

**Making Science Curricula Accessible  
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**Using Cognates to Strengthen Academic English and Content Learning**

Deciphering Spanish – English cognates, Latin roots

Read the following paragraphs. Circle all the words that you may recognize.

¿Conoces algo sobre la prehistoria? ¿Sabes por qué se le llama así?  
¿Te imaginas cómo eran: el mundo, los animales, las plantas... y los  
hombres hace millones de años? ¿Crees que nuestra especie ha ido  
cambiando a través de las épocas? Al respecto existen muchas  
teorías; ¿te gustaría conocerlas?

Con esta actividad te invitamos a realizar un viaje al pasado donde  
podrás compartir con nosotros tus inquietudes y puntos de vista de  
todo lo que visitemos. Pon mucha atención a todo, pues al final te  
pediremos que realices con tus propias palabras un informe de las  
tareas que llevaste a cabo durante la actividad.

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Using Latin prefixes, roots and suffixes to define words. Circle the words you feel your Latino students (13+) would know.

Abominate	Defunct	Immaculate	Novice	Suave
Antipathy	Deviate	Incarcerate	Odious	Supplication
Augment	Diabolical	Incorrigible	Palpitate	Talon
Avian	Dictum	Indignant	Perturb	Terrain
Azure	Domicile	Infamy	Protagonist	Torment
Barbarian	Edifice	Junta	Quadruped	Vain
Blasphemy	Equivocate	Juvenescent	Quarantine	Valor
Bona fide	Explicate	Lachrymose	Quotidian	Venom
Brevity	Facile	Lament	Remedial	Vigilant
Buoyant	Felicity	Luminous	Replete	Vigor
Cadaver	Finale	Malice	Repudiate	Vocation
Calamity	Fragile	Masticate	Repugnant	
Calumny	Grandiose	Matriculate	Repulsive	
Capricious	Gratitude	Melancholy	Sacerdotal	
Cascade	Gravity	Miniscule	Salutation	
Castigate	Gusto	Mea culpa	Sanctuary	
Celestial	Herbivorous	Nocturnal	Serene	

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The following translation in English is intended to give you a better idea of the way the Spanish words in the passage are put together and how knowing the Latin roots of some of these words can facilitate reading comprehension.

Do you know something about prehistory? Do you know why is called like that? Can you imagine how they were: the world, the animals, the plants... and the men millions of years ago? Do you believe that our species have been changing throughout the epochs? To that respect, (there) exists many theories; would you like to know them?

With this activity, we invite you to (realize or) imagine a trip to the past, where you can share with us your concerns and points of view of everything we will visit. Pay lots of attention to everything, because at the end we will ask you to put together in your own words an essay of the exercises that you carried out during this activity.

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### The Fry Graph Readability Formula

**Step 1:** Select 3 samples of 100-word passages randomly (eliminate the numbers from word count).

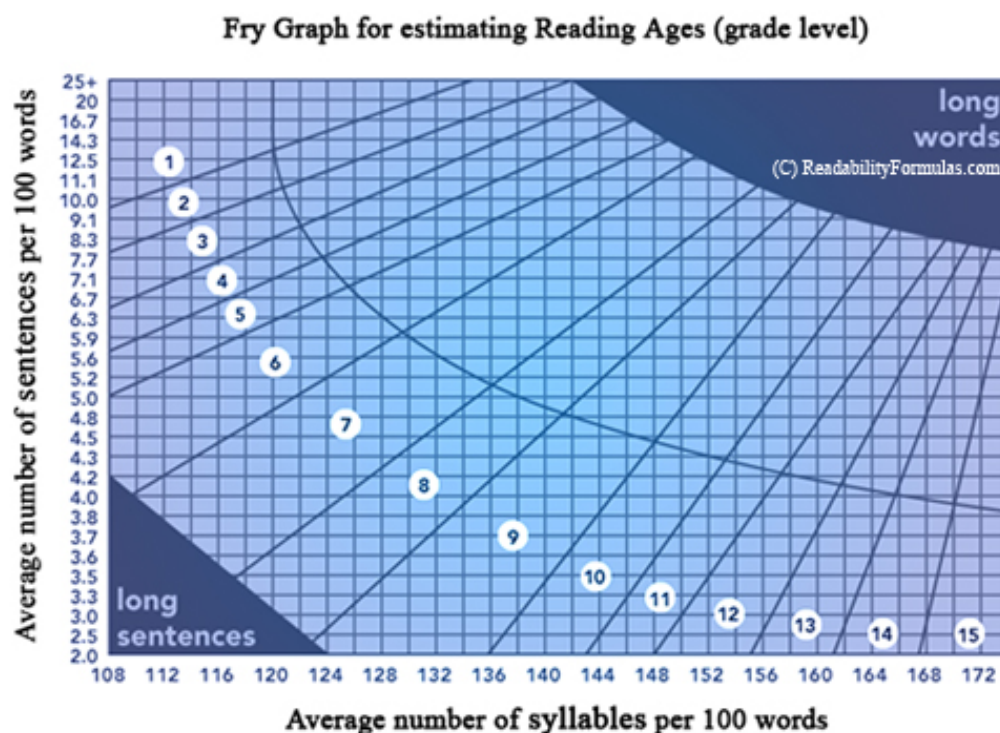
**Step 2:** Count the number of sentences in all three 100-word passages, estimating the fraction of the last sentence to the nearest 1/10th.

