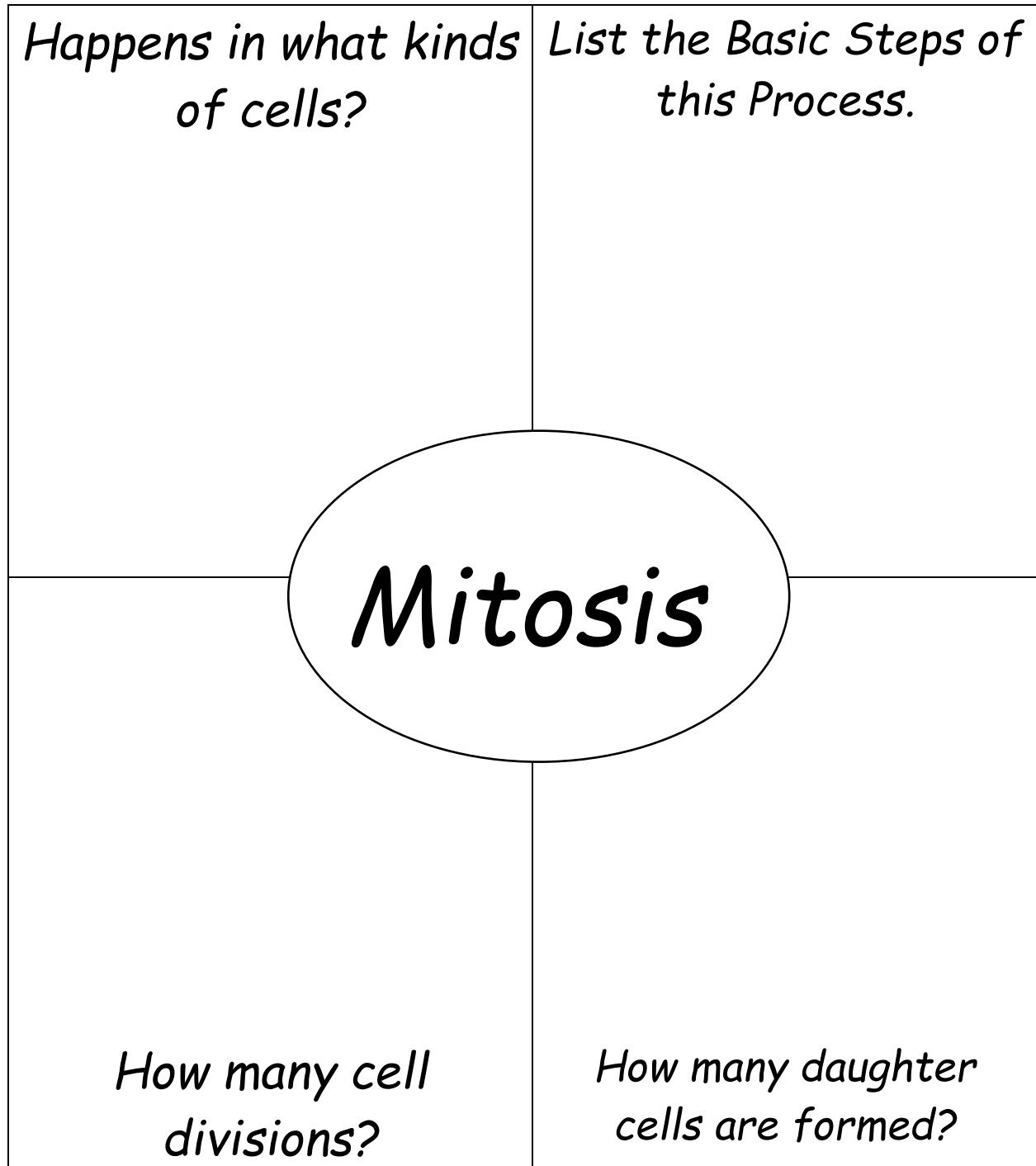
*-The chromatids separate into individual chromosomes and are moved apart.*

*-Anaphase is over when the chromosomes stop moving.*

### **Phase 4: Telophase**

*-The chromosomes gather at opposite ends of the cell and lose their distinct shapes. Two new nuclear envelopes will form.*

*-Upon the completion of Telophase, mitosis will be complete.*



*Happens in what kinds  
of cells?*

*List the Basic Steps of  
this Process.*

# *Meiosis*

*How many cell  
divisions?*

*How many daughter  
cells are formed?*

## Mitosis vs. Meiosis

Name: \_\_\_\_\_

What does it look like?

Directions: Use the information you know to fill in the chart about Mitosis.

<b>Mitosis</b>		
<b>Stage</b>	<b>What is happening?</b>	<b>What does it look like?</b>
<i>Prophase</i>		
<i>Metaphase</i>		
<i>Anaphase</i>		

<i>Telophase</i>		
------------------	--	--

Directions: Use the information from your notes to help fill in the chart about Meiosis.

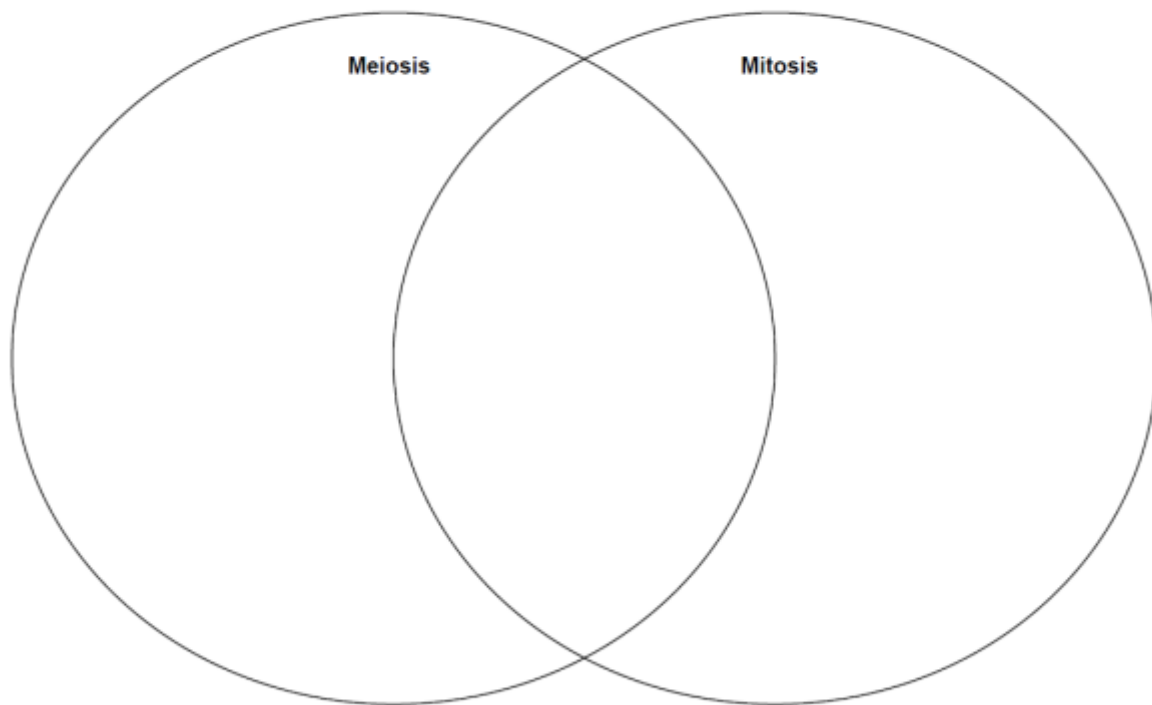
<i>Meiosis 1</i>		
<i>Stage</i>	<i>What is happening?</i>	<i>What does it look like?</i>
<i>Prophase 1</i>		
<i>Metaphase 1</i>		

<i>Anaphase 1</i>		
<i>Telophase 1</i>		
<b><i>Meiosis 2</i></b>		
<i>Prophase 2</i>		
<i>Metaphase 2</i>		
<i>Anaphase 2</i>		

<i>Telophase 2</i>		

## Meiosis vs. Mitosis

Name: \_\_\_\_\_ Date: \_\_\_\_\_



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*English Language Proficiency Levels: 2-4*

*Standards:*

*Content Standards-*

**9-10.4.8.** *Relate the concept of natural selection to its evolutionary consequences.*

**9-10.4.9.** *Recognize evidence for evolution (e.g., fossil records, vestigial structures, similarities between organisms, and DNA).*

*Language Standards-*

*Objectives:*

*Content Objectives-*

*Students will be able to define evolution and natural selection.*

*Students will be able to understand and explain Charles Darwin's contributions to natural selection.*

*Students will be able to explain how natural selection affects evolution.*

*Language Objectives-*

*Describe the process of evolution with the support of visual images.*

*Explain the concept of natural selection using text support*

*Pre-Assessment: In order to pre-assess knowledge we will be working through the Picture Pass Activity. This will allow us to identify what students know or don't know in regards to evolution (See Explanation A). It will also give me an idea of any misconceptions that students may have in regards to evolution.*

*Grouping:*

*Whole Group Instruction, Individual, Partners*

*Materials:*

*Textbook, Charles Darwin & Natural Selection Guided Reading, Picture Pass Activity, Write a Letter Activity, Exit Ticket*

*Instructional Sequence w/ Strategies:*

**1.** *Charles Darwin and Natural Selection Guided Reading Activity—Students will read pages 393-394. As they are reading the section, they will complete the*

*guided reading as they go along (See Explanation B). Students may opt to “listen” to the reading section as an added support while reading.*

*2. After completing the Guided Reading Activity, students will be prompted with a few questions to check for understanding. After being prompted with the questions they will be asked to “Think-Pair-Share” (See Explanation C). As the students are doing this I will be moving around the classroom.*

*Sample Questions: What is Evolution? Who is Charles Darwin? What did Charles Darwin discover? What is Natural Selection?*

*3. After the Think-Pair-Share Formative Assessment, students will work on the Letter to Charles Darwin Activity. This will allow students to show what they have learned about Darwin and Natural Selection (See Explanation D), while also having the students ask questions that they would like further information on to Darwin.*

*Post-Assessment: The Exit Ticket will be used at the end of class to check for understanding and drive the learning process for the next day (See Explanation E).*

### **List of Explanations**

**Explanation A:** *The Picture Pass Activity is a tool to assess previous knowledge and understanding of topics. Use three basic pictures that identify different topics that are going to be covered. Allowing students to answer a basic question “What is the picture showing?” and then a more in depth question allows the teacher to identify the ideas the student knows and understands about the topic. This activity can be used as a starting point for discussions to begin a new unit.*

**Explanation B:** *When asking a student to read a passage from a textbook, provide them with a guided reading to go along with the text. The guided reading should include the pages from the textbook that need to be read, a variety of questions, pictures, and tables/charts. The complexity of the questions should vary.*

**Explanation C:** *The “Think-Pair-Share” Activity encourages students to think through their own idea prior to engaging in academic discourse with their peers. The initial conversation occurs between a pair of students. After that point, there will be opportunities for students to share the ideas from their pair with the whole group. It is important to give students specific questions to answer, as they are expected to engage in purposeful academic conversation.*

**Explanation D:** *The Write a Letter Activity, allows students to communicate their knowledge and questions about a topic through writing in a format other than question and answer. The Write a Letter Activity can be assessed as a specific*

writing activity or as a formative assessment. Have the students use the table to organize their ideas and main points before beginning the writing process.

**Explanation E:** The Exit Ticket is a great tool to incorporate writing into the lesson. It also allows the teacher to identify what each student understands or doesn't understand. This information can be used to plan instruction for the following day.

Ch. 25-Evolution

Name:

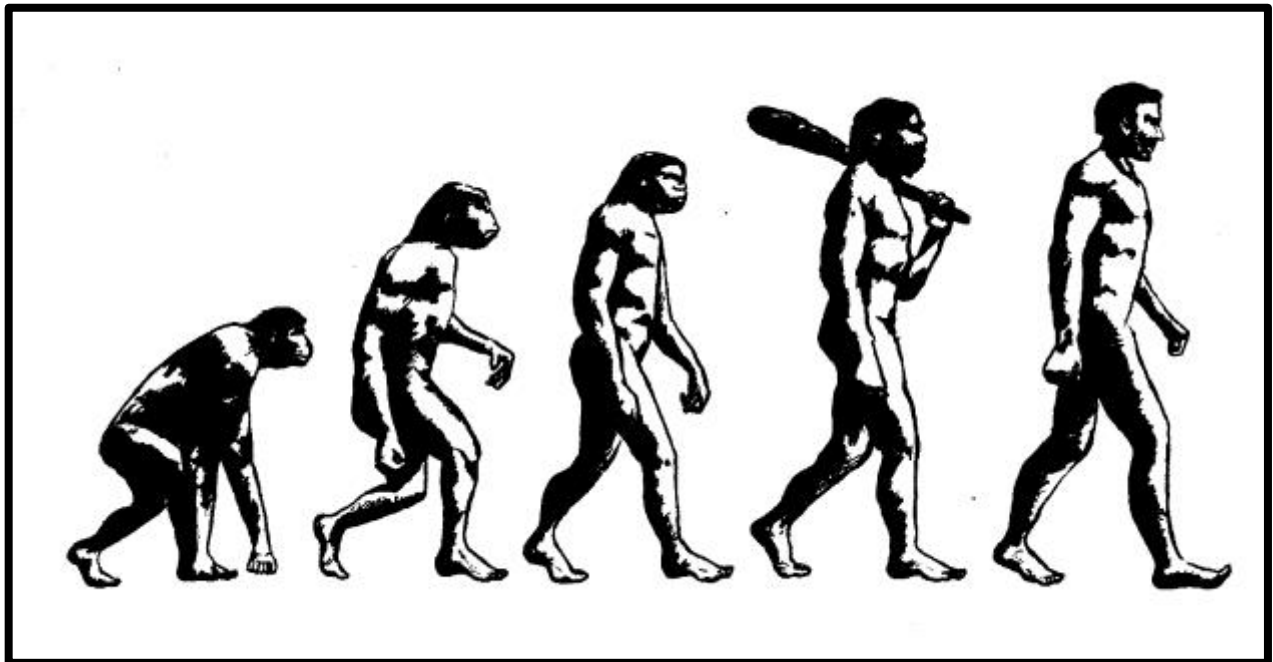
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Charles Darwin & Natural Selection

Picture Pass Activity

Directions: Look at the pictures. We will use them to introduce our new unit.

Picture #1



Look at the picture. What do you think this picture is showing?

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One of the words we will cover in this unit is **evolution**. Use this picture to help you create a definition for evolution.

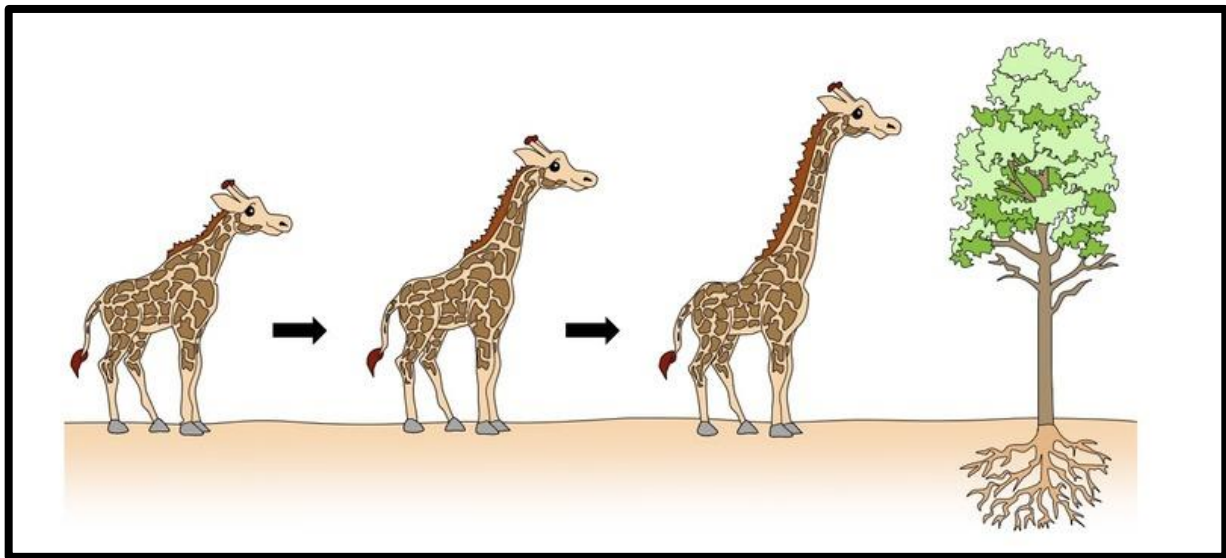
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Picture #2



Look at the picture. What do you think this picture is showing?

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An early theory of evolution, stated that organisms developed traits by using or not using a part of their body. How does this picture show this early theory of evolution?

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**Class:** Biology  
10<sup>th</sup>

**Unit:** Genetics

**Grade Level:** 9<sup>th</sup> &

**Genetics Unit Standards:**

9-10.4.4. Relate DNA, genes, and chromosomes

9-10.4.5. Explain the relationship between spontaneous changes in DNA and a source of genetic variation

9-10.4.6. Compare and contrast the results of mitosis and meiosis (i.e., mitosis involves a nuclear division that results in two daughter nuclei that are identical to the parent nucleus; meiosis involves two nuclear divisions that result in gametes cells containing half the number of chromosomes)

9-10.4.7. Apply the basic concepts of genetics to predict inherited traits (i.e., segregation, independent assortment, dominant and recessive traits)

**Key Vocabulary:**

Trait	Heredity	Genetics	Gene
Dominant	Recessive	Homozygous	Heterozygous
Genotype	Phenotype	Punnett Square	Pedigree
Mutation	Genetic Engineering		

**Background Information:**

Prior to the start of the Genetics Unit, students have already completed two previous units that tie into genetics and almost form a base for the information that is covered in this unit. The first of the two units is Cell Division (Mitosis & Meiosis) and RNA/Protein Synthesis. In the Cell Division Unit, standard 9-10.4.6 is addressed and met. In both units, students have learned and met the information associated with standard 9-10.4.4.

