



# Language Functions, Graphic Organizers and Designated ELD

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# Introduction

Language and thought are deeply connected. Tools that help students think about the world and shape their ideas conceptually support the development of academic language. And, without the language to express those concepts, it is difficult to engage in analytical thinking. The two are reciprocal and develop together. Language serves a purpose. It is a means of communication, and a mechanism for codifying thought and concepts. The performance of analytical and academic tasks requires that students be able to use the associated language functions. For example, there is specific vocabulary, discourse patterns and language forms involved in each of the following language functions: describing, expressing an opinion, giving complex directions, predicting, expressing time and duration, classifying, summarizing, etc.

The new Common Core Language Arts standards call for an explicit focus on academic language; and the new California English Language Development (ELD) standards likewise provide guidance for scaffolding English Learners into the use of English for academic purposes. Teaching all students the academic language they need to comprehend academic text, to write academically, and to engage in classroom discussion includes teaching them the language functions related to the cognitive/academic tasks they encounter. We need to consider: “What language do children need in order to engage in this learning activity?” There are multiple language functions students need to master. This module focuses on a core set of five cognitive and language functions:

- Sequence and process
- Description
- Categorization and Classification
- Quantification
- Comparing and Contrasting
- Cause and Effect

As teachers present information, create lessons, and engage children in conversations about academic content, they must simultaneously think about the language and cognitive functions they want children to develop. The teacher models the language as she talks, using strategies that explicitly teach the language functions, and providing many opportunities for students to use that language.

For English Learners, it is particularly essential to explicitly teach how English works in relationship to each of the major language functions they need to use in school. Susana Dutro (EL Achieve) has articulated a functional language approach organized around essential purposes for communication. She identifies the relationship between a language function and its forms (the syntax, sentence structure, grammar and vocabulary students need in order to complete the functional task). Teaching these language forms, the ways in which words are connected together in the English language system, are the work of English Language Development.

For this reason, this module begins with an overview of the new California ELD standards, and the distinction between integrated ELD which occurs throughout the curriculum to scaffold English Learners into the language needed for participation in the academic life of the classroom, and designated ELD which occurs in a separate, dedicated block of time that

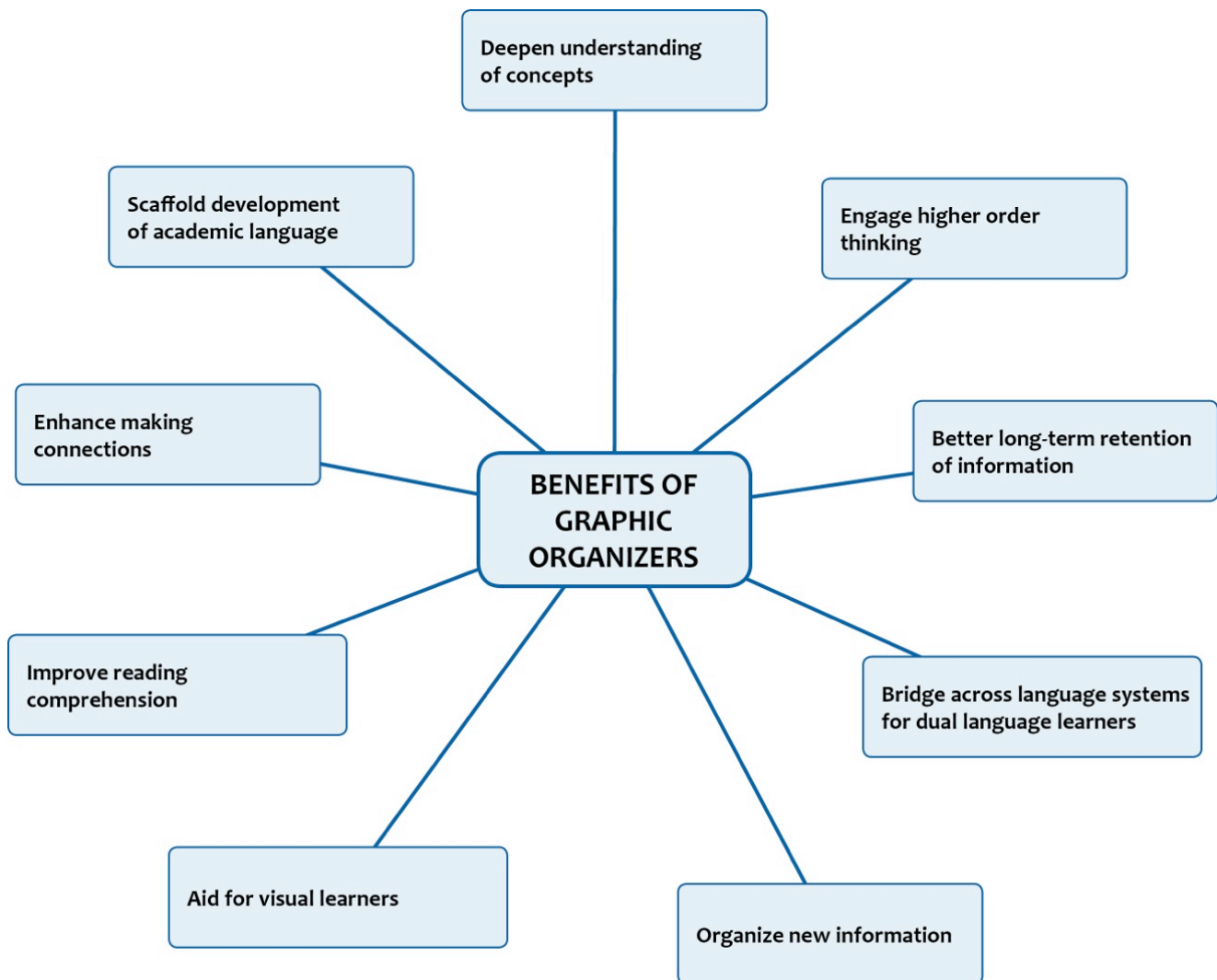
is devoted explicitly to the development of the English Language. Familiarization with the three sections of the standards (Interacting in Meaningful Ways, How English Works, and Foundational English) gives teachers direction for creating strong content-based ELD instruction that builds the English language skills students need, and for scaffolding their participation in academic tasks in all subject areas.

The new ELD standards are a perfect match for schools using interdisciplinary thematic units and focusing on language development throughout the curriculum. In this module, teachers apply the ELD standards by focusing on language development that is integrated into thematic teaching, as well as using the standards for planning designated ELD instruction that explicitly focuses on features of how English works. Graphic organizers and language functions are offered as tools for developing high level academic language and analytical thinking in both “designated ELD,” and in “integrated ELD” across the curriculum. These tools are powerful in supporting the development of academic thinking, and become a scaffold into academic writing, and academic text.

### **Graphic Organizers:**

Graphic organizers are a visual representation of thinking and processing knowledge. While a wide range of visuals are important for supporting a student’s comprehension of content, graphic organizers are a specific *type* of visual map or diagram that display relationships between facts, concepts or ideas – guiding and organizing thinking. Graphic organizers are, in fact, sometimes referred to as a “map” because they “map out” thinking in a visual manner. There are many similar names for graphic organizers including: knowledge maps, concept maps, cognitive organizers, advance organizers or concept diagrams.