**Step 3:** Count the number of syllables in all three 100-word passages. Make a table as follows:

	Number of Sentences	Number of Syllables
First 100 words		
Second 100 words		
Third 100 words		
Total		
Average		

**Step 4:** Enter the graph with Average Sentence Length and Number of Syllables. Plot dot where the two lines intersect. Area where dot is plotted signifies the approximate reading grade level of the content.

**Step 5:** If you find a great deal of variability, you can put more sample counts into the average.



From Readability Formulas Retrieved from <http://www.readabilityformulas.com/fry-graph-readability-formula.php>

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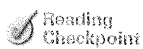
## Deciduous Forest Biomes

Your trip to the next biome takes you to another forest. It is now late summer. Cool mornings here give way to warm days. Several members of the expedition are busy recording the numerous plant species. Others are looking through their binoculars, trying to identify the songbirds. You step carefully to avoid a small salamander.

You are now visiting a deciduous forest biome. Many of the trees in this forest are **deciduous trees** (dee SIJ oo us), trees that shed their leaves and grow new ones each year. Oaks and maples are examples of deciduous trees. Deciduous forests receive enough rain to support the growth of trees and other plants, at least 50 centimeters per year. Temperatures in the deciduous forest vary greatly during the year. The growing season usually lasts five to six months.

The variety of plants in a deciduous forest creates many different habitats. Different species of birds live in different parts of the forest, eating the insects and fruits in their specific areas. Mammals such as chipmunks and skunks live in deciduous forests. In a North American deciduous forest you might also see wood thrushes, white-tailed deer, and black bears.

If you were to return to this biome in the winter, you would not see much wildlife. Many of the bird species migrate to warmer areas. Some of the mammals hibernate, or enter a state of greatly reduced body activity similar to sleep. Animals that hibernate rely on fat stored in their bodies during the winter months.



Reading  
Checkpoint

What are deciduous trees?



▼ Red fox

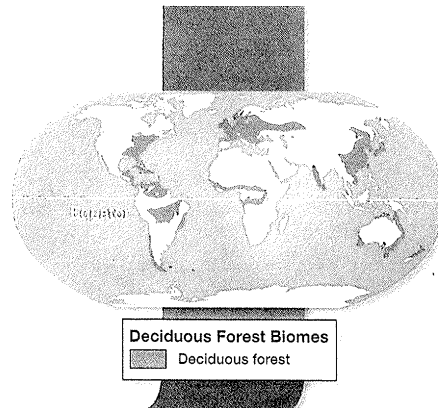
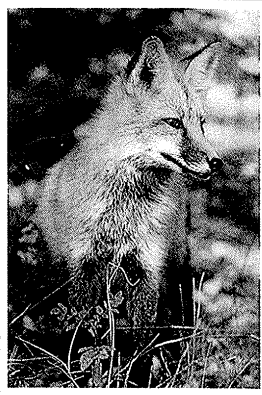


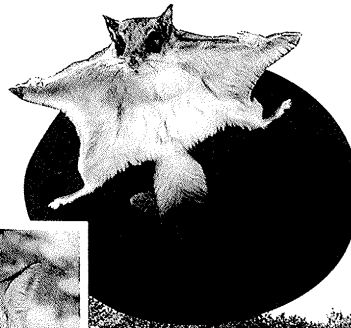
FIGURE 17

### Deciduous Forest

This forest is a beautiful example of a deciduous forest in autumn. Most of the trees in a deciduous forest have leaves that change color and drop each autumn.