**Unit Overview:**

*This unit is typically covered over the course of 2-3 weeks. Depending on the language levels of the student and their individual level of understanding from year to year additional activities to support language and content growth are incorporated. For many students this unit is very interesting because they are able to look into the characteristics they can see on themselves and identify where those characteristics came from. Throughout the unit there are a number of formative assessments in the form of worksheets, homework, exit tickets, and other quick checks. At the end of the unit there is a summative assessment that is in the form of a test.*

**Standard:** 9-10.4.4. Relate DNA, genes, and chromosomes

9-10.4.5. Explain the relationship between spontaneous changes in DNA and a source of genetic variation

**Learning Objective:** Students will be able to analyze their own traits and create a graph to depict their results.

**ELL Strategies:** Activate Background Knowledge, Pre-Teach Vocabulary, Visual Supports

**Lesson Description:** What is Genetics? What are my Traits? Self-Assessment  
Activate Background Knowledge → We begin with brainstorming “What is Genetics?”, typically students have some good ideas because they are able to derive the word gene from genetics. Since we have already talked about what genes are in the previous unit they have some ideas. Then we talk about what characteristics are carried through genes (hair color, eye color, height), and we identify who we get our traits from (parents). (Explanation A)

Visual Supports → On the bulletin board in the classroom is a post with dominant and recessive physical characteristics. These are visual pictures of what it looks like to have a widow’s peak, a hitchhiker’s thumb, cleft chin, and other features. We also demonstrate these characteristics among the different students in class. We identify what each characteristic is and what it isn’t. (Explanation B)  
After we have built the background knowledge and pre-taught the vocabulary, we would begin working through the Self-Assessment of Traits Activity. We would do the first half of the characteristics together and then the students would work

*within their small groups to complete the remainder. After the students have identified their own traits, they will communicate these results with their group members and record the results of the group. After recording the results, they will put together a bar graph to represent the number of students who have each of the traits. Having the students work collaboratively in small groups is a great way for them to practice using academic vocabulary with their peers. (Explanation C)*

**Assessment:** *There are multiple methods for assessment within this lesson. Quick checks can be used as formative assessment while working as a whole class or small groups. At the end of the lesson the use of an exit ticket could evaluate student knowledge for key vocabulary words (genetics, traits, dominant, and recessive).*

### **List of Explanations**

**Explanation A:** *Activating Prior Background Knowledge can be valuable in assessing what the students already know, don't know, or have misconceptions about. Don't assume that all students think the same or have the same understanding of different topics.*

**Explanation B:** *The walls in our classroom are a great place to put additional information for students to learn from and access during a unit. Word Walls are a great way to display key vocabulary terms throughout the unit. Students are able to reference the word wall until they are confident in their understanding of the word.*

**Explanation C:** *Incorporating a variety of groupings throughout a lesson provides students with the opportunity to work individually and with their peers. Working in partners or small groups engages students in dialogue exchanges which involve academic discourse. Use a variety of groupings—partners, small groups, whole class.*

Name \_\_\_\_\_  
Date \_\_\_\_\_

## An Inventory of My Traits – Survey

What combination of these traits do you have? Complete the survey to find out.

1. I have detached earlobes ☐ Yes ☐ No
2. I can roll my tongue ☐ Yes ☐ No
3. I have dimples ☐ Yes ☐ No
4. I am right-handed ☐ Yes ☐ No
5. I have freckles ☐ Yes ☐ No
6. I have naturally curly hair ☐ Yes ☐ No
7. I have a cleft chin ☐ Yes ☐ No
8. I have allergies ☐ Yes ☐ No
9. I cross my left thumb over my right when I clasp my hands together ☐ Yes ☐ No
10. I can see the colors red and green (I am not color blind) ☐ Yes ☐ No
11. The hairline on my forehead is straight. ☐ Yes ☐ No
12. I am a: ☐ Male ☐ Female

Adapted from "Who Not The Same?" in Human Genetic Variation, NRC Curriculum Supplement Series 1993. <http://scienceeducation.utah.gov>

Name \_\_\_\_\_  
Date \_\_\_\_\_

## An Inventory of My Traits – Data Table

How many people in your group have each trait?  
Fill in the data table below by counting the number of people who marked "yes" and the number of people who marked "no" for each trait.

TRAIT	YES	NO
Detached earlobes		
Tongue rolling		
Dimples		
Right-handed		
Freckles		
Naturally curly hair		
Cleft chin		
Allergies		
Cross left thumb over right		
See the colors red and green		
Have a straight hairline		

Adapted from "Who Not The Same?" in Human Genetic Variation, NRC Curriculum Supplement Series 1993. <http://scienceeducation.utah.gov>



**Standard:** 9-10.4.4. Relate DNA, genes, and chromosomes

9-10.4.5. Explain the relationship between spontaneous changes in DNA and a source of genetic variation

**Learning Objective:** Students will be able to describe how the study of genetics began. Students will be able to explain how genes control inherited traits.

**ELL Strategies:** Scanning/Pre-reading activities, Guided Reading, Partner Reading, Use of L1, Read alouds

**Lesson Description:** Chapter 5-Section 1 Reading Guide

Prior to starting the Guided Reading, I will have student open to the section (Explanation A) and have them scan the bold words, section headings, pictures, text boxes, and other graphics. After giving them a few minutes to scan the text, I will ask them to predict answers to these questions, “What are we going to read about?” or “What is this section about?”. (Explanation B) Then we would begin to read the section. I have/do this in a variety of ways (depending on the class). Sometimes I read the text aloud and the students follow along, other times they read on their own, sometimes we “Popcorn” read (per their request 😊), or listen to the audio recording of the section. One of the ways that I like doing the reading is by doing a partner read. This allows struggling readers to pair up with a higher level reader, ideally one who shares the same native language (so they can utilize their L1). (Explanation C) As the students read they fill out the guided reading packet. (Explanation D)

**Assessment:** Formative Assessment in the form of “quick checks” while the students are working on their reading guide. I will walk around the classroom and ask students a variety of questions to check for their level of understanding of the material that is covered. As I work my way around, if I notice that a number of students are struggling with a particular idea or concept I will stop and address the whole class in order to clear up any confusion or misconceptions. Depending on when the students finish, we will also go through the packet and answer the different questions or graphic organizers. This is another good way to incorporate academic speaking into the lesson. (Explanation E)

### **List of Explanations**

**Explanation A:** *Chunk text passages into manageable parts. Don't expect students to read an entire chapter and comprehend all of it. Rather, break the chapter into different sections or chunks that are more manageable.*

**Explanation B:** *Scanning the text prior to reading is a strategy to get students thinking about the topic they will be reading about. It is also a good strategy to get students to learn to effectively use their textbook (ex: identify bold face terms, read graphs, look at pictures).*

**Explanation C:** *Mixing up the way informational text is read in the classroom ensures that the process doesn't become monotonous for students. Informational text can be challenging to read. Allowing students to read with a partner (ideally with the same L1) provides additional support to the student who may have a lower reading level.*

**Explanation D:** *The use of a Guided Reading Packet is very beneficial for students as it provides them with a chronological guide of important information from the text passage. Incorporate a variety of questions and tasks in the Guided Reading. For example: fill in the blank, short answer, graphic organizers, pictures and graphs.*

**Explanation E:** *Any chance that is available engage students in purposeful academic conversation. Students are typically fluent in conversational English, but struggle with using academic language. Encourage students to use new vocabulary verbs and concepts.*

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**Section 1: HEREDITY (Pages 64 - 69)**

*As you read pgs. 64 - 69 in the book answer the questions that follow.*

*1. A. Explain Gregor Mendel's pea plant experiment. (What did he do with the pea plants?)*

*B. What did his experiment show? (What were the results? What did he discover?)*

*2. Genes contain information about inherited traits. How can genes be represented? Explain your answer and give examples.*

*3. Explain what is meant by genotype and phenotype.*

4. Look at the picture below. In a paragraph (3-5 sentences), explain what traits have been passed from the parents (mother and father) to the offspring (children).



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**Standard:** 9-10.4.7. Apply the basic concepts of genetics to predict inherited traits (i.e., segregation, independent assortment, dominant and recessive traits)

**Learning Objective:** Students will be able to define vocabulary associated with genetics. Students will be able to describe how the study of genetics began. Students will be able to explain how genes control inherited traits. Students will be able to explain how gene combinations are predicted using Punnett Squares.

**ELL Strategies:** Skeleton Notes/Teacher Notes, “Going Visual with Vocabulary”, Listening Activity

**Lesson Description:** Discuss 5-1 & Notes, 5-2 Guided Reading

During this lesson we will be doing the Notes from Section 5-1. The students receive a packet of the slides from the PowerPoint that I will use during class. They will need to fill in the blanks with information from the PowerPoint. As we go through the notes, key vocabulary words are reiterated, defined, and explained. (Explanation A) At the end of the notes we identify the 6 big vocabulary words they need to know in order to solve a Punnett Square (dominant, recessive, heterozygous, homozygous, genotype, and phenotype). We put this on a large piece of butcher paper and hang it in the classroom where all of the students can see it. (Explanation B) We put the definition as well as examples of each word on the paper. After the “Big 6”, we begin to solve the Punnett Square Problems. At the end of the class hour we will complete the Heredity Listening Activity. For Listening Activities, I read the information once and only once (similar to ACCESS Testing) and the students need to select the best answer choice. (Explanation C)

**Assessment:** In order to assess their understanding of the information from this lesson, the students complete an exit ticket that addresses the “Big 6” Vocabulary Words.

### **List of Explanations**

**Explanation A:** Providing students with a skeleton note guide or the slides from a PowerPoint gives them the information necessary and allows them to follow along with the discussion in class. Providing this support ensures that the writing that is necessary isn’t overwhelming for the student and doesn’t take away from learning the content information.

**Explanation B:** Going visual with student learning puts a big emphasis on that information. Displaying important vocabulary terms, processes, or concepts around the classroom provides students with additional exposure to the information. It is also a visual cue for the teacher to continue to emphasize and check for understanding of that key concept or vocabulary terms.

**Explanation C:** Listening Activities can be used for all students. Students are allowed to make notes on information they consider to be important while the information is being read aloud. The student document includes the answer choices. Depending on the level of the question there may also be a visual support included.

## **TEACHER SCRIPT**

*Heredity Listening Activity*

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Name:

**Directions:** Listen as your teacher read information and circle the best answer to each question.

1. The passing of traits from parents to their offspring is called heredity. You got characteristics like hair and eye color from your parents. What is the passing of traits from parents to their offspring called?

A. genetics

- B. traits*
- C. heredity*

2. *One of the first people to study genetics was an Austrian monk named Gregor Mendel. He studied traits in pea plants. Gregor Mendel studied many traits in his pea plants. Who was the first person to study genetics?*

- A. Sir Isaac Newton*
- B. Gregor Mendel*
- C. Johann Bach*
- D. James Watt*

3. *Mendel discovered that traits from one parent may hide traits from the other parent. He called these dominant and recessive traits. A dominant trait is shown with a capital letter. A recessive trait is shown with a lower case letter. The trait for tall plants is dominant over short plants and represented by a capital letter. Which letter would represent a tall trait?*

- A. t*
- B. T*
- C. s*
- D. S*

4. *Genes contain information about inherited traits. Genes come in pairs. Half of each pair comes from the mother and the other half comes from the father. Which gene combinations could represent an offspring that is tall?*

- A. tt*
- B. TT*
- C. Tt*

D. TT and Tt

5. The genetic combination or gene pair for a certain trait in an organism is called the genotype. The appearance of a trait in an organism is called the phenotype. A homozygous tall plant's genotype is TT. Its phenotype is tall. Organisms with different genotypes may have the same phenotype. For example a homozygous tall plant (TT) and a heterozygous tall plant (Tt) have different genotypes. However, they have the same phenotype, which is tall. Which genotype represents a short plant?

A. tt

B. Tt

C. TT

D. not enough information



**Topic: Introduction/Ecology Review**

**Subject: Environmental Science (11<sup>th</sup> & 12<sup>th</sup> Grade)**

*\*This class is for higher level ELLs.*

**Standards:**

*11-12.4.3 Explain how organisms need to change when their environment changes in order for their species to survive*

*11-12.5.2 Explain how Earth's systems are always trying to achieve equilibrium: (Energy cycling through food chains)*

**Objectives**

**Content Objectives:**

*Students will be able to define biodiversity.*

*Students will be able to explain the benefits of biodiversity for ecosystems and humans.*

*Students will be able to analyze the value of a single species.*

*Students will be able to define and explain key vocabulary terms.*

**Language Objectives:**

*Students will read informational text to gain additional knowledge about biodiversity.*

**Activities:**

**Energy Graphic Organizer:**

*Reading Your Textbook Activity: As students read the text passage (Pages 259-269), have them complete Tasks 1, 2, & 3. Students can complete this on a plain sheet of notebook paper. (Explanation A)*

*Vocabulary Cubing Activity: Students will roll the foam dice to determine what they will do with each vocabulary term. (Explanation B)*

*If they roll a...*

*1 → Draw a picture*

*2 → Define the word*

*3 → Use the word in a sentence*

*4 → List adjectives about the word*

*5 → List a non-example of the word*

*6 → Ask a question about the word*

### **List of Explanations**

**Explanation A:** Providing students with a reading guide for informational text passages helps them to better grasp what information is deemed important. Guided Readings can happen in a variety of ways. This example was created for higher level ELL students as it isn't as scripted as it would be for a lower level ELL student.

**Explanation B:** The Vocabulary Cubing Activity is something that can be adapted to work with any set of vocabulary terms from any content area. The tasks that are associated with the numbers can also be adapted to fit ones needs. Building vocabulary understanding is beneficial for ELLs. Asking students to do more with a word than just write the definition forces them to have a true understanding of the word rather than just memorizing the term.

### ***Reading Your Textbook***

**Directions:** Read pages 259 – 269 in the textbook. Do Sections I, II, AND III.

**I. From this reading select a total of FIVE important benefits that you would regard as significant to Biodiversity preservation. Use either of the following two criteria to justify each of your selections.**

1. Significant events or benefits are those which have the greatest impact, either positive or negative, on the lives of individuals and groups.

2. Significant events or benefits are those that relate in some ways to us in the future.

**II. React to the reading by recording:**

1. Questions you have about what you've read.

2. Reactions you have to at least

a. one specific topic

**3.** *Two specific phrases or sentences which you want to remember (select at least two):*

**a.** *write down the phrase and*

**b.** *explain why you selected it – why is the phrase significant or important?*

**4.** *Anything else that comes to mind as you read*

**III. Select one photo or illustration in these pages that most interest you and write a paragraph that:**

**1.** *Describe what you see in the picture (to describe means to make a person or event come to life through the use of vivid details)*

**2.** *Analyzes how the picture is connected to the information discussed in the chapter – why was the picture used in this chapter? (to analyze means to explain why events happen)*

**3.** *Discusses why the picture interests you.*

**Unit 2 Vocabulary Cube**

Name:

**\*Roll the dice and complete for each word.**

<b>Ecosystem</b>	<b>Adaptation</b>

<b><i>Endangered Species</i></b>	<b><i>Biodiversity</i></b>
<b><i>Symbiosis</i></b>	<b><i>Trophic Level</i></b>

*Subject: Physical Science (9<sup>th</sup> Grade)*

*Standards:*

*9-10.3.3. Identify the Law of Conservation of Matter in physical and chemical changes.*

- Explain how matter is conserved in chemical systems.*

*9-10.3.5. Identify the reactants and products in a chemical reaction.*

- Locate the reactants in a chemical equation*
- Locate the products in a chemical equation*

*9-10.3.6. Distinguish between balanced and unbalanced chemical equations.*

*Content Objectives:*

*Students will be able to balance chemical equations.*

*Students will be able to interpret chemical equations in terms of reactants and products.*

*Language Objectives:*

*Bell Ringer: Identifying the Parts of a Chemical Equation: Have the students define what products and reactants are. Then have them identify the products and reactants in an actual chemical equation. (Explanation A) After all students have completed the Bell Ringer, collect it and go over it as a class. During a Bell Ringer I encourage students to do the work without the use of their notes, but if they are struggling to do that they are able to reference their materials.*

*Activities:*

*Word Equations WS: As a whole class go over the first two example problems together. Identify how the equations are balanced and how to properly write those equations using words. Then have the students work individually on the next three problems. After completing these problems they can turn and talk with their shoulder partner to compare work. At this point they are now able to work with their shoulder partner to correct and finish the rest of the work. Encourage students to explain/teach their partner how they came to finding their answer. The better a student is able to share what they know, the better the understanding they have. (Explanation B)*

*Assessment:*

*Writing and Balancing Equations WS: Students will now need to put together both of the skills they have been working on over the past few days (balancing and writing equations). This would be a graded assignment and a form of formative assessment prior to the test. If after grading the assignment it shows that students need additional practice we will build that into our next lessons and activities. Another option would be to have additional practice worksheets available to students if they should feel they need or want additional practice. (Explanation C)*

*\*Special Note: As students are working, I like to go around the room and ask them to read the chemical equations to me. It is important that they are able to identify the chemical compounds that are formed from the different symbols. (Explanation D)*

### **List of Explanations**

**Explanation A:** *When working with something that is unfamiliar to the students it is important to establish a base understanding of information. In this case, it would be identifying the parts of the equation. Without this base set of knowledge solving the problems is very challenging.*

**Explanation B:** *Encourage students who feel confident in their understanding of the material to be teachers also. Students who are able to explain their work using academic vocabulary will establish a deeper understanding of the material while assisting other students simultaneously. Also, don't forget to encourage the use of L1, especially in a situation in which the student is still not understanding. Chances are if language wasn't a barrier the student would be able to complete the work—eliminate the barrier!*

**Explanation C:** *Provide students with additional opportunities to practice the skills necessary to be successful in class. The process of transferring information from L2 to L1 and back to L2 sometimes slows down the speed at which a student works at.*

**Explanation D:** *Establish as many opportunities as possible for students to read and speak for learning in the classroom. Moving around the room and talking with the students individually works very well, especially for those students who may not be as confident in their language skills.*

## Physical Science-Balancing Equations

### DQ-Chemical Reactions

Name: \_\_\_\_\_

\_\_\_\_\_

\*Answer the following questions.

1. Reactants are \_\_\_\_\_.

2. Products are \_\_\_\_\_.

3.  $\rightarrow$  means \_\_\_\_\_.

4. Identify the parts (reactants and products) of the equation:  $\text{Li} + \text{S} \rightarrow \text{Li}_2\text{S}$

### Ch. 7 Chemical Reactions

Name: \_\_\_\_\_

#### Word Equations

#### Common Names for acids:

$\text{HCl}$  = hydrochloric acid     $\text{H}_3\text{PO}_4$  = phosphoric acid     $\text{H}_2\text{S}$  = hydrosulfuric acid

#### Reminders:

$\text{H}_2$  = Hydrogen     $\text{N}_2$  = Nitrogen     $\text{O}_2$  = Oxygen     $\text{F}_2$  = Flourine     $\text{Cl}_2$  = Chlorine

$\text{Br}_2$  = Bromine     $\text{I}_2$  = Iodine

\_\_\_\_\_

**Directions:** Write the word equations for each problem. Examples are provided.

1.  $2\text{Li} + \text{S} \rightarrow \text{Li}_2\text{S}$       **Example:** Lithium plus Sulfur yields Lithium sulfide

2.  $4\text{Fe} + 3\text{O}_2 \rightarrow 2\text{Fe}_2\text{O}_3$       **Example:** Iron plus oxygen yields Iron (III) oxide

3.  $\text{Zn} + 2\text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2$

4.  $2\text{HCl} + \text{Ca}(\text{OH})_2 \rightarrow \text{CaCl}_2 + 2\text{H}_2\text{O}$

5.  $3\text{NaOH} + \text{H}_3\text{PO}_4 \rightarrow \text{Na}_3\text{PO}_4 + 3\text{H}_2\text{O}$

6.  $\text{FeS} + 2\text{HCl} \rightarrow \text{FeCl}_2 + \text{H}_2\text{S}$

7.  $\text{BaCl}_2 + 2\text{AgNO}_3 \rightarrow 2\text{AgCl} + \text{Ba}(\text{NO}_3)_2$

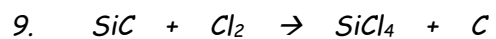
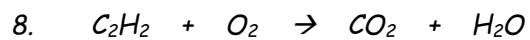
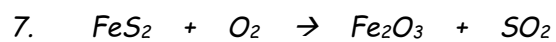
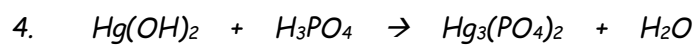
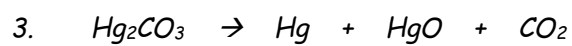
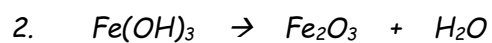
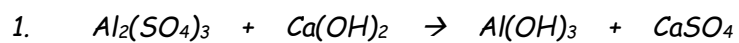
8.  $3\text{Mg}(\text{OH})_2 + 2\text{H}_3\text{PO}_4 \rightarrow \text{Mg}_3(\text{PO}_4)_2 + 6\text{H}_2\text{O}$

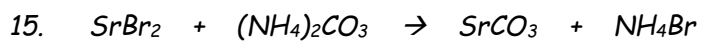
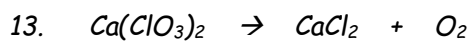
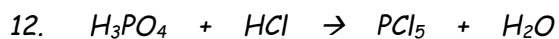
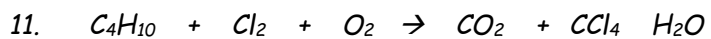
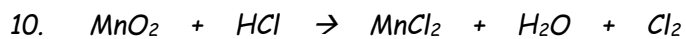
Name \_\_\_\_\_ Due Date \_\_\_\_\_ Period \_\_\_\_\_

### Writing and Balancing Equations

-Balance each equation. Once balanced, write the word equation for each.