Brain research tells us that the human brain is a pattern seeker, and that visual input is a key mechanism for learning. For all students, graphic organizers help to organize information and scaffold more conceptual and analytic thinking by providing a VISUAL display of connections, patterns and the relationships between information. When a graphic organizer is used regularly, across academic content and purposes, students come to associate that visual pattern with thought processes and language systems. Research reviews have concluded that using graphic organizers improves student performance in the following areas:



For visual learners and English Learners, graphic organizers are particularly important to support comprehension because the relationships among ideas and information are visually displayed and therefore not language-dependent. This lessens the cognitive load for students. For students in bilingual programs, who are learning academic content in one language and also learning a second language, the graphic organizers are vehicles that bridge across the two languages – greatly enhancing the transfer of knowledge into two different language systems.

The use of graphic organizers begins in preschool, where they are used for simple classification, categorization, description, and quantification (counting). Those same graphic organizers are used in kindergarten and first grade (along with additional graphic organizers), while the information that is presented and analyzed through the use of the graphic organizers becomes more complex, and student's capacity to use them for analysis grows deeper. While there are many, many graphic organizers, SEAL has selected just a few that are connected to the selected key academic analytical functions and major academic language functions. These graphic organizers are used all the way through high school, college and into professional work. The graphic organizers introduced in Module II are linked to key language functions. *(See Table on following page)*

Language Function	Related Graphic Organizers	Grammatical Aspects
<b>Description</b>	<ul style="list-style-type: none"> <li>▣ web</li> <li>▣ T-chart</li> <li>▣ tree maps</li> <li>▣ categorical grid</li> </ul>	<ul style="list-style-type: none"> <li>• Nouns, pronouns, adjectives, adjective phrases, articles, nominalization, conjunctions, connecting phrases</li> <li>• The verb “to be” using common nouns and adjectives</li> <li>• The verb “to have” using common nouns and adjectives</li> </ul>
<b>Compare &amp; Contrast</b>	<ul style="list-style-type: none"> <li>▣ Venn Diagram</li> <li>▣ categorical grid</li> </ul>	<ul style="list-style-type: none"> <li>• Adjectives, conjunctions</li> <li>• Comparative adjectives</li> <li>• Superlatives</li> <li>• Adverbs</li> </ul>
<b>Classification &amp; Categorization</b>	<ul style="list-style-type: none"> <li>▣ categorical matrix</li> <li>▣ web</li> </ul>	<ul style="list-style-type: none"> <li>• Nouns, adjectives, connecting phrases</li> </ul>
<b>Sequencing</b>	<ul style="list-style-type: none"> <li>▣ flow chart</li> <li>▣ time line</li> <li>▣ story map</li> </ul>	<ul style="list-style-type: none"> <li>• Past tense/present tense/future tense: was/is/will be</li> <li>• Adverb clauses, signal words showing chronological order</li> <li>• Subordinate conjunctives, adverbs of time, relative clauses, prepositional phrases</li> </ul>
<b>Quantification</b>	<ul style="list-style-type: none"> <li>▣ column chart</li> <li>▣ bar graph</li> </ul>	<ul style="list-style-type: none"> <li>• Counting system, cardinal and ordinal numbers, comparative adjectives and adjective phrases</li> </ul>
<b>Cause and Effect</b>	<ul style="list-style-type: none"> <li>▣ boxes and arrows showing cause effect relationship</li> </ul>	<ul style="list-style-type: none"> <li>• Adverb clauses, dependent clauses, commas</li> </ul>

## Implementation:

### Step 1. Decide when and how to use graphic organizers:

Graphic organizers can (and should) be applied across the curriculum to enhance comprehension, to structure thinking and to analyze subject matter content. The more they are used, the more proficient students become in organizing information, and in being able to use analytical language. Graphic organizers can be used at various points in a teaching process. In planning a unit, think about when and how you will use graphic organizers:

- **Into:** A teacher can use a graphic organizer *before presenting* new information as a structure for accessing students prior knowledge. For example, a simple web or bubble map can capture what students know about a new topic. This becomes a “warm up” for students, getting them thinking about the topic, and is also a means of assessment for the teacher to know the level of student knowledge or misperceptions. Similarly, a T Chart can be used to capture “what we know” and “what we want to know” about a topic to be studied.

- **Through:** Graphic organizers are powerful as a means of or accompaniment to the teacher presenting new information. For example, as the teacher describes something new, she can place visuals or words around a Web, making the connections visual for students. Draw and Labels can incorporate graphic organizers. Graphic organizers can also be used at key points and pauses in the presentation of new information to allow students to process or organize the information they have just heard or read.

Two examples include:

- as students recall a story, the information can be put into a story-map or flow-chart, or
  - the teacher could ask students, what are the similarities and differences between the giraffe and elephant based on what they have learned so far in the study of zoo animals using a Venn Diagram to chart their responses.
- **Beyond:** Graphic organizers are a powerful bridge to writing and to oral presentation, helping students organize their thoughts and plan how to communicate those thoughts. This can be modeled by the teacher, and then become an independent or small group activity. For example, story-map templates can be used by students to plan out a piece of narrative writing. The graphic organizers can also be moved into “centers”, enabling students to independently organize information. For example, a laminated column graph or bar chart template with a basket of mixed plastic animals can be a data analysis center: categorizing the animals by type, stacking them into columns by type, comparing the numbers of each, figuring out what there is more or less of, etc.
- **Connections/Inquiry:** Graphic organizers can provide a template for creating a collective picture of children’s experiences related to the theme. They build connections for students between their lives and the topic. At any point that a teacher feels the need to help students see their own connections, introduce an inquiry using a graphic organizer to display and analyze the information. For example, in an “All About Me” unit, a categorical grid can be constructed that enables each student to have their information entered “name, eye color, hair color, height.” That information, once inputted, can be analyzed: “How many of us in this class have brown eyes?” Or, a unit on “Pets” can use a column graph quantifying the number of children in the class who have dogs, cats, fish, etc.

### **Step 2. Select the appropriate graphic organizers to use:**

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A graphic organizer should be selected based on the content to be taught, the learning objectives associated with it, the kind of knowledge the teacher wants students to be developing, the purpose of the activity in the arc of a lesson, and the kind of analytic language students would need to use to talk about the content.

- **Look at the standards to determine key learning objectives:** Often, an analytic function is explicitly stated within the content standards for a unit. For example, “*students should be able to distinguish between...*” suggests a compare and contrast or categorization function, implying that a Venn Diagram or categorical grid might be most appropriate. Or, “*place important events in their lives in the order in which they occurred...*” suggests a sequencing function, and that a timeline or flow-chart would be an appropriate graphic organizer.

- **Think about the purpose of the activity in the arc of a lesson:** While the main thrust of a unit may be building towards comparing and contrasting, at the start of the unit it may be important to begin with description of the specific things that will later be compared and contrasted. So while a Venn Diagram or Categorical Grid may be the appropriate graphic organizer later in a unit, a simple Web or T-Chart is more appropriate at the start of a unit.

