THE CLIMATE IS CHANGING! WHAT ARE THE CONSEQUENCES FOR OUR COASTAL ISLANDS?

Link to our exhibit: " Louisiana's Present: Bird life on a coastal island"

THE CLIMATE IS CHANGING!

The Earth's surface temperature has risen by about one degree Fahrenheit in the past century, melting ice caps and causing a global sea level rise of 4-8 inches. One-foot rise is predicted for 2050 along the Gulf of Mexico. This rise will inundate wetlands, erode beaches, and intensify flooding. If we don't act, places such as the coastal islands off the coast of Louisiana will soon be part of the past!

What do you know about climate change and global warming?

First, you need to know the difference between climate and weather! When you listen to the news, you hear about what the weather will be like today or this week (sun, rain, snow, cold, hot, etc). The climate is the long-term average of a region's weather events. For instance, Louisiana is a state with a humid subtropical climate.

Global warming means that the average temperature of the Earth has increased by about 1°F over the past 100 years. Of course, Earth's climate has been evolving naturally since its beginning, but many scientists think that things people do now are contributing to the important temperature increase and that our "Climate Warming" is not entirely natural.

How do scientists investigate changes in the Earth's climate? They can study fossils present in some very old rocks; they can analyze sediments; they can study ice cores from the poles; and they can use weather stations, weather balloons, and even satellites.

One factor that increases the Earth's temperature is the Greenhouse Effect. Greenhouse gases trap energy from the sun in the atmosphere. The most common greenhouse gases are water vapor, carbon dioxide, nitrous oxide, and methane. They are called greenhouse because they act very much like the glass panels of a greenhouse that retain the sun energy inside. Sometimes, people think that the Greenhouse Effect is bad for us, but that's not true. Without it, the Earth would not be warm enough for us to live in. Actually, it could be as much as 60°F colder. The problem is that modern human activities produce too much gas in the atmosphere (industrial pollution, car exhaust, electrical power plants, landfills, etc). And we also influence the amount of gas present in the atmosphere by cutting trees that help lower the amount of CO^2 in the atmosphere!

But it is not too late. We can all make a difference by helping reduce the emission of greenhouse gases (save electricity, recycle, bike instead of drive, plant trees, etc.).

GAME 1: Now that you have learned some of the basics about climate change, let's test your knowledge! To answer the following questions on climate change, draw a line between the text/questions and the images/answers.

1. What should you do with your cans and glass bottles?

2. What can you ride instead of your car to lower pollution?

3. What can you plant to help control CO^2 levels?

4. What can you save by switching a button?

5. What object, when it melts, contributes to the elevation of the sea level?

GAME 2: TEST YOUR KNOWLEDGE!

Check in the box with the correct answer.

Question 1:
Which of these is an example of climate?

- ☐ *A windy day*
- ☐ *A rainy day*
- ☐ *A hot summer*
- ☐ *A sunny day*

Question 2:
Where do greenhouse gases trap energy?

- ☐ *In the atmosphere*
- ☐ *In the mountains*
- ☐ *In outer space*
- ☐ *In the soil*

Question 3:
Which one of these is a greenhouse gas?

- ☐ *Oxygen*
- ☐ *Carbon dioxide*
- ☐ *Wind*
- ☐ *Sulfur dioxide*

Question 4:
For how long has Earth's climate been changing?

- ☐ *One hundred years*
- ☐ *One million years*
- ☐ *One billion years*
- ☐ *Five billion years*

Question 5:
What's one reason why scientists think that the sea level is getting higher?

- ☐ *Ships make the water higher*
- ☐ *Melting glaciers add more water to the sea*
- ☐ *The ozone hole is warming the ocean*
- ☐ *All of the above*

The content of this section is based on material from the EPA climate change website.

Question 6:
When in history did humans start to add lots of greenhouse gases to the atmosphere?

- ☐ *The little Ice Age*
- ☐ *The Great Depression*
- ☐ *The Industrial Revolution*
- ☐ *Mesozoic Era*

Question 7:
Which one of these activities sends greenhouse gases into the atmosphere?

- ☐ *Riding in a car*
- ☐ *Riding your bike*
- ☐ *Walking*
- ☐ *Sailing*

Question 8:
What do scientists study in order to learn more about past climate?

- ☐ *Sediments*
- ☐ *Ice*
- ☐ *Tree rings*
- ☐ *All of the above*

Question 9:
Why have plants and animals been able to adapt to changes in climate in the past?

- ☐ *Humans protected them from changing climate*
- ☐ *Past climate changes occurred slowly enough for plants and animals to adapt*
- ☐ *The climate has not changed in the past, so plants and animals did not have to adapt to a new environment*
- ☐ *Plants and animals always benefit from changes in climate*

Question 10:
How can you help to slow global warming?

- ☐ *Save electricity*
- ☐ *Plant trees*
- ☐ *Recycle*
- ☐ *All of the above*