**Topic: Motion—Force**

*Subject: Physical Science (9<sup>th</sup> Grade)*

*Standards:*

*9-10.3.7. Use Newton's Laws to describe the motion of an object.*

*Content Objectives:*

*Students will be able to correctly solve for force.*

*Students will be able to define force.*

*Language Objectives:*

*Students will be able to explain the steps necessary in order to solve for force.*

*Bell Ringer:*

*What is Force? → Give the students a Post It Note and have them write down what they think force is. Then have them post their response on three separate sheets of paper (Green, Yellow, Red). (Explanation A) Here is how they determine which color to put their answer on:*

*Green → "I totally understand this and feel confident about my answer."*

*Yellow → "I think I understand it, but I'm not 100% sure."*

*Red → "I don't understand, please help me."*

*Activities:*

*Force Problem Notes & Guided Practice—Identify the important parts of the Force Equation that students need to know, as well as the units that are necessary. Without knowing each part to the equation it will be difficult to solve. Then complete some sample problems together, before allowing the students to do a couple of problems on their own. Once they have done the problems on their own, have them pair up and check each other's work. (Explanation B)*

*Assessment:*

*Force Problems WS—Students need to individually complete the Force Problems WS. When students get stuck they are able to talk with a shoulder partner or the teacher to work through the problems. (Explanation C)*

### **List of Explanations**

**Explanation A:** *Doing the Stoplight Check for Understanding at the beginning of class allows the teacher to quickly assess the understanding and confidence level of the students with the new content as well as provide an opportunity for writing.*

*In order to wrap up the Bell Ringer, having the students work together to form the definition for a new word can be helpful. This would give them an opportunity to engage in academic discourse with their peers.*

**Explanation B:** *The Gradual Release model for teaching math concepts is very beneficial for ELLs. It allows them to understand what steps are necessary in order for them to solve the problem. Pairing students up to check each other's work provides a great opportunity for academic discourse and it allows students to get individual help/assistance. Pairing students up who speak the same language will make the use of their L1 possible.*

**Explanation C:** *While students are working on homework, it is important they complete the work on their own, but allowing the use of their native language can be very beneficial. For many ELL students, they understand the content information, but likely struggle with the language component. Utilizing the native language or L1 helps to bridge the content knowledge with the understanding of the language.*

*Force Problems*

*Name:*

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*Guided Practice/Notes*

*Part A-Identify the parts of the equation. Label the acceleration, mass, and force.*

$$F = m \times a$$

*Part B-Identify the correct units for each variable.*

<b>Variable</b>	<b>Units</b>
<i>Force</i>	

Mass	
Acceleration	

### *Part C-Sample Problems*

*A. A man hits a golf ball (0.2 kg) which accelerates at a rate of  $20 \text{ m/s}^2$ . What amount of force acts on the ball?*

*B. You give a shopping cart a shove down the aisle. The cart is full of groceries and has a mass of 18 kg. The cart accelerates at a rate of  $3 \text{ m/s}^2$ . How much force did you exert on the cart?*

### *Part D-Practice on Your Own—Make sure to show all 4 steps! ☺*

*A. You push a friend sitting on a swing. She has a mass of 50 kg and accelerates at a rate of  $4 \text{ m/s}^2$ . Find the force you exerted.*

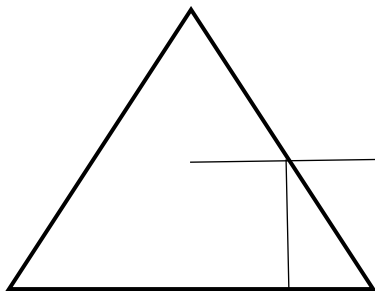
*B. How much force would it take to push another, larger friend who has a mass of 70 kg to accelerate at the same rate of  $4 \text{ m/s}^2$ .*

C. A worker drops his hammer off the roof of a house. The hammer has a mass of 9 kg and gravity accelerates it at the usual  $9.8 \text{ m/s}^2$ . How much force does the earth apply to the hammer?

Force Problems WS A

Name:

Directions: Solve the following force problems. Make sure to show all 4 Steps! ☺



1. A truck with a mass of 1500 kg is decelerated at a rate of  $5 \text{ m/s}^2$ . How much force did this require?

2. *A pitcher accelerates a baseball with a mass of 1.5 kg at  $6 \text{ m/s}^2$ . How much force does this take?*

3. *A student starts a food fight by throwing a 0.5 kg burrito at a girl he likes. He throws it kind-of-hard so it accelerates at  $3 \text{ m/s}^2$ . How much force does this require?*

4. *A hunter shoots a 2 kg arrow accelerating at  $15 \text{ m/s}^2$ . How much force does this require?*

5. *A bully pushes a 100 kg student with 300 N of force. How much is the student accelerated?*

6. *A batter hits a baseball with 500 N and the ball is accelerated at  $25 \text{ m/s}^2$ . What is the mass of the ball?*

7. *A cannon shoots a 40 kg ball at a sailing ship and when it hits the wall of the ship it applies 2000 N of force. How much was it decelerated?*

8. *How much force do you push down on the earth with? (Hint: 1 kg is about 2 pounds)*

***SIOP Lesson - ELA / Reading***

Content Objectives - CCSS, ELA, Grade 9-10, Reading: Informational Text

ELA CCSS RI.9-10.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of



specific word choices on meaning and tone (e.g., how the language of a court differs from that of a newspaper).

### Language Objectives-WIDA Can Do Descriptors, Grade 9-12, Language Domain: Reading

Level 3 (Developing) - Apply multiple meanings of words/phrases to social and academic contexts

Key Vocabulary: compare, contrast, leprosy, mortality

\*These terms are in addition to each student's personal list of "challenge words" that students select as needed from the text.

### Materials

Student iPads or Laptops (to access student Newsela accounts)

Bilingual word maps

### Building Background / Links to Experience / Links to Learning

Prior to reading the *Newsela* article, *Stigma Hinders Efforts to Combat Leprosy in India*, the teacher will lead a whole-class discussion of the following questions: *Tell about a time you were really sick. What was the sickness? Did you get better with or without medicine?*

This discussion allows students to personally connect to the content of the article, because they can identify with being sick. The teacher will then explain to students that the people in the article they will be reading have a disease called *leprosy*. The teacher will describe similarities and differences between leprosy and other sicknesses using a compare and contrast graphic organizer. Next, the teacher will introduce key vocabulary through modeling the completion of a bilingual word map (pictured below). This provides students with a modeling and sample of the process for completing the bilingual word map.

### Activities

Students will read the article, *Stigma Hinders Efforts to Combat Leprosy in India*. Each student will select an adapted version of the article that is slightly above his or her reading level.

Students will digitally highlight “challenge words” in the article (words they are not able to pronounce or do not know the meaning of). Students will create bilingual word maps for each of the unfamiliar words.

Written Input - Since information is being presented in written format and ELL students are expected to read and comprehend, it is essential that reading is scaffolded according the student’s proficiency level. Supports in place to increase comprehensibility for ELLs are embedded in Newsela and include:

-Visual supports - Each article is accompanied by a picture.

-Adapted texts - each article is adapted to 5 different lexile levels; the 500 lexile version can be considered a summary.

-Spanish versions of articles for students at ELP level of 1 who are literate in L1 and L1 is Spanish.

#### Assessment

VOCABULARY WORD:	SYNONYM	MEANING IN NATIVE LANGUAGE
<hr/>		
PICTURE		

	DEFINITION	USE THE WORD MEANINGFULLY IN A SENTENCE.

Students are assessed formatively using a checklist (shown below). The checklist is used to determine if the student is able to define challenging words from informational texts and use these words in different contexts (apply the word to his or writing) with accuracy. This checklist is meant to assess both the content and language objective for this lesson. Information gathered on the checklist can be used to inform instruction; instruction can be adapted and re-teaching can occur if teachers determine students need additional guidance and support in understanding challenging words or concepts.

Student Name	Term is accurately defined in English.	Translation of term to native language is accurate.	Term is correctly used in a different context. Term is applied to original student writing with accuracy.

### ***SIOP Lesson - ELA / Writing***

Content Objectives - CCSS, ELA, Grade 9-10, Writing

ELA CCSS W.9-10.2 Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

Language Objectives-WIDA Can Do Descriptors, Grades 9-12, Language Domain: Writing

Level 3 (Developing) - Outline ideas and details using graphic organizers

Key Vocabulary: dedication, illiterate, render, influence, contribution

Materials

Student iPads or Laptops (to access student Newsela accounts)

Graphic organizer for short paragraph

Building Background Links to Experience/ Links to Learning

After reading the title of the article, *Pakistani Teacher Gets a Prize for giving Poor Kids an Outdoor School*, students will be asked to respond to the following prompts as part of a whole-group discussion:

-*Why do you think the school is located outdoors?*

-*Would you like to attend school outdoors? Why? Describe a benefit and a drawback.*

-*Have you ever attended a school that was very different than the one you attend now? What was different?*

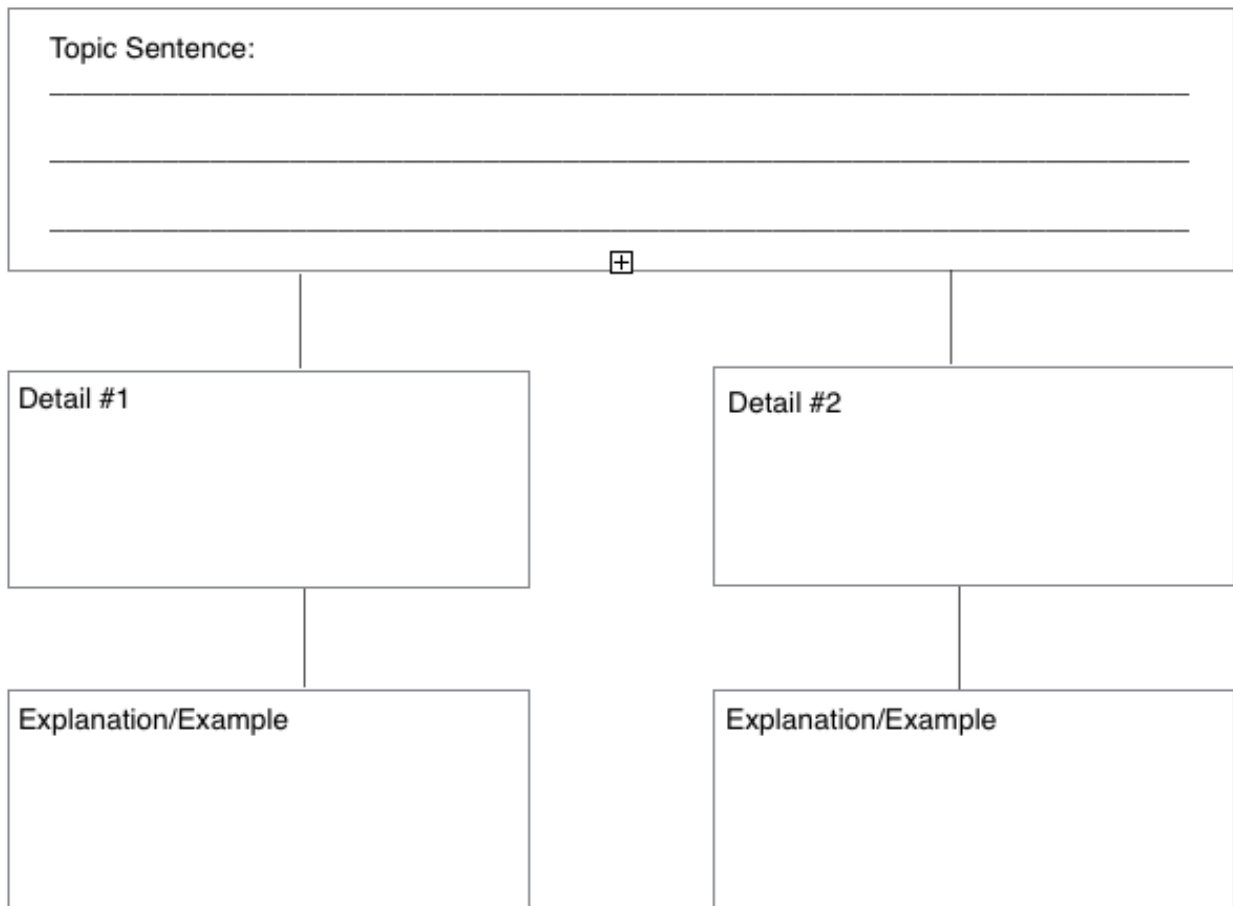
Activities

Students will read the article, *Pakistani Teacher Gets a Prize for giving Poor Kids an Outdoor School*. Each student will select an adapted version of the article that is slightly above his or her reading level. Students will be asked to respond to the following writing prompt from Newsela: *Write a short paragraph that explains the central idea of the article. Use at least two details from the article to support your response.* Students will be provided with a the graphic organizer for a short paragraph (shown below).

### Assessment

A checklist (shown below) is used to determine if each student included necessary components to an informative paragraph explaining the central idea of the article as well as facts and examples from the article that support the summary.

Student Name	Central idea of the article is accurately described.	Detail #1 consists of a fact or example from the article that supports the central idea.	Detail #2 consists of a fact or example from the article that supports the central idea.



### ***SIOP Lesson - ELA / Listening***

Content Objectives - CCSS, ELA, Grade 9-10, Speaking and Listening

CCSS.ELA-LITERACY.SL.9-10.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9-10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

Language Objectives-WIDA Can Do Descriptors, Grade 9-12, Language Domain: Listening

Level 3 (Developing) - Distinguish main ideas from supporting points in oral, content-related discourse

Key Vocabulary: drought, heat wave, El Niño

### Materials

Computers for access to CNN Student News

note-taking frame / graphic organizer for student use

### Building Background / Links to Experience / Links to Learning

Prior to listening to and viewing the CNN Student News story regarding a drought in SE Asia, students will be asked to describe if they have ever lived in a place that was experiencing drought. Students will be asked to work with a partner to make a list of problems a drought can cause.

### Activities

Pre-teaching vocabulary - The teacher will pre-teach key vocabulary by completing a word map for each word (show below). The teacher will model the completion of the word map for the word heat wave. Word maps for drought and El Niño will be completed together as a class.

Next, the teacher will play the CNN news story about the drought in SE Asia for the class, pausing occasionally to model completion of the note-taking frame / graphic organizer (shown

**Take notes as you view and listen to the news.**

<u>Challenge Words</u>  heat wave	<u>Main Ideas</u>  A drought is causing many problems in SE Asia.	<u>Important Words</u>  El Niño
---	---	---------------------------------------

below)

Students will be asked to watch an additional news story from CNN Student News and complete the note-taking frame / graphic organizer independently using information as they view and listen to the information presented in the news story.



Take notes as you view and listen to the news.

Challenge  
Words

Main Ideas

Important  
Words

### Assessment

This listening activity is assessed informally during whole-group discussion. The teacher will lead a discussion of the news story and each student will be asked to participate by drawing upon information from his or her notes. Listening comprehension is assessed as students present information they gathered during the listening activity.

*SIOP Lesson - ELA / Speaking*

Content Objectives - CCSS, ELA, Grade 9-10, Speaking and Listening

ELA CCSS SL.9-10.4 Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

Language Objectives-WIDA Can Do Descriptors, Grade 9-12, Language Domain: Speaking Level 3 (Developing) -Suggest ways to resolve or pose solutions

Key Vocabulary: let down, alarmed

### Materials

Student iPads or Laptops (to access student Google Drive accounts)

Presentation templates (shared with students in Google Slides)

### Building Background Links to Experience/ Links to Learning

Students will be asked to respond in writing to the following prompt:

*Describe the benefits of being involved in extra-curricular activities (sports or the arts). When students finish writing, they can contribute their ideas during whole-class discussion and the teacher will list benefits students describe on the board.*

Next, the teacher will explain that the article, *Clearer Shot: Soccer gives Burundi Women Choices for the First Time*, describes benefits for women playing soccer.

### Activities

The teacher will read the article, *Clearer Shot: Soccer gives Burundi Women Choices for the First Time*, to the class. Students will use information from the article to create a Google Slide presentation. Students will be provided with presentation templates (shown below). The teacher will model the completion of a template prior to students completing templates independently. Each student will present the information gathered on his or her Google Slides to his or her partner.

Slide #1

**Article Title:**

**This article was mainly about:**

**\*Add a picture in this space that represents what the article is mainly about.**

PROBLEM DESCRIBED IN ARTICLE:



SOLUTION DESCRIBED IN ARTICLE:



DETAIL FROM THE ARTICLE / SUPPORTING EVIDENCE:

Slide #2

Assessment

Each student will assess his or her partner using the following rubric:

Presenter's Name: \_\_\_\_\_

Total Points \_\_\_\_/ 6

Evaluator's Name: \_\_\_\_\_

0 Points	1 Point	2 Points
My partner did not describe a problem.	The problem my partner described was only partly accurate.	My partner described the problem accurately.
My partner did not describe a solution.	The solution my partner described was only partly accurate.	My partner described the solution accurately.
My partner did not provide supporting evidence.	The supporting evidence my partner provided was only partly accurate.	The supporting evidence my partner provided was accurate.