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### **Step 3.      *Be intentional about the language demands and opportunities:***

Graphic organizers combine a focus on conceptual, analytic thinking and a scaffold to conceptual, analytic talk. Review the vocabulary and language structures associated with each graphic organizer and its language function. Select the vocabulary you want students to learn, and the range of language structures you want to scaffold them into. Post a template of the graphic organizer, and post the key vocabulary and language forms associated with it. Model that language intentionally as you present the graphic organizer and talk about the information contained within the graphic organizer. Use sketches and Picture File Cards to support comprehension as you place information in the graphic organizer. Remember to insert plentiful choral responses and Think-Pair-Shares as you develop the graphic organizer with the students – giving them the opportunity to use the language. Select a range of sentence frames to offer to your students as starters for Think-Pair-Shares. In responding to and amplifying student comments, use the more sophisticated vocabulary and language structures to repeat back their thoughts – remembering your role as Language Coach.

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### **Step 4.      *Plan for extension activities in which students are using the graphic organizers themselves.***

Graphic organizers are a tool that we want students to “make their own”, using them to organize information and for their own planning and analytic tasks. Copies of blank graphic organizer templates should be available to students at writing centers and resource centers, appropriate to the theme. Laminated templates should be regular features as part of center activities and free choice activities. Homework assignments and home-school connections should also incorporate the use of graphic organizers.

*(See Tools and Templates section for details on specific graphic organizers linked to key language and cognitive functions)*

### Resources:

California English Language Development Standards, Adopted November 2012. California Department of Education, Sacramento: Ca.

Dutro, S and Kinsella, K. (2010). "English Language Development: Issues and Implementation", *Improving Education for English Learners: Research Based Approaches*. California Department of Education: Sacramento, CA. pp.151-208

Garcia, O. (2009) *English Language Learners Day by Day K-6*. Heinemann: Portsmouth, NH. A good resource on developing learning and language objectives related to language functions

Thinking Maps: Provides professional development (K-12) in specific methodologies for introducing, teaching, integrating and assessing Thinking Maps' "common visual language" of 8 visual graphic organizers linked to fundamental thought processes.

[www.thinkingmaps.com](http://www.thinkingmaps.com)

Systematic ELD: Provides professional development for explicit language instruction in dedicated ELD instructional block, using a functional language approach organized around essential purposes for communication, and following a developmental scope and sequence of language skills identified in ELD standards and the Systematic ELD handbook.

[www.syseld.elachieve.com](http://www.syseld.elachieve.com)



## Tools and Templates

### Description / Descripción

#### Summary:

Graphic organizers for **description** include the Web (La red) and the T-Chart (Tabla en forma de T). These provide a visual scaffold that clarifies the meaning of a thing, a character, an event or a concept. In the Web, the topic is labeled in a central bubble or circle.

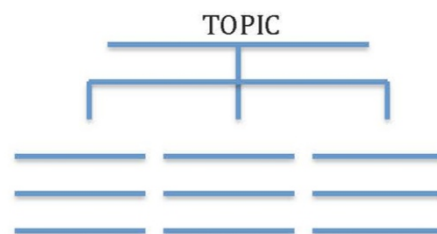
Descriptors, examples, behaviors and characteristics are linked to the topic through spokes that emanate from the bubble, showing their connection. On a T-Chart, the event or thing being described is labeled at the top of a page, with columns under it that are labeled “looks like”, “sounds like”, “acts like”, etc. A Tree Map, similar to a T-Chart, creates columns relating to characteristics of the thing being described, providing component labels or key verbs that support students in description. A Categorical Grid (single line) is also a form of graphic organizer that later scaffolds into compare and contrast functions.



Looks like	Sounds like

Single-line Categorical Grid:

	Physical Attributes	Needs	Equipment for Care
Dog	Four legs Tail Fur	Exercise Love Shelter Food	Leash Muzzle Dog bed



#### Inherent Academic Language:

English	Spanish
Describe, description	<i>Describir, la descripción</i>
Web	<i>La red</i>
Spokes	<i>Los rayos</i>
Characteristics, characterized by	<i>Las características, caracterizado por</i>
Attributes	<i>Los atributos</i>
Components	<i>Los componentes</i>
Parts, aspects	<i>Las partes, los aspectos</i>
Qualities	<i>Las cualidades</i>
Properties	<i>Los propiedades</i>
Contains	<i>Contener, Contiene</i>
Consists of	<i>Consistir en, constar de</i>
Defined by	<i>Se define como</i>
Exhibits	<i>Muestra, Mostrar, Demonstrar</i>

## Tools and Templates: Description / Descripción

English	Spanish
In addition	<i>Además</i>
Looks like, smells like, tastes like, sounds like.....	<i>Se ve como, huele a, sabe a, suena como...</i>

### Grammatical Aspects

- Nouns, pronouns, adjectives, adjective phrases, articles, nominalization, conjunctions, connecting phrases.
- The verb “to be” using common nouns and adjectives
- The verb “to have” using common nouns and adjectives

### Scaffolds:

From Simple to Complex	
Prompts/questions	Tell me about _____. What does it look like? What does it do? Describe _____. What are some of the characteristics of _____? Identify some components of _____.
Sentence Frames	The _____ is/are/has _____ (and _____). It has/they have _____. _____ consists of _____. _____ can be defined by its _____ and _____. The characteristics of _____ are _____ (and _____).

### Key Standards:

#### Common Core:

- ✓ Language Arts Reading Literature #3: *Describe characters, settings and major events in a story, using key details*
- ✓ Language Arts Speaking and Listening #4: *Describe people, places, things and events with relevant details. (First Grade adds “...expressing ideas and feelings clearly”).*
- ✓ Language Arts Speaking and Listening #5: *(In presentations) Add drawings or other visual displays to descriptions to provide additional details.*