*Comparing and Contrasting How do deciduous forests differ from rain forests?*

▼ Southern flying squirrel



## Adapted readability Level to 7<sup>th</sup> grade

### Deciduous Forest Biome

The deciduous (dee SIJ oo us) forest biome is known for having four **seasons**. This includes winter, spring, summer, and fall. During the fall, deciduous trees lose their leaves. During the spring, new leaves grow on the trees and continue growing during the summer. During the winter, most trees have no leaves.

Compared to the tundra and taiga biomes, the temperatures of the deciduous forest are mild. The weather averages around 50 degrees **Fahrenheit**. The amount of rain averages at 50 inches per year. This is enough rain to help plants and trees grow. Growing season can last up to six months.

**Animals of the deciduous forest.** Animals that live in this biome have adapted to the changing seasons. During winter months, some animals **hibernate**. Animals hibernate to conserve energy. Animals who do not hibernate, migrate to warmer areas to find food. Hibernating animals such as squirrels and chipmunks hide in caves or **burrows** to avoid the cold winter.

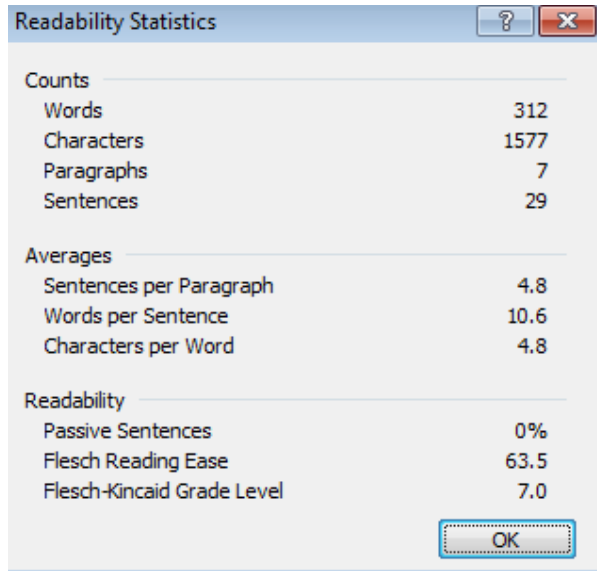
During the other seasons, animals get food from organisms in their environment. They also mate and produce offspring. The animals eat and gathering plants, nuts and fruits to store or gain weight. The extra weight helps provide energy and warmth during hibernation.

Other animals in deciduous forest have adapted to the cold season. The Whitetail deer, cottontail rabbit, and the black bear have thick fur coats that protect them from the cold. Other animals such as birds fly south during the cold months in order to find food. They return during the warmer seasons.

**Plants of the deciduous forest.** Plants in the deciduous forest biome include deciduous trees such as oak, maple and walnut trees. There are also different kinds of shrubs such as azaleas and huckleberries. Small plants found in this biome include lichen and mosses. Plants adapt to the cold months by shedding their leaves to conserve water.

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**From the Flesch Grade Level Readability Formula:** <http://www.readabilityformulas.com/flesch-grade-level-readability-formula.php>



The screenshot shows a window titled "Readability Statistics" with a help icon (?) and a close icon (X) in the title bar. The window contains three sections: "Counts", "Averages", and "Readability". Each section lists a metric and its corresponding value.

Counts	
Words	312
Characters	1577
Paragraphs	7
Sentences	29
Averages	
Sentences per Paragraph	4.8
Words per Sentence	10.6
Characters per Word	4.8
Readability	
Passive Sentences	0%
Flesch Reading Ease	63.5
Flesch-Kincaid Grade Level	7.0

An "OK" button is located at the bottom right of the window.

From Readability Formulas Retrieved from <http://www.readabilityformulas.com/flesch-grade-level-readability-formula.php>