### ***Attributes of Polynomial Functions***

#### **STANDARDS:**

*HS.F-IF.4\* For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*

*HS.F-IF.9\* Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*

**THEME:**

*Polynomial Functions*

**LESSON TOPIC:**

*Attributes of Polynomial Functions*

**OBJECTIVES:**

*Language:*

*Students will interpret key features of a polynomial graph and table.*

*Students will determine the degree of a polynomial function from a table and graph.*

*Content:*

*Students will identify key features of polynomial functions: intercepts, increasing/decreasing intervals, relative maximums/minimums, and end behavior.*

*Students will compare and contrast two polynomial functions in different representations (tables and graphs).*

**LEARNING STRATEGIES:**

*Links to past learning, Modeling, Guided practice, Independent practice, Comprehensible input, Partners, Interactive technology*

**KEY VOCABULARY:**

*Content:*

*Intercepts*

*Maximum*

*Minimum*

*End Behavior*

*Table*

*Function*

*Polynomial*

*Degree*

*Turning Points*

*Functional:*

*Graph*

*Compare*

*Contrast*

*Order*

*Increasing*

*Decreasing*

***MATERIALS:***

*Polynomial Classification Warm-Up, “Attributes of Polynomial Functions” Graphic Organizer, “Attributes of Polynomial Functions” Pear Deck, “Practice with Attributes of Polynomial Functions,” Compare and Contrast Polynomial Attribute Writing, highlighters, pencils*

***PREPARATION:***

*Post lesson objectives on board. Run off copies for materials. Students need a writing utensil.*

***MOTIVATION:***

*Read and explain the content and language objectives of this lesson to the students. “Let’s look at our language objectives for today. Students will (read language objectives above). Now let’s look at our content objectives for today. Students will (read content objectives above).”*

***Warm-up/Building Background (5 minutes):***



- *Provide students with Polynomial Classification Warm-Up. We will have previously covered the terms monomial, binomial, linear, quadratic, etc. Students will need these terms in this lesson as well.*

## ***PRESENTATION***

*20 minutes*

- *Fill out “Attributes of Polynomial Functions” Graphic Organizer with students.*
- *Highlight different attributes on graphs with students, so they can see the key attributes.*
- *Present “Attributes of Polynomial Functions” Pear Deck to students. See slides attached for questions students will answer.*

## ***PRACTICE/APPLICATION***

*15 minutes*

- *Hand out “Practice with Attributes of Polynomial Functions.”*
- *Have students complete Questions #1 and #2 in pairs.*
- *Have students complete Questions #3 and #4 in individuals.*

## ***REVIEW/ASSESSMENT***

*10 minutes*

- *Students write at least four sentences in a paragraph that compare/contrast polynomial functions – one expressed as a graph and one expressed as a table. Students will use the sentence frame to complete the writing.*

*Polynomial Classification Warm-Up*

*Name \_\_\_\_\_*

***\*\* Classify the polynomial by degree and number of terms. Give the word! ☺***

*1)  $3x^2 - 2x$*

*2)  $7$*

*3)  $2x^3 - 5x + 1$*

*4)  $x^6 - x^5 + 3x^2 + 2$*

5)  $3x^5 - 3x + 1$

6)  $-2x + 9$

7) \_\_\_\_\_ *binomial*

8) \_\_\_\_\_ *standard form*

9) \_\_\_\_\_ *leading coefficient*

10) \_\_\_\_\_ *monomial*

11) \_\_\_\_\_ *degree*

12) \_\_\_\_\_ *constant term*

13) \_\_\_\_\_ *trinomial*

a. *A polynomial with only one term.*

b. *The number that does not multiply any power of  $x$ .*

c. *A polynomial with two terms.*

d. *Written with terms in descending order, from largest degree to smallest degree.*

e. *A polynomial with four terms.*

f. *The value of the exponent in a polynomial.*

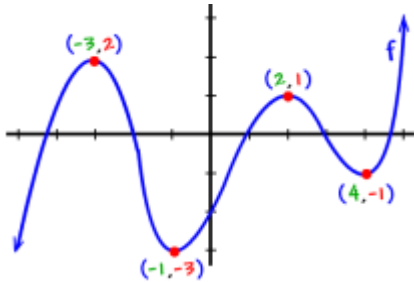
g. *The number in front of the first term of a polynomial.*

h. *A polynomial with three terms.*

i. *The first term of a polynomial.*

# Polynomial Vocabulary Graphic Organizer

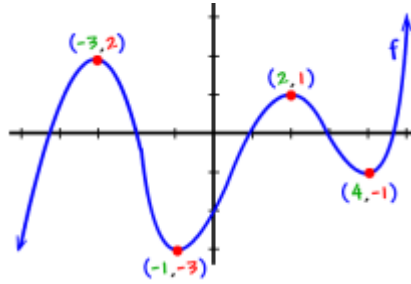
Name \_\_\_\_\_

Attribute	Graph	Table																								
Degree		<table><tr><th>X</th><th>Y<sub>1</sub></th></tr><tr><td>-10</td><td>384</td></tr><tr><td>-8</td><td>120</td></tr><tr><td>-6</td><td>0</td></tr><tr><td>-4</td><td>-24</td></tr><tr><td>-2</td><td>0</td></tr><tr><td>0</td><td>24</td></tr><tr><td>2</td><td>0</td></tr><tr><td>4</td><td>-120</td></tr><tr><td>6</td><td>-384</td></tr><tr><td>8</td><td>-840</td></tr><tr><td>10</td><td>-1536</td></tr></table>	X	Y <sub>1</sub>	-10	384	-8	120	-6	0	-4	-24	-2	0	0	24	2	0	4	-120	6	-384	8	-840	10	-1536
X	Y <sub>1</sub>																									
-10	384																									
-8	120																									
-6	0																									
-4	-24																									
-2	0																									
0	24																									
2	0																									
4	-120																									
6	-384																									
8	-840																									
10	-1536																									

To teach students the degree of a graph, they need to determine the turning points and then add one. To determine the degree from a table, they have to subtract consecutive y-values until they get a constant.

## Intercept

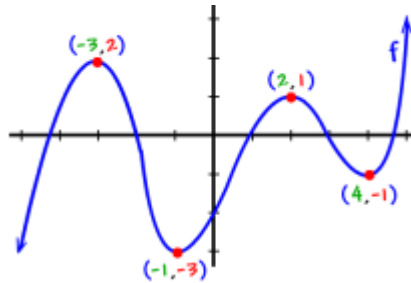
To teach intercepts from the graph, students have to look at the point on the x and y-axis.  
To teach intercepts from the table, students need to know where the zeros are located.



X	Y <sub>1</sub>
-10	384
-8	120
-6	0
-4	-24
-2	0
0	24
2	0
4	-120
6	-384
8	-840
10	-1536

## Increasing/Decreasing Intervals

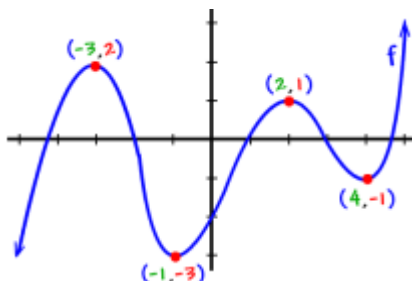
From graph, students have to look for increasing and decreasing intervals by determining if the graph is going up or down from left to right. On the table, students have to look at the trends to determine the intervals.



X	Y <sub>1</sub>
-10	384
-8	120
-6	0
-4	-24
-2	0
0	24
2	0
4	-120
6	-384
8	-840
10	-1536

## Relative Maximum or Minimums

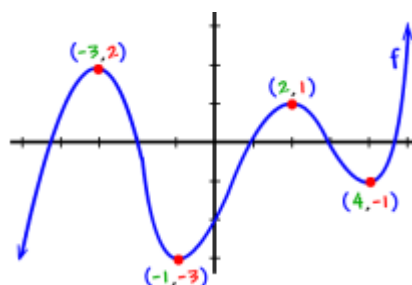
From graph, students have to look at the highest points and lowest points to determine the relative maximum and minimum. From table, students cannot say exactly where maximum or minimum are, but can estimate by looking at the trend of the numbers.



X	Y <sub>1</sub>
-10	384
-8	120
-6	0
-4	-24
-2	0
0	24
2	0
4	-120
6	-384
8	-840
10	-1536

## End Behaviors

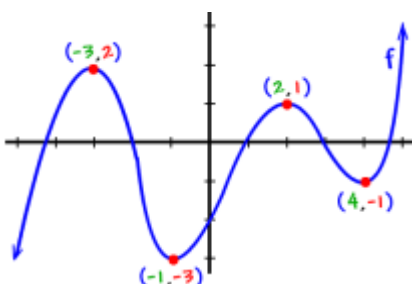
From graph students have to look at the far left and far right to see the end behavior. From the table, students have to look at the first and last points to see the pattern. Students have to use the terms "increasing without bound" or "decreasing without bound."



X	Y <sub>1</sub>
-10	384
-8	120
-6	0
-4	-24
-2	0
0	24
2	0
4	-120
6	-384
8	-840
10	-1536

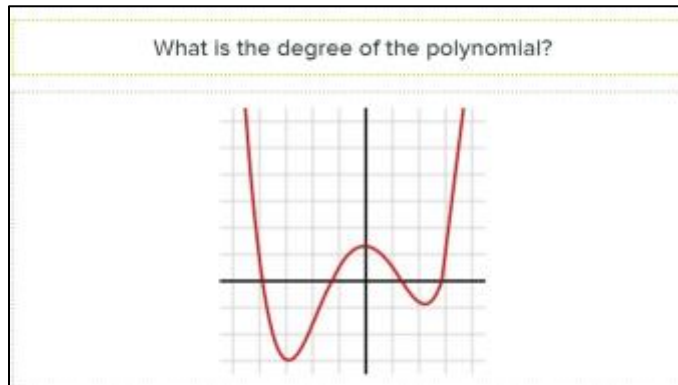
## Domain/Range

For all polynomial functions, the domain will be all real numbers. For the range, students will have to look at the relative maximum/minimum, as well as the end behavior of the graph.



X	Y <sub>1</sub>
-10	384
-8	120
-6	0
-4	-24
-2	0
0	24
2	0
4	-120
6	-384
8	-840
10	-1536

## Attributes of Polynomials: Degree

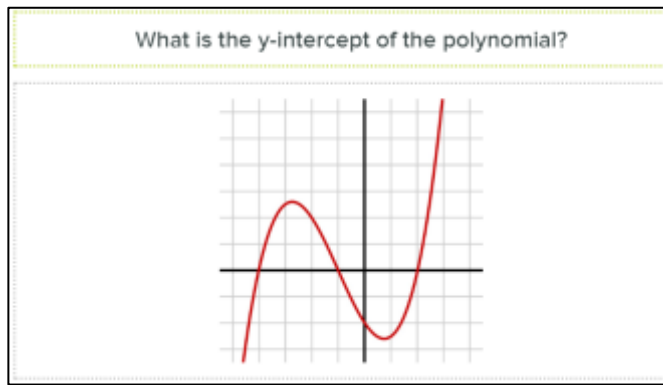
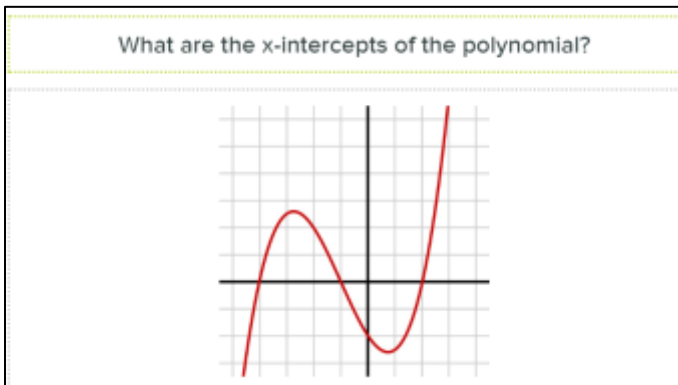


What is the degree of the polynomial?

X	Y <sub>1</sub>
-6	-22
-5	-10
-4	0
-3	8
-2	14
-1	18
0	20
1	20
2	18
3	14
4	8

With these questions, students would have to type in the number for the degree. Students would be asked a follow-up question of how they determined the degree.

## Intercepts



Students will first highlight the x and y-intercepts. They can do this by drawing a point or circling the respective diagram. A follow-up question will be for students to state both the x and y-intercepts as ordered pairs.

## Increasing/Decreasing Interval:

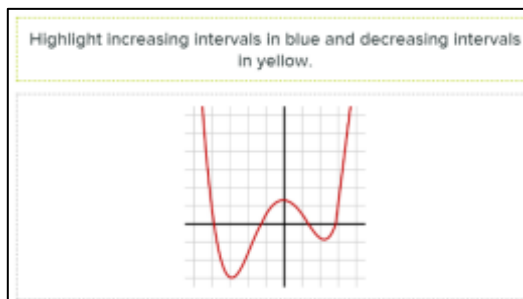
Students will first highlight the  $x$  and  $y$ -intercepts. They can do this by drawing a point or circling the respective diagram. A follow-up question will be for students to state both the  $x$  and  $y$ -intercepts as ordered pairs.

What are the  $x$ -intercepts of the polynomial?

X	Y <sub>1</sub>
-3	-8
-2	0
-1	6
0	10
1	12
2	12
3	10
4	6
5	0
6	-8
7	-18

What is the  $y$ -intercept of the polynomial?

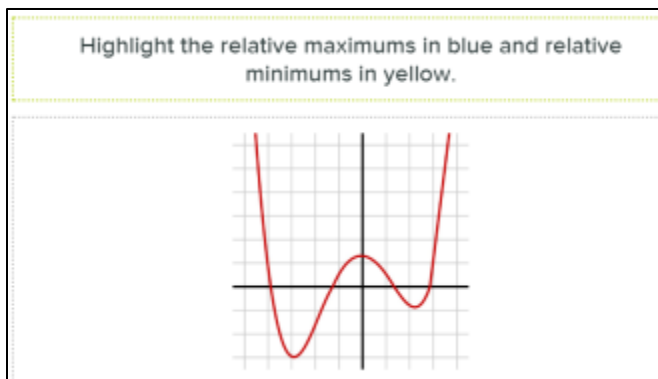
X	Y <sub>1</sub>
-3	-8
-2	0
-1	6
0	10
1	12
2	12
3	10
4	6
5	0
6	-8
7	-18



Highlight increasing intervals in blue and decreasing intervals in yellow.

X	Y <sub>1</sub>
-3	-8
-2	0
-1	6
0	10
1	12
2	12
3	10
4	6
5	0
6	-8
7	-18

**Relative Maximum/Minimum:**



Highlight the relative maximums in blue and relative minimums in yellow.

X	Y <sub>1</sub>
-3	-8
-2	0
-1	6
0	10
1	12
2	12
3	10
4	6
5	0
6	-8
7	-18

Students will first highlight the maximums and minimums.

Students will then be asked a follow-up question of what these maximum and minimums are.

**End Behavior:**

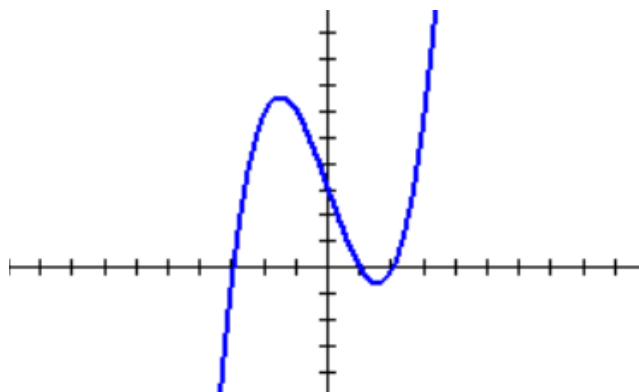
Students will determine the left and right end behavior for each function in multiple choice format.

**Practice with Attributes of Polynomial Functions**

Name \_\_\_\_\_

**\*\* Complete questions 1 and 2 with a partner. Complete questions 3 and 4 individually.**

1)



Degree: \_\_\_\_\_ (give the word!)

X-intercepts: \_\_\_\_\_

Y-intercept: \_\_\_\_\_

Increasing Interval: \_\_\_\_\_

Decreasing Interval: \_\_\_\_\_

Relative Maximums: \_\_\_\_\_

Relative Minimums: \_\_\_\_\_

Left End Behavior: \_\_\_\_\_

Right End Behavior: \_\_\_\_\_

Domain: \_\_\_\_\_ Range: \_\_\_\_\_

2)

X	Y <sub>1</sub>
-5	-192
-4	-105
-3	-48
-2	-15
-1	0
0	3
1	0
2	-3
3	0
4	15
5	48

Degree: \_\_\_\_\_

X-intercepts: \_\_\_\_\_

Y-intercept: \_\_\_\_\_

Increasing Interval: \_\_\_\_\_

Decreasing Interval: \_\_\_\_\_

Relative Maximums: \_\_\_\_\_

Relative Minimums: \_\_\_\_\_

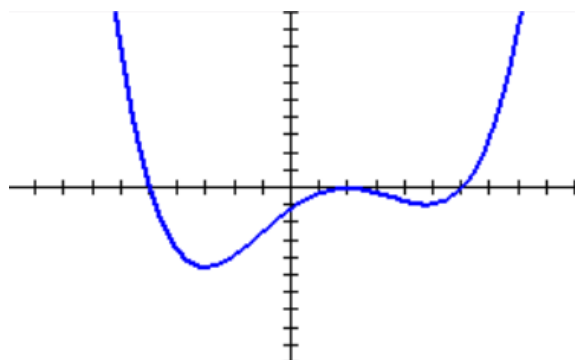
Left End Behavior: \_\_\_\_\_

Right End Behavior: \_\_\_\_\_

Domain: \_\_\_\_\_ Range: \_\_\_\_\_



3)



Degree: \_\_\_\_\_

X-intercepts: \_\_\_\_\_

Y-intercept: \_\_\_\_\_

Increasing Interval: \_\_\_\_\_

Decreasing Interval: \_\_\_\_\_

Relative Maximums: \_\_\_\_\_

Relative Minimums: \_\_\_\_\_

Left End Behavior: \_\_\_\_\_

Right End Behavior: \_\_\_\_\_

Domain: \_\_\_\_\_ Range: \_\_\_\_\_

4)

X	Y <sub>1</sub>
-6	-14
-5	-6
-4	0
-3	4
-2	6
-1	6
0	4
1	0
2	-6
3	-14
4	-24

Degree: \_\_\_\_\_

X-intercepts: \_\_\_\_\_

Y-intercept: \_\_\_\_\_

Increasing Interval: \_\_\_\_\_

Decreasing Interval: \_\_\_\_\_

Relative Maximums: \_\_\_\_\_

Relative Minimums: \_\_\_\_\_

Left End Behavior: \_\_\_\_\_

Right End Behavior: \_\_\_\_\_

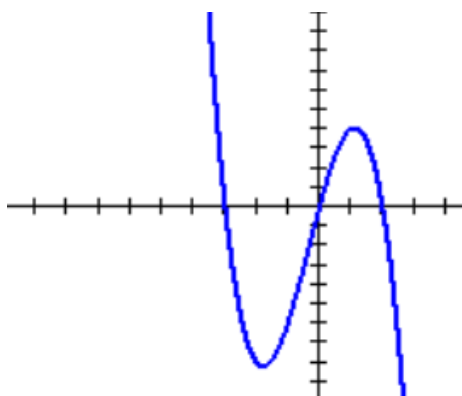
Domain: \_\_\_\_\_ Range: \_\_\_\_\_

Compare and Contrast Writing  
Polynomial Attributes

Name \_\_\_\_\_

**\*\* Complete the attributes for each function. Then, complete the paragraph.**

**Graph A**



Degree: \_\_\_\_\_  
 X-intercepts: \_\_\_\_\_  
 Y-intercept: \_\_\_\_\_  
 Increasing Interval: \_\_\_\_\_  
 Decreasing Interval: \_\_\_\_\_  
 Relative Maximums: \_\_\_\_\_  
 Relative Minimums: \_\_\_\_\_  
 Left End Behavior: \_\_\_\_\_  
 Right End Behavior: \_\_\_\_\_  
 Domain: \_\_\_\_\_ Range: \_\_\_\_\_

**Table A**

X	Y1
-6	-144
-5	-70
-4	-24
-3	0
-2	8
-1	6
0	0
1	-4
2	0
3	18
4	56

Degree: \_\_\_\_\_  
 X-intercepts: \_\_\_\_\_  
 Y-intercept: \_\_\_\_\_  
 Increasing Interval: \_\_\_\_\_  
 Decreasing Interval: \_\_\_\_\_  
 Relative Maximums: \_\_\_\_\_  
 Relative Minimums: \_\_\_\_\_  
 Left End Behavior: \_\_\_\_\_  
 Right End Behavior: \_\_\_\_\_  
 Domain: \_\_\_\_\_ Range: \_\_\_\_\_

\_\_\_\_\_ and \_\_\_\_\_  
\_\_\_\_\_ are similar in a couple ways.  
They are both alike in that they \_\_\_\_\_  
\_\_\_\_\_. Another similarity is \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

However, there are also some differences between  
\_\_\_\_\_ and \_\_\_\_\_.  
Graph A has \_\_\_\_\_  
\_\_\_\_\_.