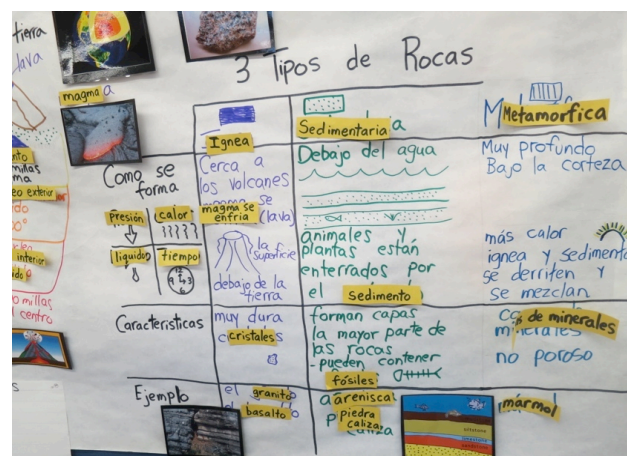
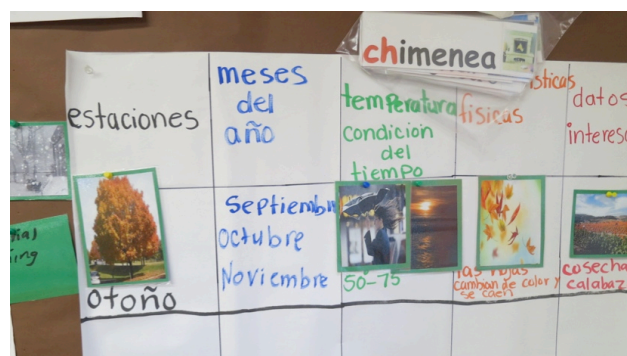
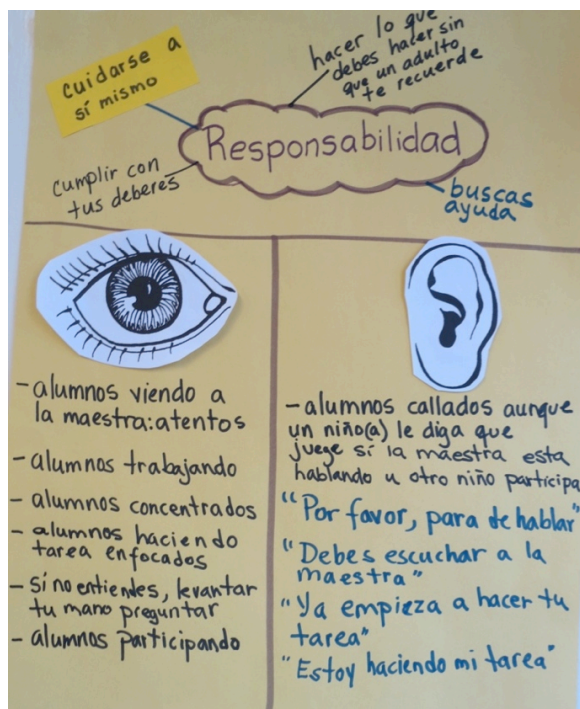
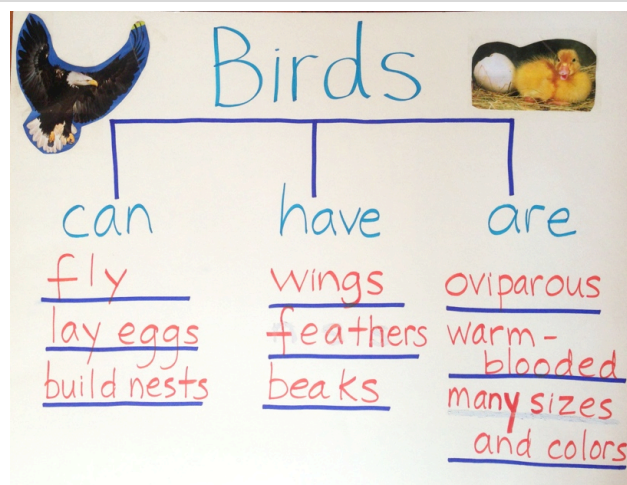
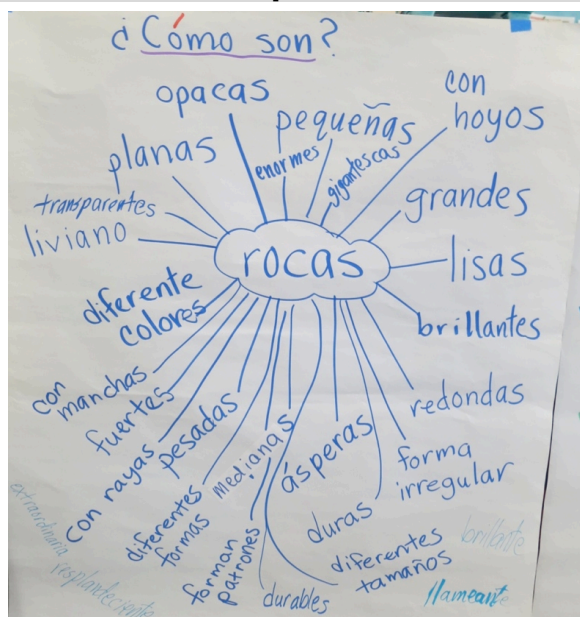
#### English Language Development

- ✓ ELD I.B.6: Reading/Viewing Closely. Describe ideas, phenomena (e.g. how earthworms eat) and text elements (e.g., setting, characters) based on understanding of a variety of grade-level texts and viewing of multimedia.
- ✓ ELD I.C.9: Presenting. Plan and deliver brief oral presentation (e.g., show and tell, describing a picture, describing an animal, retelling a story, recounting an experience).
- ✓ ELD I.C.12. Selecting language resources. Retell texts and recount experiences using key words.
- ✓ ELD II.B.4. Using nouns and noun phrases. Expand noun phrases in order to add details about ideas, people, things.

## Tools and Templates: Description / Descripción

- ✓ ELD II.B.5. Modifying to add details. Expand sentences with prepositional phrases to provide details (e.g., time, manner, place, cause).
- ✓ ELD II.C.7. Condensing ideas. Condense clauses to create precise and detailed sentences.

### Photos of Description:

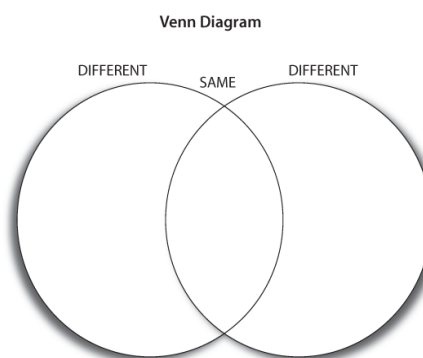
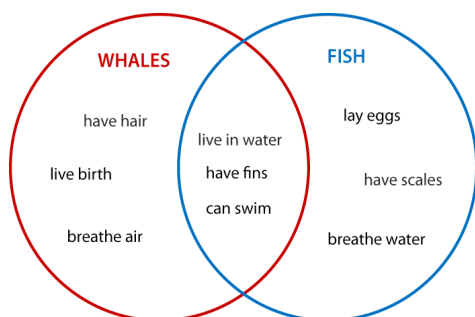


## Compare and Contrast / *Comparar y contrastar*

### Summary:

Graphic organizers for **comparing** and **contrasting** two or more things (or characters or events) include: the Venn Diagram (Diagrama de Venn) and the Categorical Grid. These represent the similarities and differences among things based on specific attributes. In the Venn Diagram, there are two overlapping circles. The unique characteristics of two items or concepts are listed in the outer sections of the two circles. The overlap section lists the shared characteristics. In the categorical grid, the items to compare are listed in the rows; the characteristics are the columns. The rows are specific examples or elements you want to compare.

		Characteristics			
		walk	breath air	swim	read
Items to compare/contrast	human	x	x	x	x
	dog	x	x	x	
	whale		x	x	
	fish			x	



### Inherent Academic Language:

English	Spanish
Attributes, characteristics	<i>Los atributos, las características</i>
___er, ___est	<i>Más, La cosa más _____ de/que.</i>
Same, different	<i>El mismo, diferente</i>
Both	<i>Los dos, ambos</i>
Compare, contrast	<i>Comparar y contrastar</i>
Alike, "is like"	<i>Parecido, "es como"</i>
Unlike	<i>A diferencia de</i>
But, in contrast	<i>Pero, en contraste con</i>
Compare to, In comparison to	<i>Compara con, En comparación con</i>
Similar, similarly	<i>Similar, de manera similar</i>
Just as	<i>Así como</i>
Differences between	<i>Las diferencias entre</i>
Have in common	<i>Tiene en común</i>
Unique	<i>Único</i>

## Tools and Templates: Compare and Contrast/ *Comparar y contrastar*

English	Spanish
Some are _____; others are _____.	<i>Algunos son _____; otros son _____.</i>
Whereas, however	<i>Mientras que, sin embargo</i>
Distinction	<i>Distinción</i>
Distinguish between	<i>Distinguir entre</i>
As opposed to	<i>En lugar de</i>
On the other hand	<i>Por el contrario</i>
Are the same because...	<i>Son iguales porque...</i>

