

LISELL Lesson Starter
Coordinating Hypothesis, Observation and Evidence

Nutrition



You have probably learned about the digestive system in science class. You have learned that your body gets the **energy** you need to **function** from the food you eat. You learned that the digestive system contains many **structures** and organs and that each has a special job. You learned that the digestive organs work together to turn food into energy, so your body can work and grow.

But does this knowledge have any value to you? Why should you care? Knowing about your digestive system can help you understand the importance of nutrition for life-long health. Did you know that over a quarter of middle school students in the United States are now **considered** to be overweight, compared to about 15% of students two **decades** ago and less than 10% of students four decades ago? What has caused this **dramatic** change?

Talk about these two questions with a partner and then write your answers in your lab notebook:

- 1) What is your **hypothesis** about what has caused the increase in overweight middle school students? (Remember that a hypothesis is a prediction of what will happen based on what you already know, and it is a statement, not a question.)
- 2) What **observations** could you make in school to begin to test your hypothesis?

General Academic Vocabulary Word Sets

Revise (*Revisar*)

(v) To change or make better

Trait (*Rasgo*)

(n) a quality that makes a person or animal different from another

Evidence (*Evidencia*)

(n) something to give proof; something that supports a claim

Data (*Datos*)

(n) facts, figures or other information that can be used in different ways

Valid (*Válido*)

(adj) happening at or being at the end of something

LISELL Lesson Starters
Using the Academic Language of Science

Severe Weather Preparation

The mayor of your **community** has asked for middle school science students to help **develop** a plan for all citizens to be better **prepared** if a hurricane or tornado is **predicted** to hit your town. Write a short letter to the mayor, using scientific language, to explain your ideas about what the people in your town need to do to be safe in a hurricane or tornado.



LISELL Academic Language of Science Practices

1) The technical nature of scientific vocabulary
(lexical study)

How can the study of roots, prefixes and suffixes help students to decipher the meaning of these words?

Amorphous

Spectrometer

Cardiogram

Brainstorm some of the most common prefixes, suffixes and roots in technical scientific vocabulary

<http://academic.cuesta.edu/acasupp/as/506.HTM>

LISELL Academic Language of Science Practices

2) Abstract and depersonalized nature of scientific language (two-way rewriting)

Rewrite the following sentences in active voice and including an appropriate subject for the action.

Trees are cut down resulting in loss of soil.

Pollution increases as this water flows past the refineries that line the river.

Rewrite the following sentence in passive voice using a nominalization:

Our class found that the same parents who exercise more also eat healthier food.

LISELL Academic Language of Science Practices

3) Dense clauses (collapsing and expanding noun groups)

Identify the root noun, pre-modifiers & post-modifiers

...the two tropical rain forest hot spots in South America that have not yet been completely explored.

Add pre- and post-modifiers to expand the clause

Nerve cells

LISELL Academic Language of Science Practices

4) Express science ideas in multiple ways to build meaning

Practice “saying it another way”

What is a hypothesis? (give 2 definitions)

What is the difference between potential and kinetic energy? (say it 2 ways)

What is another example of a concept that students often memorize without understanding?

LISELL Academic Language of Science Practices

6) Discuss students' everyday understandings of science topics using everyday language

Where might your students develop everyday understandings of energy?

Of ecosystems?

How might your students explain those understandings in everyday language?