On the other hand, Table B has \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_. Unlike Graph A, Table A \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

## *Similarity, Right Triangles, and Trigonometry*

*Standard: HSG.SRT.B.5 Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.*

*Theme: Similarity, Right Triangles, and Trigonometry*

*Lesson Topic: Similar Polygons*

*Objectives:*

*Language*

*Students will define "similar" visually and in writing.*

*Students will compare and contrast "similar" and "congruent" in writing.*

*Content*

*Students will identify similar polygons.*

*Students will solve for missing measures in similar polygons.*

*Learning Strategies: Links to past learning, Modeling, Guided practice, Independent practice, Comprehensible input, Partners*

*Key Vocabulary:*

*Content*

*Similar*

*Congruent*

*Scale Factor*

*Ratio*

*Proportional*

*Functional*

*Corresponding*

*Compare*

*Contrast*

*Order*

*Materials: 4-Corners Vocabulary Chart, Similar/Congruent Comparison Worksheet, Similarity Examples Chart, Similar Polygons Worksheet*

*Preparation: Post lesson objectives on board. Run off copies for materials.*

*Students need a writing utensil*

*Motivation:*

*Read and explain the content and language objectives of this lesson to the students. "Let's look at our language objectives for today. Students will (read language objectives above). Now let's look at our content objectives for today. Students will (read content objectives above).*

***Warm-up/Building Background (10 minutes):***

- *Tell students to complete the first side of the 4-Corners Vocabulary Chart. They will define similar, use it in a sentence, and draw an example to demonstrate the word. Explain to them to just define and use similar in their own words with how they have heard it used.*
- *Pair students to share their definitions and examples with another student.*
- *Ask three to four students to share their definitions and/or examples with the class.*
- *Tell students that we are going to learn about the mathematical definition of "similar" today and how that is related to "congruent."*
- *Explain that sometimes mathematical definitions are different than other definitions, such as in a table and a mathematical table. Then, say that similar is used in the same way in math as it is used in other contexts, but it has a more precise meaning.*

*Presentation:*

- *Fill out the back side of the 4-Corners Vocabulary Chart with students. Define similar as "polygons with congruent angles and proportional sides." Use the sentence "The two triangles were similar to each other because all of the sides on one triangle are twice as long as the sides on the other*

triangle." Draw a picture that has two triangles with one triangle's sides twice as long as the other triangle.

- Hand out *Similarity Examples Chart*. Model the first example on the first page for students. Emphasize the vocabulary of similarity statement, scale factor, proportional sides, and congruent angles. Especially emphasize the importance of order for scale factor. Then, show students how to solve for the missing variables in the problem.
- Instruct students to try to fill in the missing components for the second problem. After five minutes, tell students to check their answers with a partner. As students are checking their answers, write the answers on a sheet so that students can double check their answers.

#### *Practice/Application:*

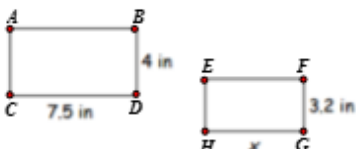
- Hand out *Similar/Congruent Comparison Worksheet* to students. Discuss the first six examples with students in how to decide if polygons are congruent or similar.
- Instruct students to complete the Venn Diagram using similarities and differences they see from the examples we discussed above. Tell students they should try to have two phrases in each part of the Venn Diagram. Make sure students know that they do not have to write in complete sentences here, as they will express their ideas in writing after doing this outline.

#### *Review/Assessment:*

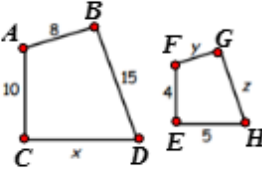
- Students write at least four sentences in a paragraph that compare/contrast similar and congruent polygons. State that students should use at least two phrases from the chart on the worksheet when constructing their paragraph.
- After students finish their writing prompt, hand out the *Similar Polygons Worksheet* to students. This will be their homework to complete for the following day.

Word:	Illustration of the Word:
<i>Similar</i>	
Word in a Sentence:	Definition of the Word:

### Similar Polygons

	Similarity Statement
	Scale Factor ( $ABCD \rightarrow EFHG$ )
	Scale Factor ( $EFHG \rightarrow ABCD$ )
Solve:	Proportional Sides:
	Congruent Angles:

### Similar Polygons

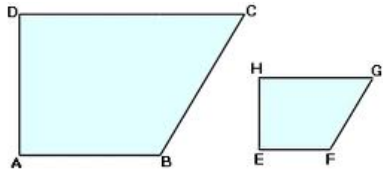
	Similarity Statement
	Scale Factor ( $ABCD \rightarrow FGEH$ )
	Scale Factor ( $FGEH \rightarrow ABCD$ )
Solve:	Proportional Sides:
	Congruent Angles:



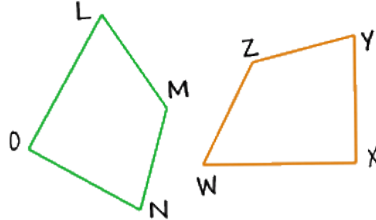
Similar/Congruent Comparison WS      Name \_\_\_\_\_

**\*\* Label each diagram as similar OR congruent.**

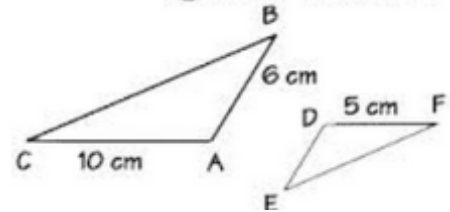
1) \_\_\_\_\_



2) \_\_\_\_\_



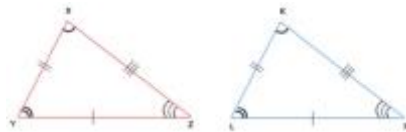
3) \_\_\_\_\_



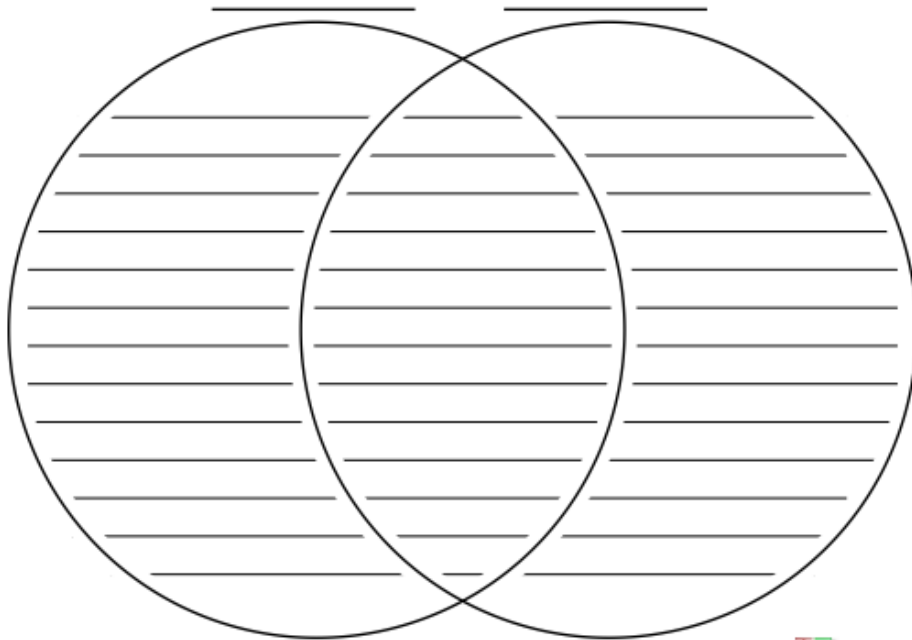
4) \_\_\_\_\_

5) \_\_\_\_\_

6) \_\_\_\_\_



**\*\* Compare and contrast similar and congruent similar figures using the Venn Diagram.**



\*\*

Using the

compare and contrast words below, write a paragraph that compares and contrasts congruent and similar figures. Use at least four sentences in your paragraph.

<i>Words that Compare</i>		<i>Words that Contrast</i>	
<i>Both</i>	<i>Both are</i>	<i>Although</i>	<i>However</i>
<i>Both have</i>	<i>Same</i>	<i>Different</i>	<i>Unlike</i>
<i>Like</i>	<i>Alike</i>	<i>Even though</i>	<i>Yet</i>
<i>Also</i>	<i>The same as</i>	<i>But</i>	<i>Instead</i>
<i>Similar</i>	<i>In the same way</i>	<i>On the other hand</i>	<i>Whereas</i>
<i>Similarly</i>	<i>As</i>	<i>While</i>	<i>Unless</i>
<i>Too</i>	<i>As well as</i>	<i>Differences between</i>	

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*Standard: 9-12.G.CO.13 Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle*

*Theme:* **Congruence**

*Lesson Topic: Geometric Constructions*

*Objectives:*

*Language*

*Students will define inscribed polygons.*

*Students will summarize in writing the steps for constructing inscribed polygons.*

*Content*

*Students will construct an inscribed equilateral triangle, square, and regular hexagon.*

*Teaching Strategies:*

- 1) Cloze Reading: Students will complete a Cloze Reading Activity based on the key vocabulary of construction, equilateral triangle, square, regular hexagon, inscribe, and circle.*

- 2) *Multimedia: Students will watch videos on each of the constructions: equilateral triangle, square, and regular hexagon.*
- 3) *Graphic Organizers: Students will complete a step-by-step for each construction using a template.*

#### *Description of the Lesson:*

*First, students will complete the Cloze Reading Activity. Second, the students will watch the construction videos while writing the step-by-step outline. After each video, we will do a think-pair-share to ensure that students have recorded accurate steps.*

#### *Formative Assessment:*

*Students will practice doing each of the constructions on blank paper with a compass and straightedge. The teacher will walk around to help students with the compasses and constructions.*

#### *Summative Assessment:*

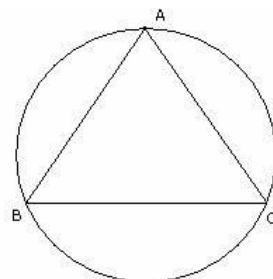
*Students will use PiktoChart to make a step-by-step diagram on how to complete one of the constructions. Students will use the template pictured to the side and insert images of each step. The images can be pictures from their own drawings or pictures found on the Internet. Under each image, students need to create a one sentence summary of the necessary components of each step.*

#### *Constructions Cloze Activity*

**\*\* Fill in the blanks with the words in the boxes.**

<i>construction</i>	<i>equilateral triangle</i>	<i>square</i>
<i>regular hexagon</i>	<i>inscribed</i>	<i>circles</i>

A \_\_\_\_\_ is a drawing that uses a compass and straightedge. Several shapes can be constructed inside of a \_\_\_\_\_. When inside a circle, these shapes are called \_\_\_\_\_. One polygon that can be draw inside a circle is a \_\_\_\_\_, which has three equal sides. Another polygon that can be inscribed is a \_\_\_\_\_, which has four equal sides. A final polygon that can be constructed inside a circle is a \_\_\_\_\_, which has six equal sides.



Name \_\_\_\_\_ Date \_\_\_\_\_

### Step-by-Step Chart

Write each step in order. Add details.

Materials _____	
Steps	Details
Step 1:	
Step 2:	
Step 3:	
Step 4:	
Step 5:	

**Standard: 9-12.G.SRT.1**

*Verify experimentally the properties of dilations given by a center and a scale factor.*

- a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged.*
- b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor.*

*Theme: Similarity, Right Triangles, and Trigonometry*

*Lesson Topic: Dilations*

*Objectives:*

*Language*

*Students will be able to define dilation and explain the properties of dilations in writing.*

*Content*

*Students will be able to verify the properties of dilations.*

*Teaching Strategies:*

- 1) Building Background: Prior to learning new information, students will review how to determine the slopes and distances of points on the coordinate plane.*
- 2) Jigsaw Groups: Students will verify the properties of dilations in an expert group and share their results in a home group.*
- 3) Sentence Frames: Students will use sentence frames to explain the properties they have verified through experiments.*
- 4) Graphic Organizer: Students will complete a graphic organizer identifying key information about dilations.*

*Description of the Lesson:*

*First, students will complete the Building Background: Figures in the Coordinate Plane worksheet. Students will initially work individually and then discuss answers with a partner. Students have repeatedly done activities with finding the slope and distance throughout the geometry course at this point.*

Second, discuss the word and notation of dilations. Students will then be separated into their "home group." After meeting with the home group, students will meet with their expert group, which will be four different groups. Two groups will verify the parallel property (one with an enlargement and the other with a reduction) and two groups will verify the distance property (one with an enlargement and the other with a reduction). Students will then discuss their findings in their home group and complete the following sentence frame:

"Dilations have

\_\_\_\_\_. Because the slopes of corresponding sides are equal, this means \_\_\_\_\_ . You can prove the slopes are equal by \_\_\_\_\_ .

Another property of dilations is that the ratio of the lengths of corresponding sides is equal to the \_\_\_\_\_. You can prove this property by \_\_\_\_\_

\_\_\_\_\_."

**Formative Assessment:**

For a formative assessment, students will use the following graphic organizer and fill it out using the word dilation:

Word _____	Picture
Synonym _____	
Antonym _____	
In my own words: _____	
Sentence _____	



*Summative Assessment:*

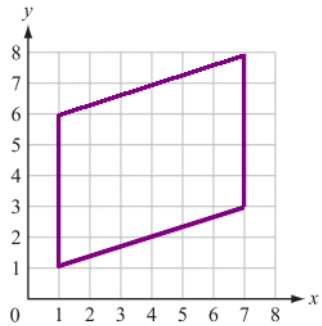
*Students will complete the Summative Assessment Dilations to show their understanding of performing dilations and verifying the properties. Students have to both graph the dilation and verify the properties*

**Building Background: Figures in the Coordinate Plane**

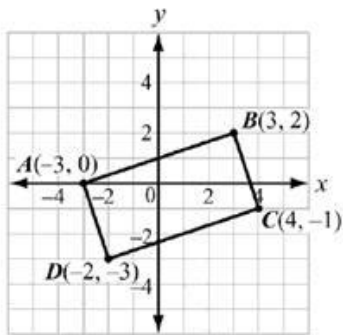
Name \_\_\_\_\_

**\*\* Determine if the following lines are parallel. Use the slopes to determine this information. Then, find the distance of the sides of each polygon.**

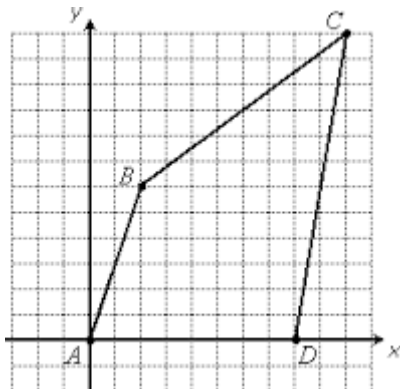
1)



2)

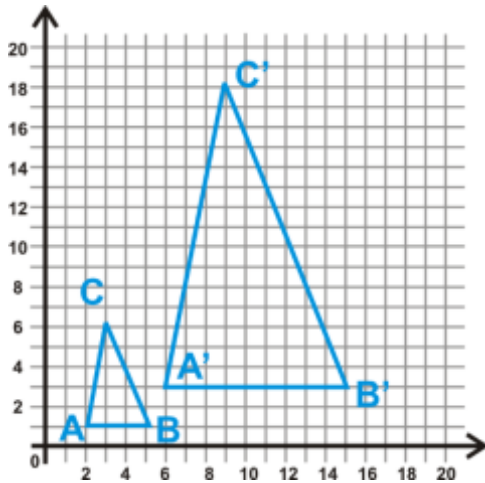


3)



Expert Group 1

Dilation: Enlargement with a Scale Factor of 3



1) Find the slope of  $AB$ : \_\_\_\_\_  
Find the slope of  $A'B'$ : \_\_\_\_\_

2) Find the slope of  $BC$ : \_\_\_\_\_  
Find the slope of  $B'C'$ : \_\_\_\_\_

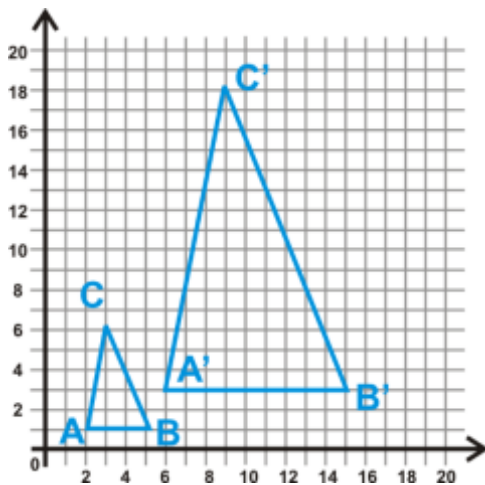
3) Find the slope of  $AC$ : \_\_\_\_\_  
Find the slope of  $A'C'$ : \_\_\_\_\_

4) From the information, what can you say about the slopes of corresponding sides in a dilation? \_\_\_\_\_

5) Do you think this is true for all dilations or just for this example? Explain.

## Expert Group 2

Dilation: Enlargement with a Scale Factor of 3



1) Find the distance of  $AB$ : \_\_\_\_\_

Find the distance of  $A'B'$ : \_\_\_\_\_

Ratio of Sides: \_\_\_\_\_

2) Find the distance of  $BC$ : \_\_\_\_\_

Find the distance of  $B'C'$ : \_\_\_\_\_

Ratio of Sides: \_\_\_\_\_

3) Find the distance of  $AC$ : \_\_\_\_\_

Find the distance of  $A'C'$ : \_\_\_\_\_

Ratio of Sides: \_\_\_\_\_

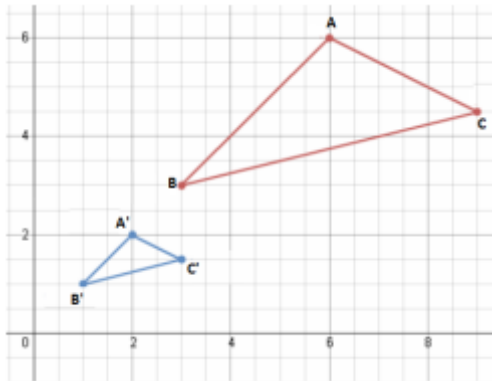
4) From the information, what do you notice about the ratio of sides?

\_\_\_\_\_

5) How does this relate to the scale factor?