### Grammatical Aspects:

- Adjectives, conjunctions
- Comparative adjectives
- Superlatives
- Adverbs

### Scaffolds:

From Simple to Complex	
<b>Prompts/questions</b>	<p>Tell me/show me one way that ____ and ____ are the same.</p> <p>Tell me/show me one way that ____ and ____ are different.</p> <p>How are ____ and ____ similar?</p> <p>How are ____ and ____ different?</p> <p>What are two similarities between ____ and ____?</p> <p>How would you compare ____ and ____?</p> <p>Compare and contrast ____ and ____.</p>
<b>Sentence Frames</b>	<p>____ is _____. _____ is not _____.</p> <p>____ and ____ are the same. They both have/are _____.</p> <p>____ is _____. By comparison, _____ is _____.</p> <p>Both ____ and ____ are/have _____. However, they differ in that ____ is/has _____, but _____ does not.</p> <p>Where ____ is _____, _____ is _____.</p> <p>While ____ and ____ are similar in that they share _____, a key distinction is _____.</p>

### Key Standards

***In addition to all “description” related standards:***

#### **Common Core**

- ✓ Language Arts Reading Literature#9: *Compare and contrast the adventures and experiences of characters in stories (First Grade). For Kindergarten, “with prompting and support.”*
- ✓ Language Arts Reading Informational Text #9: *Identify basic similarities and differences between two texts on the same topic (First Grade). For Kindergarten, “with prompting and support.”*



## Tools and Templates: Compare and Contrast/ *Comparar y contrastar*

- ✓ Language Arts Speaking and Listening #5: *Add drawings and visual displays to descriptions when appropriate to clarify ideas.*

### English Language Development

- ✓ ELD II.C.6. Connecting ideas. *Combine clauses to make connections between and to join ideas.*
- ✓ ELD II.A. 2. Understanding cohesion. *Apply understanding of how ideas, events or reasons are linked using a variety of connecting words or phrases.*

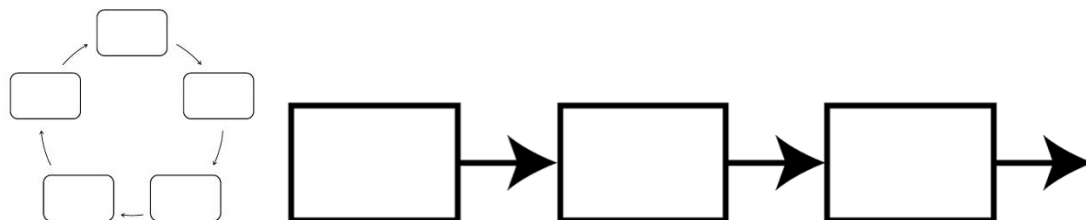
### Photos of Compare and Contrast:



## Sequencing / Secuencia

### Summary:

**Flow charts** (diagrama de flujo) and **timelines** (línea de eventos) are visual representatives of a **sequence** of events, actions or a multi-step process. They foster logical and sequential thinking, and display for students the order in which something happens.



### Inherent Academic Language:

English	Spanish
Flow chart	<i>Diagrama de flujo; mapa de secuencia</i>
Timeline	<i>Línea de tiempo</i>
Sequence	<i>Secuencia</i>
First	<i>Primero</i>
Second	<i>Segundo</i>
Third	<i>Tercero</i>
Then	<i>Luego , Entonces</i>
At first	<i>Al principio</i>
Next	<i>Después</i>
In the beginning	<i>En el principio</i>
In the end	<i>Al final</i>
Initially	<i>Inicialmente</i>
Previously	<i>Anteriormente</i>
Since, given that	<i>Puesto que, como</i>
Subsequently	<i>Desde que</i>
Finally	<i>Finalmente</i>
Following	<i>Después de</i>
Then	<i>Más tarde</i>
Before	<i>Antes de</i>
Sequence	<i>Secuencia</i>
Order	<i>Orden</i>
Process	<i>Proceso</i>
Change	<i>Cambio</i>
In order for...	<i>Para que</i>
Developed into	<i>Se desarrolló en</i>
Grew from	<i>Creció de</i>
Last week/year... yesterday...	<i>La semana pasada...ayer</i>
Cycle	<i>Ciclo</i>
Chronological	<i>Cronológico</i>
Left to right	<i>De la izquierda a la derecha</i>
Step	<i>Un paso</i>

English	Spanish
In the past	<i>En el pasado</i>
Now, currently	<i>Ahora, actualmente</i>

### Grammatical Aspects:

- *Past tense/present tense/future tense: was/is/will be*
- *Adverb clauses, signal words showing chronological order*
- *Subordinate conjunctives, adverbs of time, relative clauses, prepositional phrases*

### Scaffolds:

From Simple to Complex	
Prompts/questions	<p>Show me/tell me the first thing that happened.</p> <p>Now show me what came next. What was the last thing that happened?</p> <p>Put the events in the order they happened.</p> <p>Explain the events in the order they happened.</p> <p>Describe what happened from start to finish.</p> <p>What was the process that resulted in this final outcome?</p>
Sentence Frames	<p>_____ was/were _____.</p> <p>First _____. Then _____. Next _____. Finally_____.</p> <p>In the beginning, _____. It was followed by _____. Over time, _____ occurred. Eventually it led to _____.</p> <p>In order for _____ to occur, _____ and _____ had to happen.</p>

### Key Standards

#### Common Core Standards:

- ✓ Language Arts Reading #2: *Retell stories, including key details.*
- ✓ Language Arts Reading #3: *Identify and describe characters, settings and major events in a story, using key details. (For informational text: Describe the connection between two individuals, events, ideas or pieces of information in a text).*
- ✓ Language Arts Writing #3: *Using a combination of drawing, dictating and writing (K) or write narratives (1) that narrate events in the order in which they occurred. First grade adds “..use temporal words to signal event order...”*
- ✓ Language Arts Speaking and Listening #4: *Describe people, places, things and events with relevant details. (First Grade adds “...expressing ideas and feelings clearly”).*
- ✓ Language Arts Speaking and Listening #5: *(In presentations) Add drawings or other visual displays to descriptions to provide additional details.*

#### English Language Development:

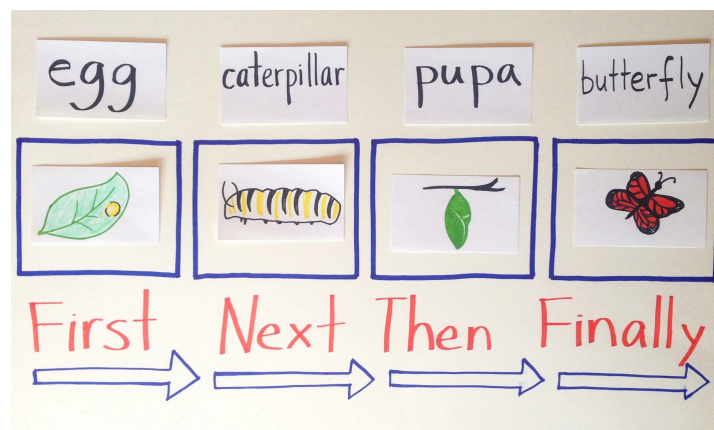
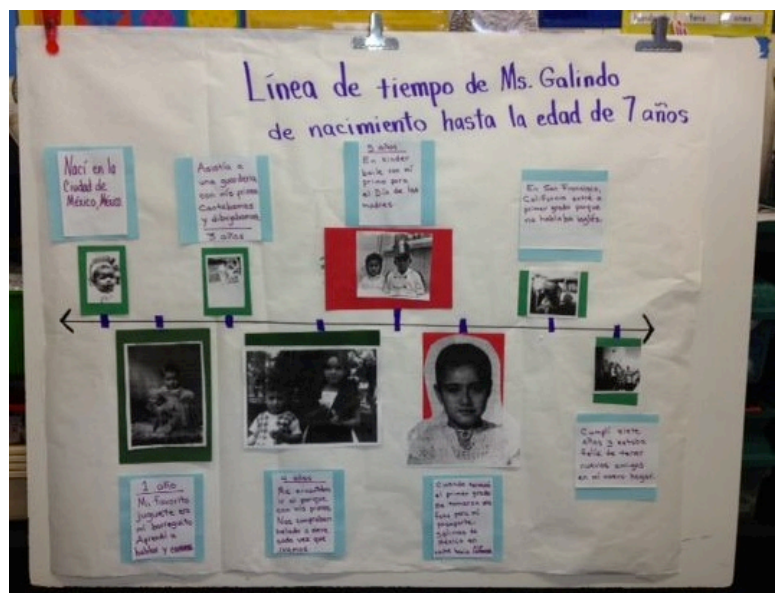
- ✓ ELD I.C.9: Presenting. *Plan and deliver brief oral presentation (e.g., retelling a story, recounting an experience).*
- ✓ ELD I.C.12. Selecting language resources. *Retell texts and recount experiences using key words.*



## Tools and Templates: Sequencing / Secuencia

- ✓ ELD II.A.1. Understanding text structure. *Apply understanding of how texts are organized to present ideas (e.g., how a story is organized sequentially) to composing texts.*
- ✓ ELD II. A.2. Understanding cohesion. *Apply understanding of how ideas or events are linked throughout a text using a variety of connecting words or phrases (e.g., after that, first/second/third).*
- ✓ ELD II.A.3b. Using verbs and verb phrases. *Use a growing number of verb tenses to convey time (e.g., simple past tense for retelling).*
- ✓ ELD II.B.5. Modifying to add details. *Expand sentences with prepositional phrases to provide details (e.g., time, manner, place, cause).*

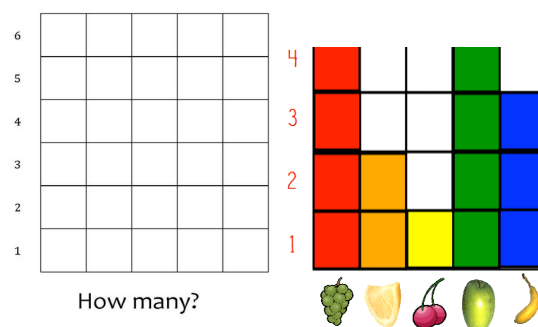
### Photos of Sequencing:



## Quantification / *Cuantificación*

### Summary:

**Quantification** is the act of counting and measuring based on observation. It is fundamental as a math concept and a foundation for scientific method and social science data gathering. A useful graphic organizer for quantification is the Column Chart (a vertical form of a bar graph) which enables children to see and conceptualize the relative number of items next to each other. Data is presented in columns, with the category names underneath the columns, and numbers listed from low to high along the vertical axis.



### Inherent Academic Language:

English	Spanish
Quantity	<i>La cantidad</i>
Count	<i>Contar</i>
How many, how much	<i>¿Cuántos?</i>
More than, less than, equal to	<i>Más de, menos de, igual a</i>
Most, least	<i>El mayor número, El menor número, el mínimo</i>
Numbers	<i>Los números</i>
Sum, total	<i>La suma, la total</i>
Altogether	<i>Juntos</i>
In contrast, but, only	<i>A diferencia de, en contraste con, pero, sino, solamente, solo</i>
Data	<i>Los datos</i>
Classify	<i>Clasificar</i>
Category names	<i>Nombres de las categorías</i>

### Grammatical Aspects:

- Counting system, cardinal and ordinal numbers, comparative adjectives and adjective phrases.

### Scaffolds:

From simple to complex	
Prompts/questions examples	How many ____ are there? Which are there more of? Which are there the least of? Are there more ____ than blank?
Sentence Frames examples	There are more ____ than ____. There are ____ number of ____, but only ____ number of ____. Altogether, there are ____.

## Key Standards:

### California Math Standards

The new California Math Standards, require kindergarten children to know the number names and the count sequence, be able to count to tell the number of objects, classify objects and count the number of objects in categories, answer “how many?” questions, identify whether the number of objects in one group is greater than or less than or equal to another group.

- ✓ *Students know the number names and the count sequence, can count to tell the number of objects and to compare. They understand the relationship between numbers and quantities, and connect counting to cardinality. They understand that each successive number name refers to a quantity that is one larger. They are able to count to answer “how many?” questions about as many as 20 things arranged in a line or a rectangular array.*
- ✓ *Students can identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group.*
- ✓ *Students are able to classify objects and count the number of objects in categories.*
- ✓ *Students use numbers, including written numerals, to represent quantities and to solve quantitative problems, such as counting objects in a set, counting out a given number of objects, comparing sets or numerals, and modeling simple joining and separating situations with sets of objects.*
- ✓ *Students choose, combine and apply effective strategies for answering quantitative questions, including counting and producing sets of given sizes, counting the objects in combined sets, or counting the number of objects that remain in a set after some are taken away.*

In First grade, students are expected to learn to organize, represent and interpret data with up to three categories, and to ask and answer questions about the total number of data points (how many in each category, how many more or less are in one category or another, etc.).

## Photos of Quantification:

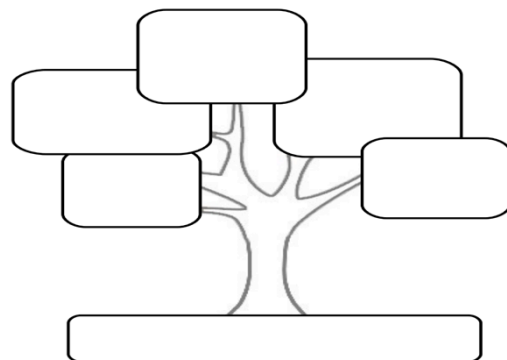
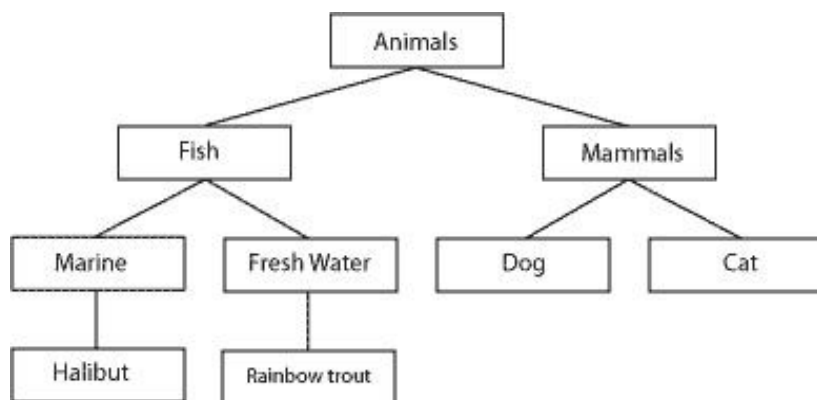


## Classification / *Clasificación*

### Summary:

Graphic organizers for **classification** and **categorization** enable students to visualize how objects or ideas can be grouped according to main characteristics. It involves defining the category and the characteristics or rules that govern what belongs to that category. A Classification Tree shows the relationships between a whole and its parts (or branches), can illustrate the connection between things (or events) with a common parentage, or show subgroups within a category. The categorical grid classifies things by shared attributes. It can be used to examine different aspects (columns) of a thing, animal, event or concept (the row), as well as to focus on the key concept (the column) with a set of examples represented by the rows.