*Expert Group 3*

*Dilation: Enlargement with a Scale Factor of  $\frac{1}{3}$*



1) Find the slope of  $AB$ : \_\_\_\_\_  
Find the slope of  $A'B'$ : \_\_\_\_\_

2) Find the slope of  $BC$ : \_\_\_\_\_  
Find the slope of  $B'C'$ : \_\_\_\_\_

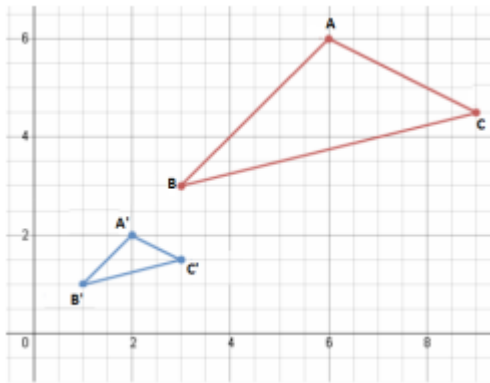
3) Find the slope of  $AC$ : \_\_\_\_\_  
Find the slope of  $A'C'$ : \_\_\_\_\_

4) From the information, what can you say about the slopes of corresponding sides in a dilation? \_\_\_\_\_

5) Do you think this is true for all dilations or just for this example? Explain.

*Expert Group 4*

*Dilation: Enlargement with a Scale Factor of  $\frac{1}{3}$*



1) Find the distance of  $AB$ : \_\_\_\_\_

Find the distance of  $A'B'$ : \_\_\_\_\_

Ratio of Sides: \_\_\_\_\_

2) Find the distance of  $BC$ : \_\_\_\_\_

Find the distance of  $B'C'$ : \_\_\_\_\_

Ratio of Sides: \_\_\_\_\_

3) Find the distance of  $AC$ : \_\_\_\_\_

Find the distance of  $A'C'$ : \_\_\_\_\_

Ratio of Sides: \_\_\_\_\_

4) From the information, what do you notice about the ratio of sides?

\_\_\_\_\_

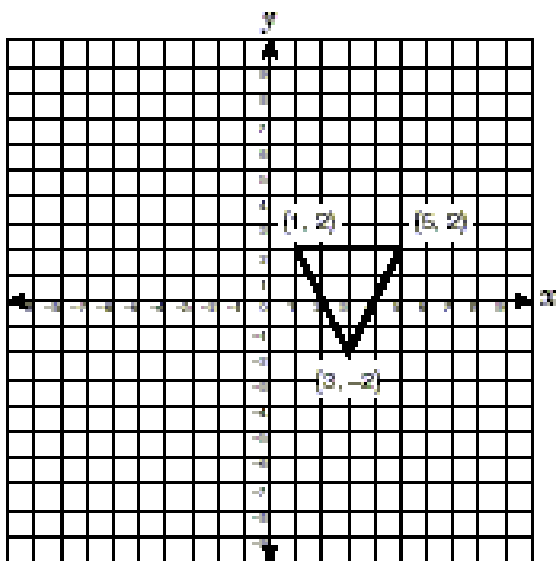
5) How does this relate to the scale factor?

Summative Assessment: Dilations

Name \_\_\_\_\_

**\*\* Graph the dilation and verify the properties.**

**$D_2(ABC)$**

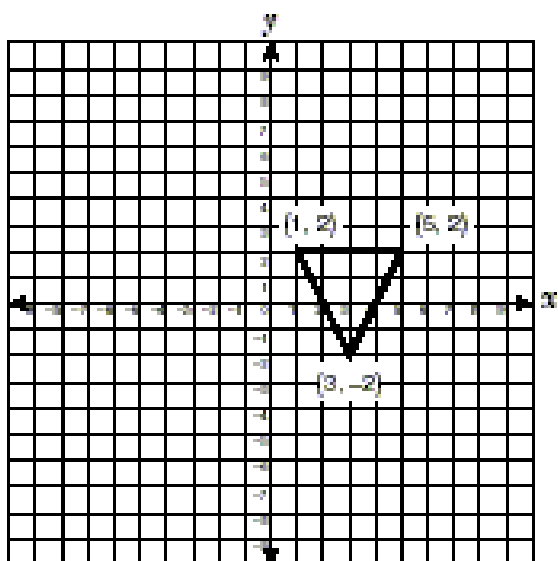


**Show that corresponding sides are parallel.**

**Show that corresponding sides are proportional to the scale factor.**

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**$D_{1/2}(ABC)$**



*Show that corresponding sides are parallel.*

*Show that corresponding sides are proportional to the scale factor.*



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## *Planning Guide for Sheltered Instruction*

**Theme/Topic:** *Quadratics*

**Grade:** *Algebra 1 (9<sup>th</sup> grade)*

**Student Traits:** *English Language Learners ACCESS levels 1-4*

**Standards:** *CCSS HS.F-IF.4\* For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*

*HS.F-IF.7\* Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*

### **Objectives:**

**Content**      *\*We can identify key features of quadratic equations and graphs*

*\*We can graph quadratic equations*

*\*We can solve quadratic equations*

**Language**      *\*We can use quadratics vocabulary*

*\*We can summarize our learning*

*\*We can use a graphic organizer to take notes*

**Pre-assessment:** *The quadratic unit builds off of student knowledge of linear functions. They have solved, graphed, and identified key features of linear equations. (The vocabulary, processes, and key features present are quite different when working with quadratics compared to linear, but the idea of “solve” and “graph” and “identify key features” should be familiar.) The teacher should be familiar with each student’s ability to work with linear functions and use this information to build quadratic knowledge (see explanation A).*

**Grouping** *(various depending on activity)*

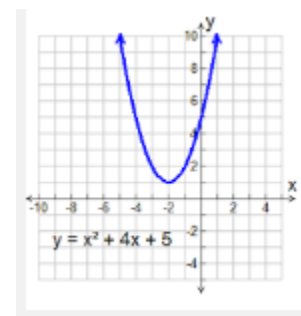
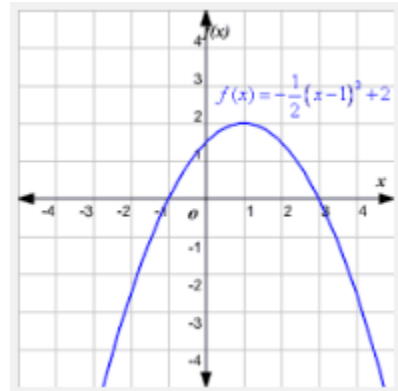
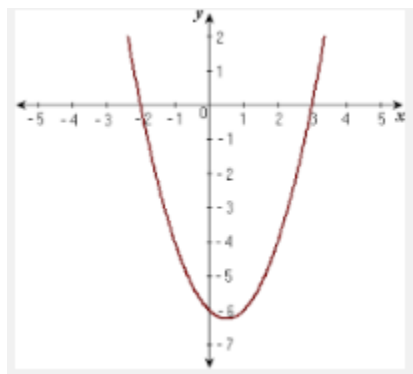
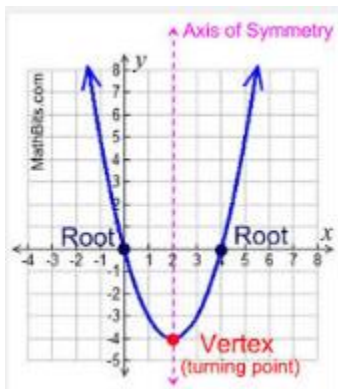
**Instructional sequence** *(with supports)—DAY ONE*

1. *Students will read the algebra 1 text—pages 546 to 549 “Quadratic Graphs and Their Properties”. To preview this text, give students the content vocabulary word bank with non-linguistic representations (see explanation B). After students have read the text, use teacher read aloud (see explanation C) for a few of the most important paragraphs or paragraphs that need highlighting or vocabulary clarification. Fill out graphic organizer for notes (see explanation D) after reading—students should include definitions or pictures. (features to include in the organizer: vertex, opens up or down, axis of symmetry, maximum/minimum; there should be one oval left to fill in tomorrow when discussing solutions)*
2. *Show students how to graph quadratics with an x-y table.*
3. *To end the lesson have students summarize learning. Use this prompt: How do you graph a quadratic equation using an x-y table? (see explanation E)*

**Post-Assessment:** *Vocabulary Worksheet and graphing problems from the book as homework*

(break in lesson plan—DAY TWO would involve more vocabulary practice and the use of  $-b/2a$  (with the  $x$ - $y$  tables) to graph quadratics)

**Instructional sequence (with supports)—DAY THREE**



1. Discuss with the class the concept of solutions of a quadratics (see explanation F). Have students take notes (see explanation G).
2. Give students the 'ways to solve quadratics' graphic organizer. Students should use this as a preview of the next couple of days. As we discuss different ways to solve (in the next week or so) they can refer back to this organizer (and perhaps add details).
3. Practice finding solutions of quadratic equations by graphing.
4. Practice finding solutions of quadratic equations by taking square roots.
5. As an exit ticket: "What ways will we be learning to solve quadratic equations? What ways did we learn today?" (see explanation H)

**Explanations:**

- A. *Build off of previous knowledge when possible. You may have to explicitly link one concept to another.*
- B. *Providing students with a few pictures of key vocabulary is a way to support a reading assignment. This strategy could also be used before a lecture of new material.*
- C. *Some students will be able to understand more text when read out loud. Hearing the text allows them to understand more than their current reading level. It also allows the teacher to model how to think through reading a content text book or to stop to check for understanding and define vocabulary when needed.*
- D. *Graphic organizers provide a structure for students to take notes.*
- E. *Writing about the process of graphing quadratics will allow some students to process the learning. Supports may be needed to allow students to focus on the content of the writing vs. the writing itself. Some possible scaffolds for the writing summary activity are native language support if available, sentence frames, or providing a word bank. The level of support will depend on the language level of the student or the time of year as students should need less support as the year progresses.*
- F. *Use visuals. Show the meaning of a solution of a quadratic—don't just tell. Having pictures of quadratics up around the room will support many of the activities, practice, and notes that you do in the chapter. In this case, use the pictures of parabolas to show the meaning of solution.*

G. *I do not have the template for these notes included, but it may be helpful to provide a template for students to use in taking notes—perhaps another graphic organizer. Be sure to include in the notes all of the different names that books or worksheets or other math teachers may use to refer to solutions of a quadratic. Others using alternate names would be a source of confusion for the student in the future.*

H. *Writing about the ways to solve quadratics will allow some students to process the learning of the day. Some students will require scaffolds of the writing. Some possible scaffolds: allow students to use the graphic organizer while writing, provide native language support if possible, provide a word bank, or provide sentence frames. Scaffolds will differ depending on the language level of the student and the time of year.*

➤ *Example of a beginning of the year/low level language writing scaffold for this prompt:*

*There are several ways to solve quadratic equations. The ways are*

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*Today we learned two of the ways. Those two ways are* \_\_\_\_\_.

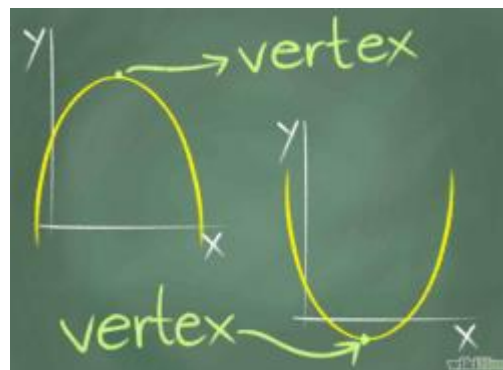
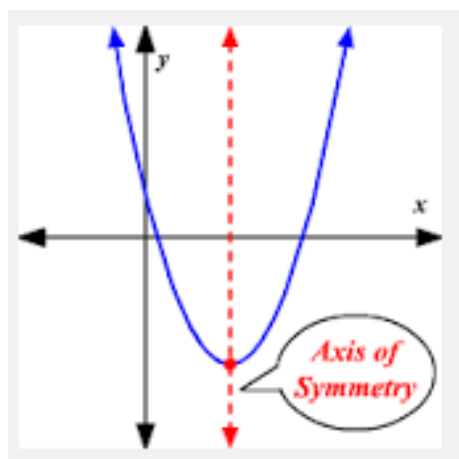
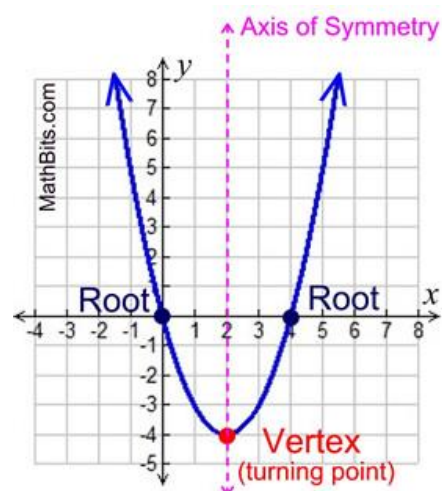
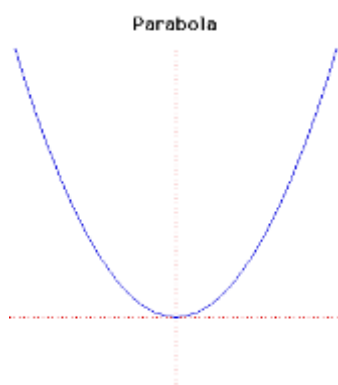
➤ *Later in the year (or higher language level) might use this:*

*Topic sentence:*

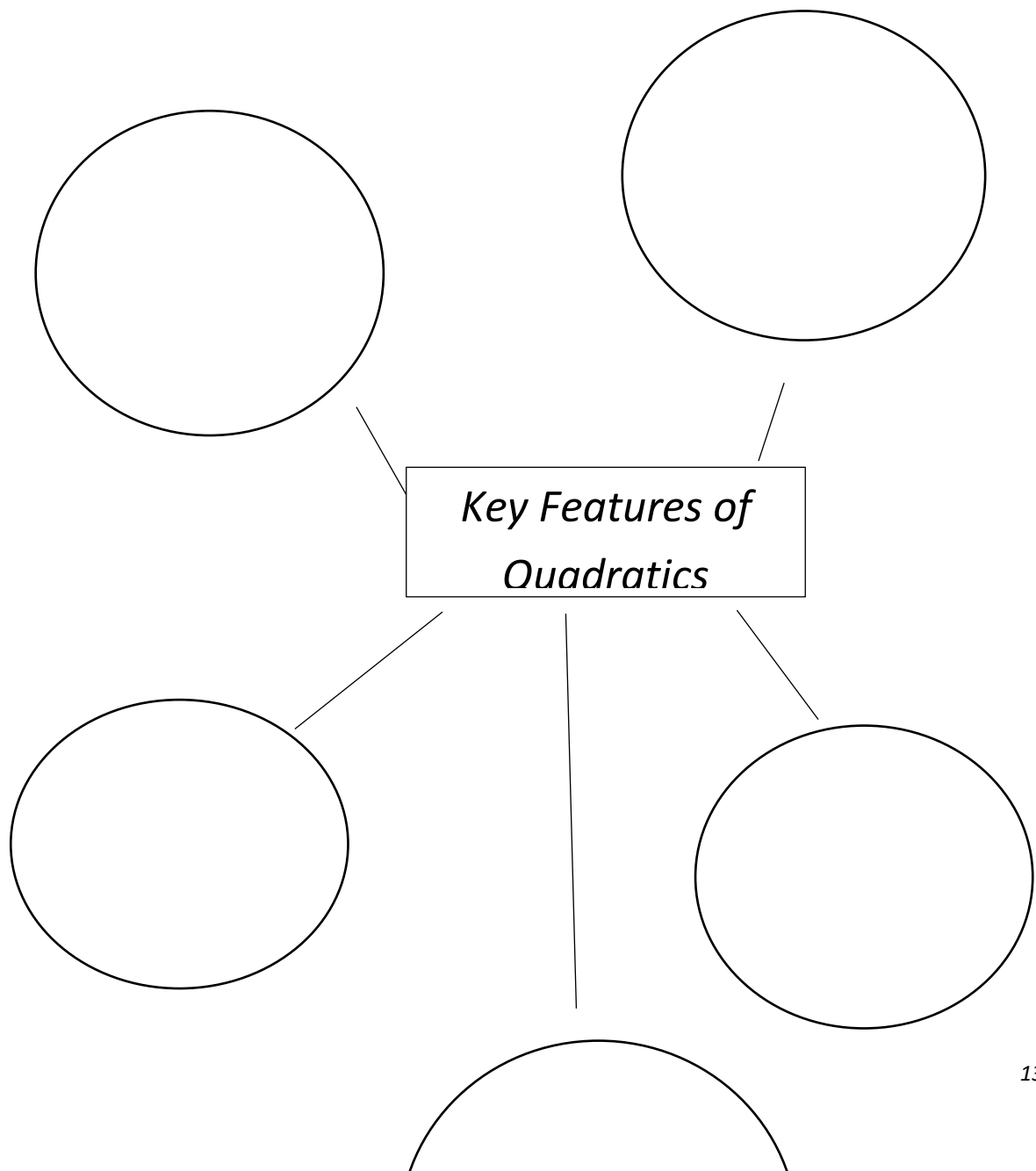
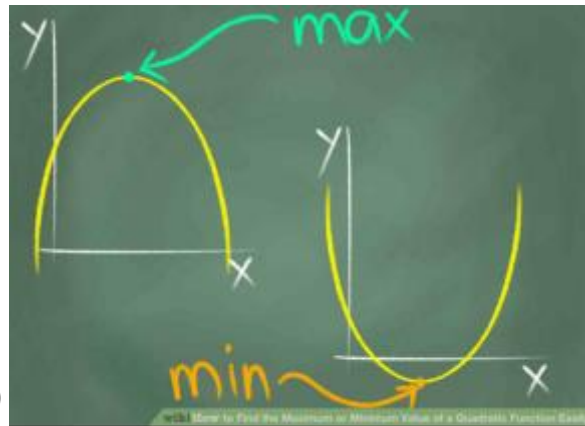
*List the ways (in a complete sentence):*

Talk about the two ways we learned today:

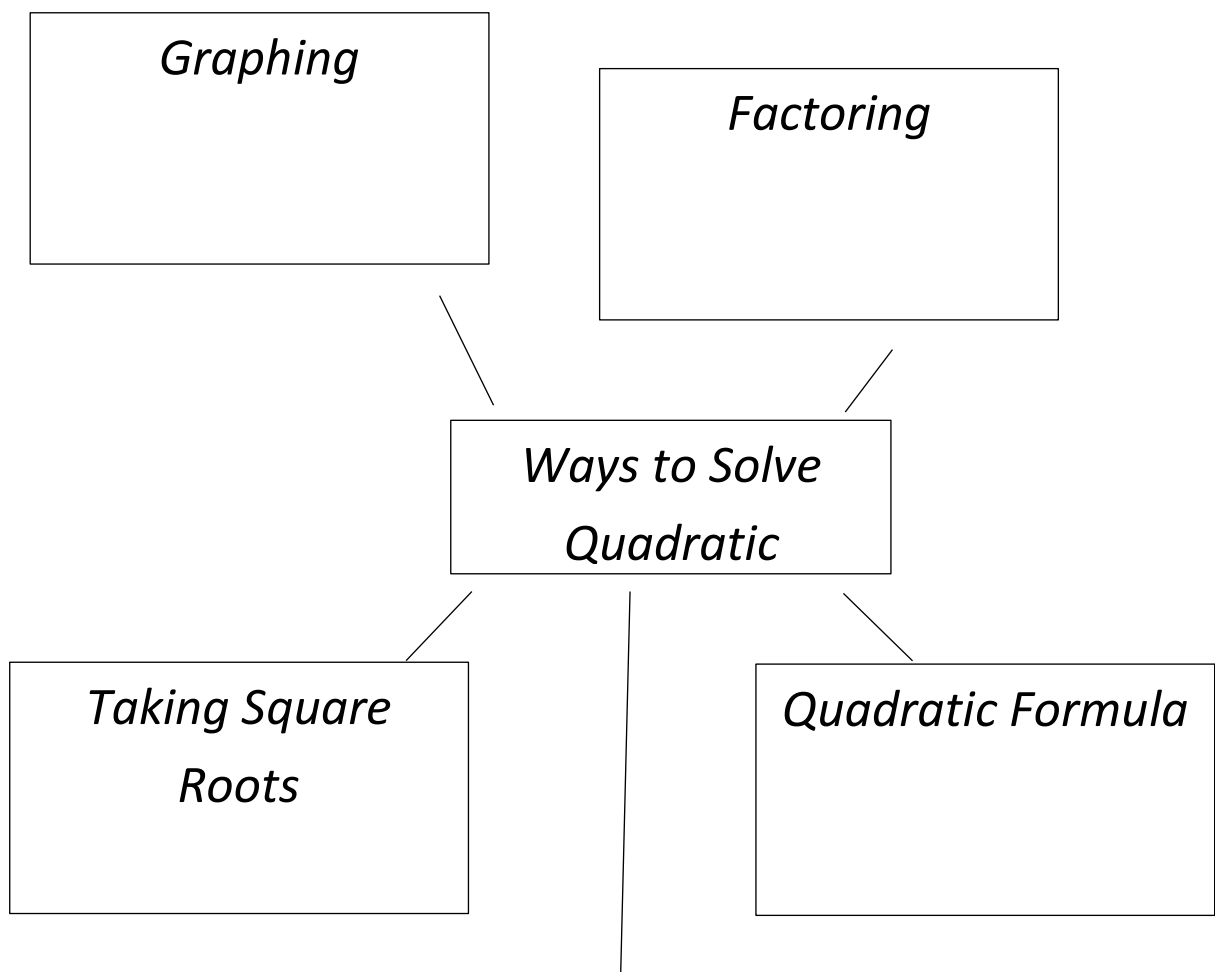
### Content Vocabulary Word Bank (Quadratics)



## Quadratic Key Features (Notes)



## *Ways to Solve Quadratic Equations*





**Topic/Title:** **Geometry—Quadrilaterals**

*HS.G-CO.11 Prove theorems about parallelograms. Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.*

**Plan**

a. **Standard:** *Classify two-dimensional figures into categories based on their properties.*

b. **Objective(s):**

*\*\*We can classify quadrilaterals.*

*\*\*We can list the attributes of quadrilaterals.*

c. **Assessment:** *Students will demonstrate both objectives on the homework worksheet. They will also be assessed on a test (in the near future).*

d. **Materials:**

*Envelope for each group that contains 12-20 different quadrilaterals*

*Copy of concept map for each student*

*Copy of notes graphic organizer for each student*

*Copy of worksheet for each student—labeling quadrilaterals and listing attributes*

e. **Previous Skills:** *Students already know the attributes of a polygon. They have previously classified polygons (as triangles, quadrilaterals, pentagons, etc.). Students know that a quadrilateral has 4 sides. They know the definition of congruent. They know how to mark figures congruent and parallel and perpendicular. Some of them might know the words square and rectangle but might not know the actual attributes of the shapes—they might just know the shape. Others might know the attributes in their native language but not the English vocabulary.*

**Implement (Teaching Process)**

a. **Vocabulary Pre-teaching:**

*Most of the vocabulary needed for discussing attributes of quadrilaterals will be familiar to students. The concept map will allow students to connect previously learned vocabulary to this new topic of quadrilateral classification. Complete the concept map of quadrilateral attributes (parallel, perpendicular, sides, opposite sides, congruent, angles, right angles). Students should add a picture in the box to aid remembering the vocabulary. While completing the concept map, have the students repeat the main attribute words to practice pronunciation when appropriate.*

*b. Launch:*

*Sorting activity—Pair students up. (This could be a source of differentiation. Students could be paired with another that could provide some native language support. Another idea: Some groups could get less shapes or more shapes depending on level.) Pass out an envelope of quadrilaterals to each group. Give the students a few minutes to examine and discuss the shapes. Before sorting, have a discussion with the class to prepare them for the sorting—like a pre-reading activity (but pre-sorting). Ask the class if they notice anything about all of the shapes. (They all have four sides.) Have one student pull out one of the shapes. As a class, discuss the shape. Guide the class into noticing the important attributes of the quadrilateral (parallel sides, right angles, congruent opposite sides, all congruent sides—depending on what shape it is). Do that with 3 or 4 of the shapes. Then, give the students some time to use this new awareness of attributes to sort the quadrilaterals.*

*c. Teach:*

*Notes—Students should use the graphic organizer to take notes about the different kinds of quadrilaterals—teacher led notes. Students may want to adjust their sorting groups as they learn more about the quadrilaterals through the notes. While taking notes, have the students repeat the five quadrilateral names to practice pronunciation.*

*Writing—Use the sorted quadrilaterals to write sentences. This part will need to be adjusted depending on student need and writing level. This is also an opportunity to work on a specific language structure (depending on need). The teacher should model the language structure to be produced.*

*Some possibilities: These polygons are \_\_\_\_\_.*

*This polygon is \_\_\_\_\_.*

*There are three \_\_\_\_\_.*

*There is one \_\_\_\_\_.*

*All rectangles have \_\_\_\_\_.*

*Some rectangles have \_\_\_\_\_.*

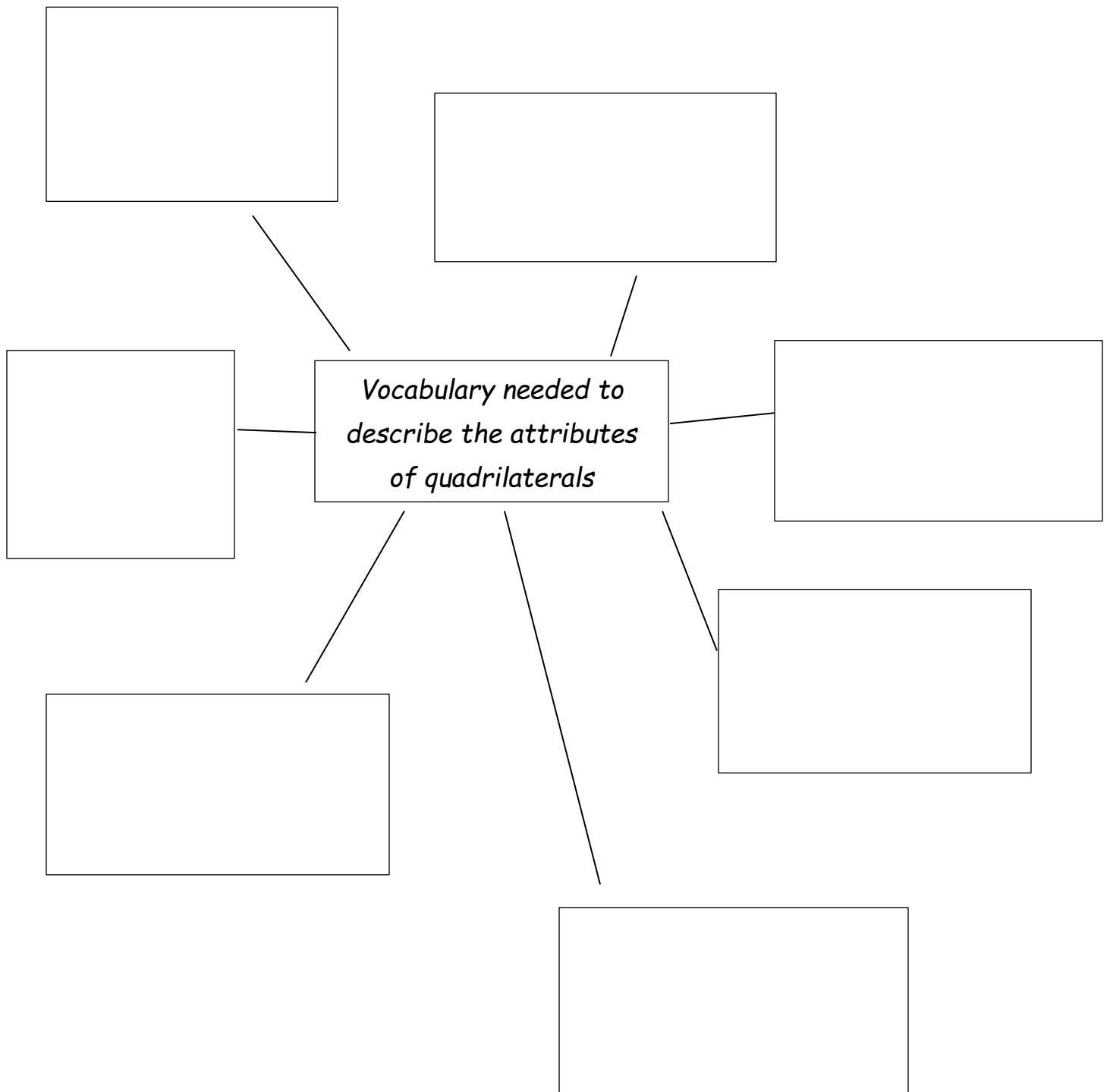
*Rectangles and squares both have \_\_\_\_\_.*

*A rectangle has \_\_\_\_\_ but a trapezoid has \_\_\_\_\_.*

*d. Summarize:*

*Review the five types of quadrilaterals. Have a few students share a sentence that they wrote.*

*Give students the labeling worksheet as homework. (As a source of differentiation, some students can use notes or a word bank for the worksheet.)*



*Notes—Quadrilaterals*

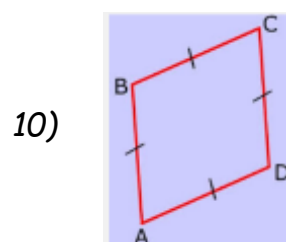
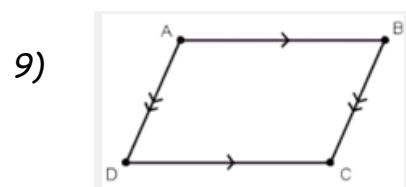
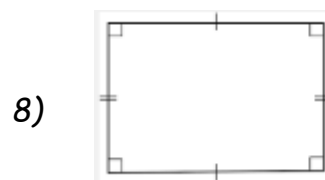
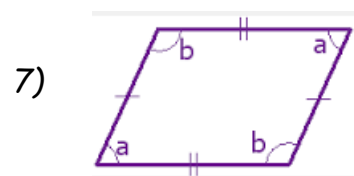
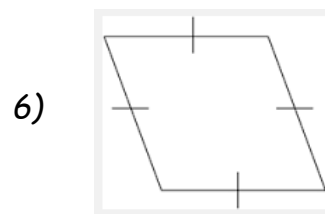
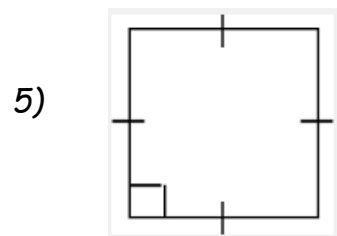
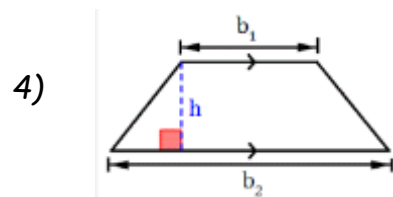
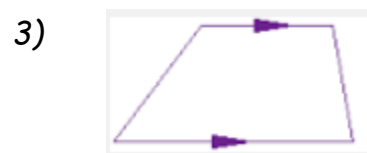
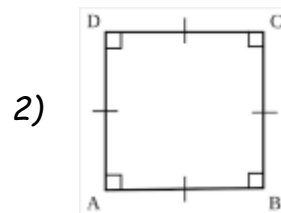
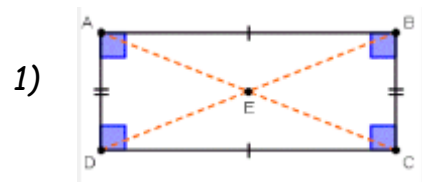
*Name* \_\_\_\_\_

<i>Quadrilateral Name</i>	<i>Attributes</i>	<i>Picture (with correct markings)</i>
<i>Parallelogram</i>		
<i>Rhombus</i>		
<i>Rectangle</i>		
<i>Square</i>		
<i>Trapezoid</i>		

# Quadrilaterals—homework worksheet

Name \_\_\_\_\_

**\*\*Label the quadrilaterals.**



***\*\*List the attributes of each quadrilateral.***

<i>Parallelogram</i>	<i>Square</i>	<i>Trapezoid</i>	<i>Rhombus</i>	<i>Rectangle</i>

## Geometry

**HS.G-GMD.3\* Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.**

*Students may need some background knowledge with 3-D shapes or practice with the vocabulary associated with 3-D shapes before jumping into finding the volume.*

### ***Integrated Language Activities:***

#### ***3D Nets***

*Students are given photocopies of 3D nets. They cut them out and assemble to make the corresponding solid shape. Students will then use the assembled solid to count the number of edges, faces, and vertices. Students will follow written directions (for reading practice) and write sentences (for writing practice).*

*Sentence frame for writing: A \_\_\_\_\_ has \_\_\_\_\_ faces, \_\_\_\_\_ edges, and \_\_\_\_\_ vertices.*

#### ***Labeling Activity***

*Students will label 3D shapes on a worksheet. Then, the class will discuss attributes of each 3D solid that contributes to the correct name.*



### Show a Shape Activity

*I will show the students a 3D shape (3D model—not just a picture). Students will write two sentences about each solid. The first sentence will follow the frame: The 3D solid is a \_\_\_\_\_. The second sentence can be anything about the solid. Some possible frames: The solid has \_\_\_\_\_. The base of the solid is \_\_\_\_\_.*

### Real 3D Shapes

*I will gather a variety of real life 3D solids. First, we will discuss the items—what shape it models, the bases, and the number of edges, faces, and vertices. Then we will write. Sentence frame: The \_\_\_\_\_ is a \_\_\_\_\_.*

### Models

*Students will be put in groups and given a variety of 3D shapes—some will be assembled nets made of paper, some will be real life objects, and some will be 3D shape manipulatives. I will give descriptions of varying length, vocabulary, and linguistic complexity. Students will work together to choose the appropriate shape.*

### I Have, Who Has?

*I found an already made 'I have, who has?' activity for geometric 3-D shapes. Here is the link:*  
<http://www.thevirtualvine.com/images/math/I%20Have%20Who%20Has%20Geometric%20Sha>

[pe%20Game.pdf](#). I consider this activity to belong mostly in the listening domain. However students are also reading and speaking. Students must listen as others ask for a specific 3-D shape. Whoever has the specified shape, takes a turn reading his/her clue.

**Reading Activity:** I have included the transformed reading standards on the activity. The questions are levels 1 to 4 depending on the sentence length, type of vocabulary, and linguistic complexity.

## Reading (3-D Shapes)

Name \_\_\_\_\_

L1: Match 3D shape name to real life example with general content words and short phrases or simple sentences

L2: Match 3D shape name to picture with general content words and sentences with details

L3: Match 3D shape name to picture with specific content language and extended sentences

L4: Match 3D shape name to picture with specific content language and connected discourse with more complex constructions

**\*\*Match the picture with the correct description. Write the letter on the line.**

a.



b.



c.



d.



e.



f.



g.



\_\_\_\_\_ 1. cone

\_\_\_\_\_ 2. pyramid

\_\_\_\_\_ 3. sphere—like a soccer ball

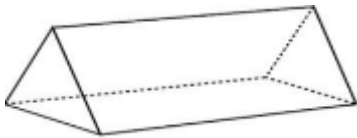
\_\_\_\_\_ 4. A box is a rectangular prism.

\_\_\_\_\_ 5. A pop can is a cylinder.

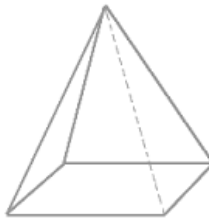
\_\_\_\_\_ 6. This candy bar is shaped like a triangular prism.

**\*\*Match the picture with the correct description. Write the letter on the line.**

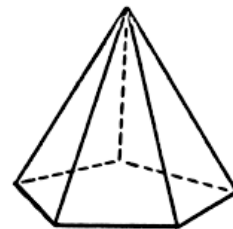
a.



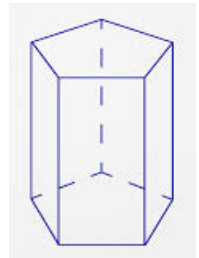
b.



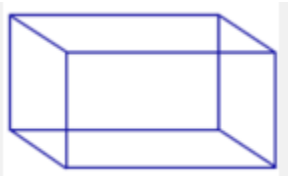
c.



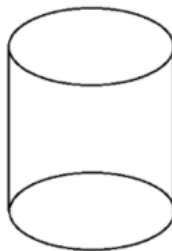
d.



e.



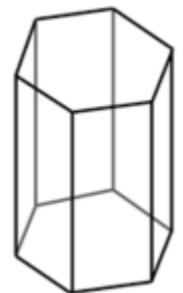
f.



g.



h.



- \_\_\_\_\_ 1. *This pyramid has a square base.*
- \_\_\_\_\_ 2. *This 3-D shape is a triangular prism with two triangular bases.*
- \_\_\_\_\_ 3. *A rectangular prism has two rectangular bases. Which solid is a rectangular prism?*
- \_\_\_\_\_ 4. *A prism has two polygon bases. If the two bases are hexagons with six sides, then it is a hexagonal prism. Which of these 3-D shapes is a hexagonal prism?*
- \_\_\_\_\_ 5. *Both a pentagonal prism and a pentagonal pyramid have bases with five sides. The pentagonal prism has two bases that are both pentagons. The pentagonal pyramid only has one base that is a pentagon. Which of these 3-D shapes is a pentagonal pyramid?*
- \_\_\_\_\_ 6. *All prisms have two polygon bases. Since there are many kinds of polygons, there are many kinds of possible polygon bases. The specific name of the prism depends on the shape of the base. A cylinder also has two bases, but the bases are not polygons. The bases of a cylinder are circles. Which of these 3D shapes has two bases that are not polygons because it is a cylinder?*
- \_\_\_\_\_ 7. *Polyhedron are 3D solids with polygon faces. Cylinders, cones, and spheres are not polyhedron. Which solid is not a polyhedron because it is a cone?*

## Listening Activity

The activity has 2 questions for each language level 1-4. The transformed WIDA standards are at the top of the page. (The standards show my rationale for levels.)

### Listening (3-D Shapes)

Name \_\_\_\_\_

L1: Match 3D shape name to real life example with general content words and short phrases or simple sentences

L2: Match 3D shape name to picture with general content words and sentences with details

L3: Match 3D shape name to picture with specific content language and extended sentences

L4: Match 3D shape name to picture with specific content language and connected discourse with more complex constructions

**\*\*Listen.** Circle the letter that matches what I say.

1.

a.



b.



c.



d.



2.

a.



b.



c.