### Classification Tree



### Categorical Grid

Animal	Habitat	Food	Body Temp.	Interesting Facts

### Inherent Academic Language:

English	Spanish
Parts	<i>Las partes</i>
Categories, categorize	<i>Las categorías, categorizar/clasificar</i>
Classification	<i>La clasificación</i>
Type, form, mode	<i>El tipo, la forma, el modo</i>
Features, traits, qualities	<i>Los rasgos, las cualidades</i>
Belong, belongs to	<i>Pertenecer, pertenece a</i>
Fits into	<i>Encaja con</i>
Group, grouped together	<i>Agrupar</i>
Similar properties	<i>Propiedades similares</i>
Sort	<i>Ordenar</i>

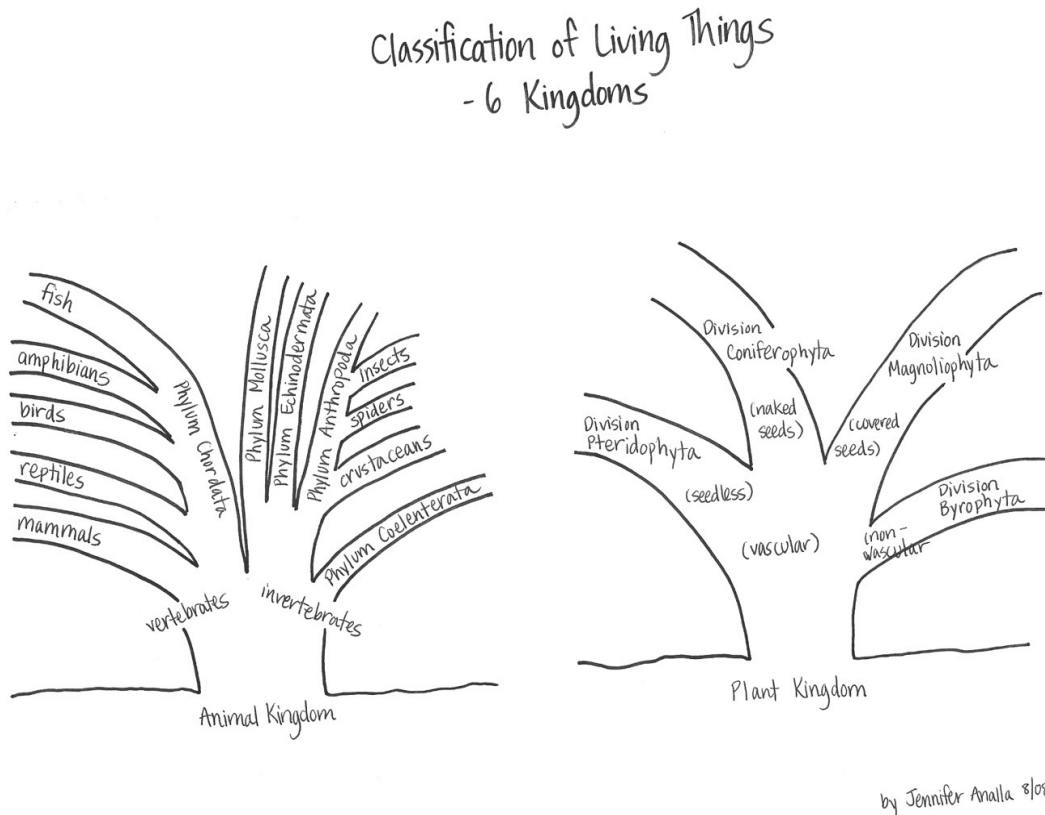


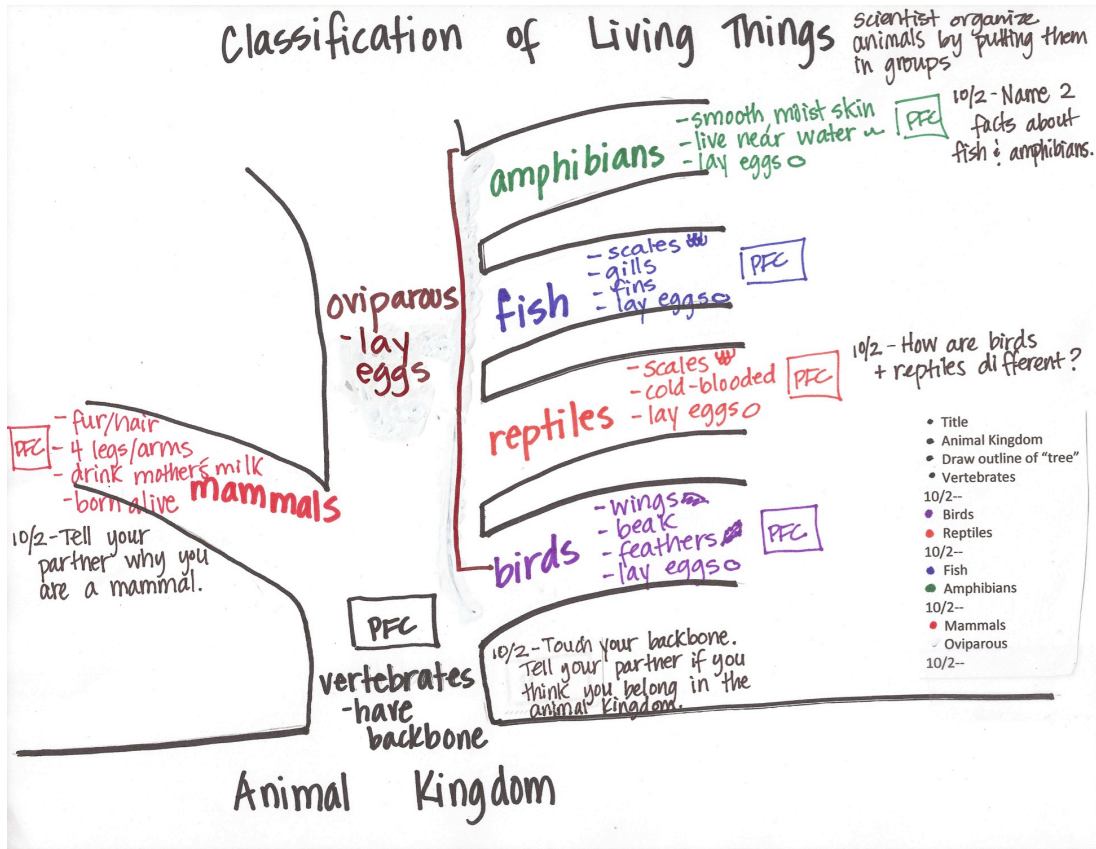
English	Spanish
Comprised of	Constar de
Used for, made with	Es usado para, hecho de
Is/is not	Es, no es
Characteristics	Características
Relationship	

## Scaffolds:

From simple to complex	
Prompts/questions	In which category do each of these belong? Show me.
Examples	Is _____ an example of _____ or of _____? How do you know? To which group does _____ belong? Why? Which of these items belong together?
Sentence Frame	_____ and _____ belong together because they are both _____.
Examples	I know that _____ is a _____ because it has _____. _____ and _____ are both types of _____. _____ consists of _____. _____ and _____ are types of _____ because they _____.

## Photos of Classification:





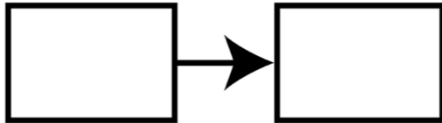
## Cause and Effect / *Causa-efecto*

### Summary:

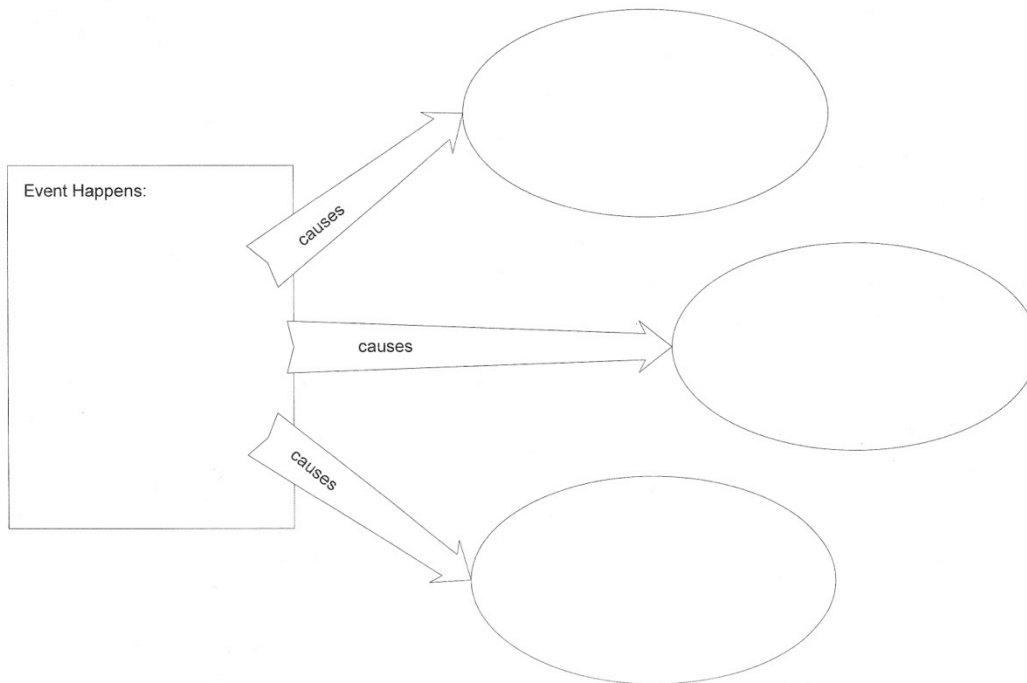
Cause and effect describe the relationship between events where the second event is understood as a consequence of the first. A cause is the reason, or the “why” something happens. An effect is what happens as a result of the cause. When students are figuring out causes and effects, they are investigating the relationship between two or more events. The question, “What happened?” probes for understanding the effect. The question, “Why did it happen?” probes to understand the cause. Sometimes the relationship is clear, but many times students will have difficult understanding causality.

The Cause and Effect graphic organizer is simply a box (or set of boxes) linked with an arrow between the Cause and the Effect to show directionality.

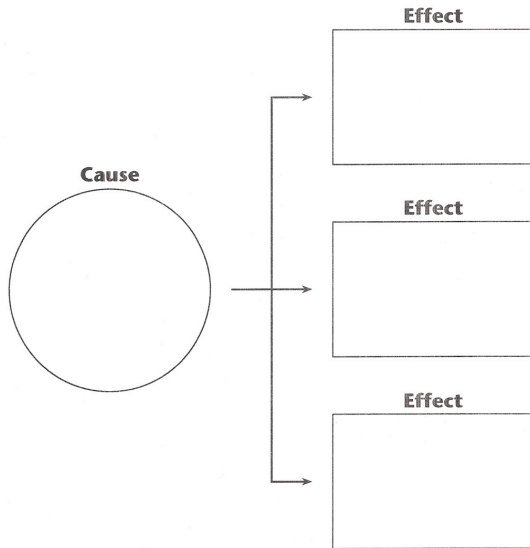
#### 1. An example of one cause leading to one effect



#### 2. An example of one event with numerous causes



### 3. An example of one cause leading to numerous effects



These graphic organizers may be most appropriate to begin using in second or third grade rather than in earlier grades because they can be complex. In real life, causes come before effects. However, in books or in oral presentations, the recounting may begin with an effect and then describe the causes. Thus, the graphic organizer can be filled in beginning with the cause first, or beginning with the result first.

Depending on the topic, there can be multiple causes and multiple effects. The use of a graphic organizer for Cause and Effect can be tricky because there can be multiple causes and multiple effects. Students will have to learn to create additional “boxes” on a Cause and Effect graphic organizer as needed. If you are providing a model Cause and Effect graphic organizer, be sure to tell students, “You don’t have to fill in all the boxes” or “You may need to add some boxes”--over and over and over again.

### Inherent Academic Language:

English	Spanish
Because	<i>Porque</i>
Since	<i>Desde, como, porque</i>
So	<i>Entonces, así</i>
As a consequence	<i>En consecuencia, como</i>
If ____, then ____	<i>consecuencia</i>
Caused	<i>Si____, entonces____</i>
Consequently	<i>Causado/a, Causar, producir</i>
As a result	<i>Consiguiente, entonces</i>
As a result of	<i>Como resultado, Consecuentemente</i>
Due to	<i>Por consecuencia de, A</i>
Effects	<i>consecuencia</i>
Contributing factors	<i>Debido a, como resultado de</i>
Contributed towards	<i>Efecto, efectuar</i>
	<i>Los factores que contribuyen</i>
	<i>Contribuir a, Contribuido/a</i>



### Grammatical Aspects:

- Adverb clauses, dependent clauses, commas

### Scaffolds:

From Simple to Complex	
<b>Prompts and Questions</b>	What were the causes of _____? Why did _____ happen? What were some of the contributing factors that resulted in _____? What were the effects of _____? What happened as a result of _____?
<b>Sentence Frame examples</b>	Because _____, _____ happened. If _____, then _____. _____ caused _____. _____, so _____. Since _____ is _____, _____. As a result of _____, _____. Due to the fact that _____, _____. _____ and _____ contributed to _____. _____ and _____ were both factors that resulted in _____.

### Sample Standards:

- ✓ Reading Standards for Informational Text: Explain the relationships or interactions between two or more events in a historical, scientific or technical text, including what happened and why.
- ✓ Second grade History-Social Science: Understand how limits on resources affect production and consumption.
- ✓ Third grade History –Social Science: Discuss the ways in which physical geography, including climate, influenced how the local Indian nations adapted to their natural environment.
- ✓ Third grade Next Generation Science: Communicate how new technologies have changed the way people live or interact with one another.