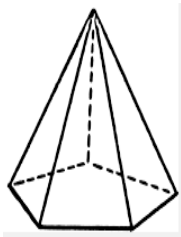


d.

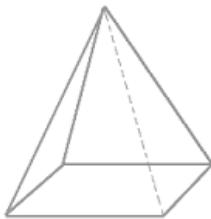


3.

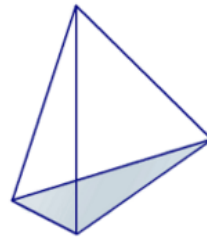
a.



b.



c.

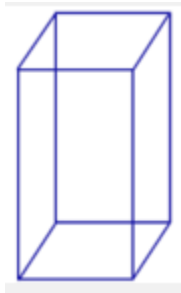


d.

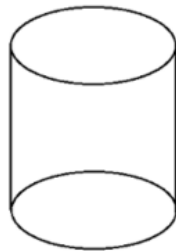


4.

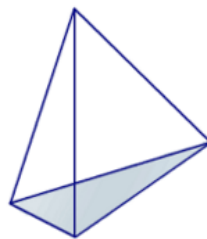
a.



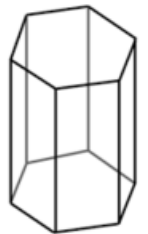
b.



c.

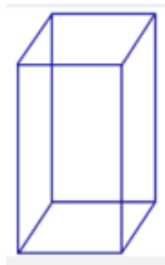


d.

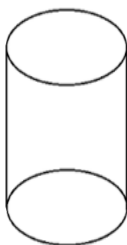


5.

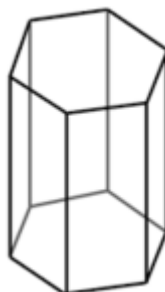
a.



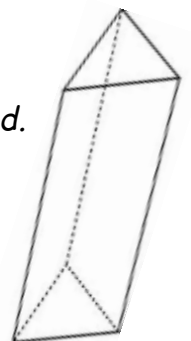
b.

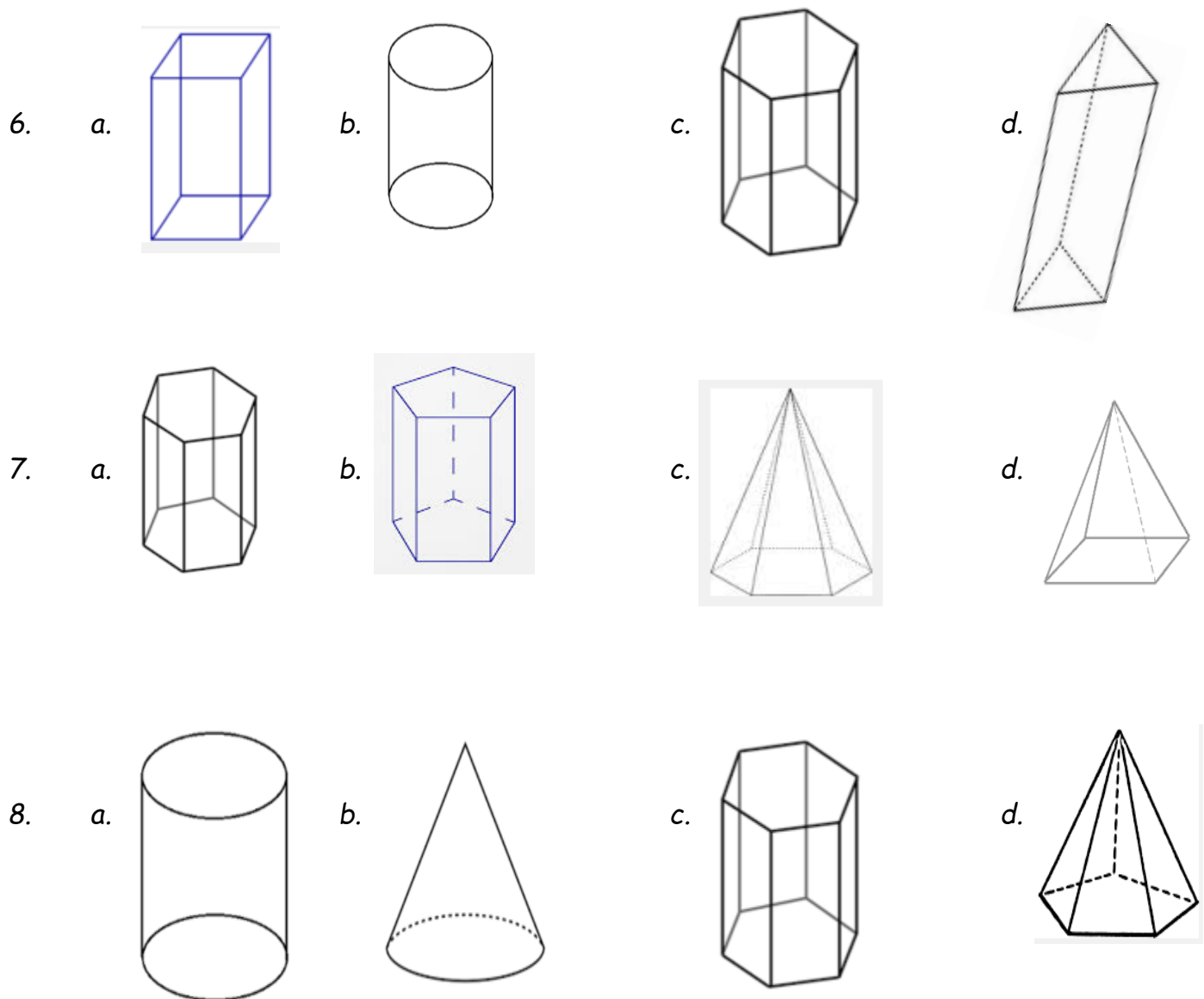


c.



d.





### Listening (3-D Shapes)

## TEACHER SCRIPT

*L1: Match 3D shape name to real life example with general content words and short phrases or simple sentences*

*L2: Match 3D shape name to picture with general content words and sentences with details*



*L3: Match 3D shape name to picture with specific content language and extended sentences*

*L4: Match 3D shape name to picture with specific content language and connected discourse with more complex constructions*

- 1. Circle the cone.*
- 2. A soccer ball is a sphere. Circle the sphere.*
- 3. All of the shapes are pyramids. Circle the pyramid that has a square base.*
- 4. A cylinder has circles for bases. Circle the cylinder.*
- 5. A prism has two polygon bases. If the two bases are hexagons with six sides, then it is a hexagonal prism. Which of these 3-D shapes is a hexagonal prism?*
- 6. A prism has two polygon bases. If the two bases are triangles, then it is a triangular prism. Which of these 3-D shapes is a triangular prism?*
- 7. Both a hexagonal prism and a hexagonal pyramid have bases with six sides. The hexagonal prism has two bases that are both hexagons. The hexagonal pyramid only has one base that is a hexagon. Which of these 3-D shapes is a hexagonal pyramid?*
- 8. All prisms have two polygon bases. Since there are many kinds of polygons, there are many kinds of possible polygon bases. The specific name of the prism depends on the shape of the base. A cylinder also has two bases, but the bases are not polygons. The bases of a cylinder are circles. Which of these 3D shapes has two bases that are not polygons because it is a cylinder?*

**Writing Activity:** *Students will move from station to station. Each station will have a 3D shape and questions to be answered for each shape. Students will have a paper to record answers.*

*Scaffolds included in this assignment: sentence frames, word bank, and repetitive answer forms.*

*All students will receive frames for the first question. (This solid is a \_\_\_\_\_.) Some students could receive frames for other questions depending on level. (A \_\_\_\_\_ has \_\_\_\_\_ faces.) Level 1s could receive a frame and an example.*

**3d Solids (Stations - Writing)**

Name \_\_\_\_\_

**\*\*Write all answers in complete sentences.**

<i>octagonal</i>	<i>sphere</i>	<i>cylinder</i>	<i>prism</i>
<i>pentagonal</i>	<i>pyramid</i>	<i>hexagonal</i>	<i>cone</i>
<i>triangular</i>	<i>square</i>	<i>rectangular</i>	<i>cube</i>

**Station A:** This solid is a \_\_\_\_\_.

What shapes make up this solid? \_\_\_\_\_

Is this solid a polyhedron? Why or why not? \_\_\_\_\_

\_\_\_\_\_

How many faces? \_\_\_\_\_

How many edges? \_\_\_\_\_

How many vertices? \_\_\_\_\_

**Station B:** This solid is a \_\_\_\_\_.

What shapes make up this solid? \_\_\_\_\_

Is this solid a polyhedron? Why or why not? \_\_\_\_\_

\_\_\_\_\_

How many faces? \_\_\_\_\_

How many edges? \_\_\_\_\_

How many vertices? \_\_\_\_\_

**Station C:** This solid is a \_\_\_\_\_.

What shapes make up this solid? \_\_\_\_\_

Is this solid a polyhedron? Why or why not? \_\_\_\_\_

\_\_\_\_\_

How many faces? \_\_\_\_\_

How many edges? \_\_\_\_\_

How many vertices? \_\_\_\_\_

**Station D:** This solid is a \_\_\_\_\_.

What shapes make up this solid? \_\_\_\_\_

Is this solid a polyhedron? Why or why not? \_\_\_\_\_

\_\_\_\_\_

How many faces? \_\_\_\_\_

How many edges? \_\_\_\_\_

How many vertices? \_\_\_\_\_

***Speaking Activity:***

*I will have various 3D shapes in a bag. I will take them out and discuss them with the class—as a review. We will review the names of the shapes, vocabulary (of edge, face, vertex, and base), and meaning of polyhedron. After the quick review, I will put the shapes back in the bag. I will pull out a shape for each student. I will have the stronger students (with higher language level) go first to provide examples and modeling for lower language level students. I will ask questions like:*

*What is the name of this shape?*

*How many faces does it have?*

*What shape is/are the bases?*

*Is it a polyhedron? How do you know?*

## **SIOP Lesson - ELA / Reading**

### Content Objectives - CCSS, ELA, Grade 9-10, Reading: Informational Text

ELA CCSS RI.9-10.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court differs from that of a newspaper).

### Language Objectives-WIDA Can Do Descriptors, Grade 9-12, Language Domain: Reading

Level 3 (Developing) - Apply multiple meanings of words/phrases to social and academic contexts

Key Vocabulary: compare, contrast, leprosy, mortality

\*These terms are in addition to each student's personal list of "challenge words" that students select as needed from the text.

### Materials

Student iPads or Laptops (to access student Newsela accounts)

Bilingual word maps

### Building Background / Links to Experience / Links to Learning

Prior to reading the *Newsela* article, *Stigma Hinders Efforts to Combat Leprosy in India*, the teacher will lead a whole-class discussion of the following questions: *Tell about a time you were really sick. What was the sickness? Did you get better with or without medicine?*

This discussion allows students to personally connect to the content of the article, because they can identify with being sick. The teacher will then explain to students that the people in the article they will be reading have a disease called *leprosy*. The teacher will describe similarities and differences between leprosy and other sicknesses using a compare and contrast graphic organizer. Next, the teacher will introduce key vocabulary through modeling the completion of a bilingual word map (pictured below). This provides students with a modeling and sample of the process for completing the bilingual word map.

## Activities

Students will read the article, *Stigma Hinders Efforts to Combat Leprosy in India*. Each student will select an adapted version of the article that is slightly above his or her reading level. Students will digitally highlight “challenge words” in the article (words they are not able to pronounce or do not know the meaning of). Students will create bilingual word maps for each of the unfamiliar words.

Written Input - Since information is being presented in written format and ELL students are expected to read and comprehend, it is essential that reading is scaffolded according the student's proficiency level. Supports in place to increase comprehensibility for ELLs are embedded in Newsela and include:

- Visual supports - Each article is accompanied by a picture.

-Adapted texts - each article is adapted to 5 different lexile levels; the 500 lexile version can be considered a summary.

-Spanish versions of articles for students at ELP level of 1 who are literate in L1 and L1 is Spanish.

## Assessment

VOCABULARY WORD:	SYNONYM	MEANING IN NATIVE LANGUAGE
<div style="border-bottom: 1px dashed black; height: 100px;"></div> <div>PICTURE</div>		

	DEFINITION	USE THE WORD MEANINGFULLY IN A SENTENCE.

Students are assessed formatively using a checklist (shown below). The checklist is used to determine if the student is able to define challenging words from informational texts and use these words in different contexts (apply the word to his or writing) with accuracy. This checklist is meant to assess both the content and language objective for this lesson. Information gathered on the checklist can be used to inform instruction; instruction can be adapted and re-teaching can occur if teachers determine students need additional guidance and support in understanding challenging words or concepts.

Student Name	Term is accurately defined in English.	Translation of term to native language is accurate.	Term is correctly used in a different context. Term is applied to original student writing with accuracy.

### ***SIOP Lesson - ELA / Writing***

Content Objectives - CCSS, ELA, Grade 9-10, Writing



ELA CCSS W.9-10.2 Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

Language Objectives-WIDA Can Do Descriptors, Grades 9-12, Language Domain: Writing

Level 3 (Developing) - Outline ideas and details using graphic organizers

Key Vocabulary: dedication, illiterate, render, influence, contribution

Materials

Student iPads or Laptops (to access student Newsela accounts)

Graphic organizer for short paragraph

Building Background Links to Experience/ Links to Learning

After reading the title of the article, *Pakistani Teacher Gets a Prize for giving Poor Kids an Outdoor School*, students will be asked to respond to the following prompts as part of a whole-group discussion:

-Why do you think the school is located outdoors?

-Would you like to attend school outdoors? Why? Describe a benefit and a drawback.

-Have you ever attended a school that was very different than the one you attend now? What was different?

Activities

Students will read the article, *Pakistani Teacher Gets a Prize for giving Poor Kids an Outdoor School*. Each student will select an adapted version of the article that is slightly above his or her reading level. Students will be asked to respond to the following writing prompt from Newsela: *Write a short paragraph that explains the central idea of the article. Use at least two details from the article to support your response.* Students will be provided with a the graphic organizer for a short paragraph (shown below).

### Assessment

A checklist (shown below) is used to determine if each student included necessary components to an informative paragraph explaining the central idea of the article as well as facts and examples from the article that support the summary.

Student Name	Central idea of the article is accurately described.	Detail #1 consists of a fact or example from the article that supports the central idea.	Detail #2 consists of a fact or example from the article that supports the central idea.

<b>Topic Sentence:</b> <hr/> <hr/> <hr/>	
+	
<b>Detail #1</b>     	<b>Detail #2</b>     
<b>Explanation/Example</b>     	<b>Explanation/Example</b>     

## ***CCSS, ELA, Grade 9-10, Speaking and Listening 1***

### **SIOP Lesson - ELA / Listening**

#### Content Objectives - CCSS, ELA, Grade 9-10, Speaking and Listening

CCSS.ELA-LITERACY.SL.9-10.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9-10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

#### Language Objectives-WIDA Can Do Descriptors, Grade 9-12, Language Domain: Listening

Level 3 (Developing) - Distinguish main ideas from supporting points in oral, content-related discourse

Key Vocabulary: drought, heat wave, El Niño

#### Materials

Computers for access to CNN Student News

note-taking frame / graphic organizer for student use

#### Building Background / Links to Experience / Links to Learning

Prior to listening to and viewing the CNN Student News story regarding a drought in SE Asia, students will be asked to describe if they have ever lived in a place that was experiencing drought. Students will be asked to work with a partner to make a list of problems a drought can cause.

#### Activities

Pre-teaching vocabulary - The teacher will pre-teach key vocabulary by completing a word map for each word (show below). The teacher will model the completion of the word map for the word heat wave. Word maps for drought and El Niño will be completed together as a class

Next, the teacher will play the CNN news story about the drought in SE Asia for the class, pausing occasionally to model completion of the note-taking frame / graphic organizer (shown

**Take notes as you view and listen to the news.**

<u>Challenge Words</u>	<u>Main Ideas</u>	<u>Important Words</u>
heat wave	A drought is causing many problems in SE Asia.	El Niño

below)

Students will be asked to watch an additional news story from CNN Student News and complete the note-taking frame / graphic organizer independently using information as they view and listen to the information presented in the news story.

**Take notes as you view and listen to the news.**

<u>Challenge Words</u>	<u>Main Ideas</u>	<u>Important Words</u>
------------------------	-------------------	------------------------

### Assessment

This listening activity is assessed informally during whole-group discussion. The teacher will lead a discussion of the news story and each student will be asked to participate by drawing upon information from his or her notes. Listening comprehension is assessed as students present information they gathered during the listening activity.

## CCSS, ELA, Grade 9-10, Speaking and Listening 2

### SIOP Lesson - ELA / Speaking

#### Content Objectives - CCSS, ELA, Grade 9-10, Speaking and Listening

ELA CCSS SL.9-10.4 Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

Language Objectives-WIDA Can Do Descriptors, Grade 9-12, Language Domain: Speaking Level 3 (Developing) -Suggest ways to resolve or pose solutions

Key Vocabulary: let down, alarmed

#### Materials

Student iPads or Laptops (to access student Google Drive accounts)

Presentation templates (shared with students in Google Slides)

#### Building Background Links to Experience/ Links to Learning

Students will be asked to respond in writing to the following prompt:

*Describe the benefits of being involved in extra-curricular activities (sports or the arts). When students finish writing, they can contribute their ideas during whole-class discussion and the teacher will list benefits students describe on the board.*

Next, the teacher will explain that the article, *Clearer Shot: Soccer gives Burundi Women Choices for the First Time*, describes benefits for women playing soccer.

#### Activities

The teacher will read the article, *Clearer Shot: Soccer gives Burundi Women Choices for the First Time*, to the class. Students will use information from the article to create a Google Slide presentation. Students will be provided with presentation templates (shown below). The teacher

will model the completion of a template prior to students completing templates independently. Each student will present the information gathered on his or her Google Slides to his or her partner.

Slide #1

**Article Title:**

**This article was mainly about:**

**\*Add a picture in this space that represents what the article is mainly about.**

**PROBLEM DESCRIBED IN ARTICLE:**

**SOLUTION DESCRIBED IN ARTICLE:**

**DETAIL FROM THE ARTICLE / SUPPORTING EVIDENCE:**

Slide #2



### Assessment

Each student will assess his or her partner using the following rubric:

Presentor's Name: \_\_\_\_\_

Total Points \_\_\_\_/ 6

Evaluator's Name: \_\_\_\_\_

0 Points	1 Point	2 Points
My partner did not describe a problem.	The problem my partner described was only partly accurate.	My partner described the problem accurately.
My partner did not describe a solution.	The solution my partner described was only partly accurate.	My partner described the solution accurately.
My partner did not provide supporting evidence.	The supporting evidence my partner provided was only partly accurate.	The supporting evidence my partner provided was accurate.

## References

Diaz-Rico, L. (2008). *A course for teaching English learners*. Boston: Pearson Publishing.

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Fillmore, L.W., & Snow, C. (2000). *What teachers need to know about language*. McHenry, IL, and Washington, DC: Delta Systems and Center for Applied Linguistics.

Short, D. J., & Fitzsimmons, S. (2007). Double the work : Challenges and solutions to acquiring language and academic literacy for adolescent English language learners: A report to the Carnegie Corporation of New York. ... In S. Neuman and D. Dickinson (Eds.), *Handbook of Early Literacy Research* (Vol 2) (41-51).