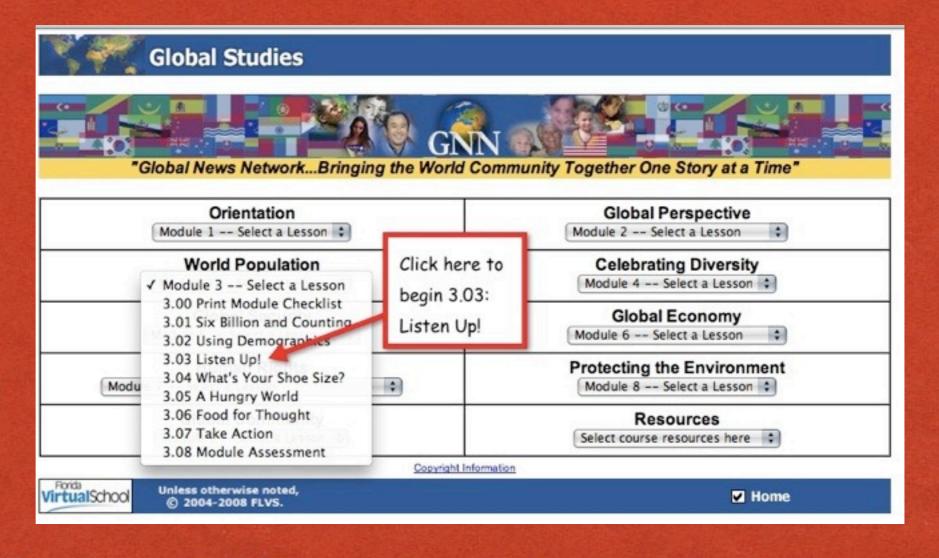
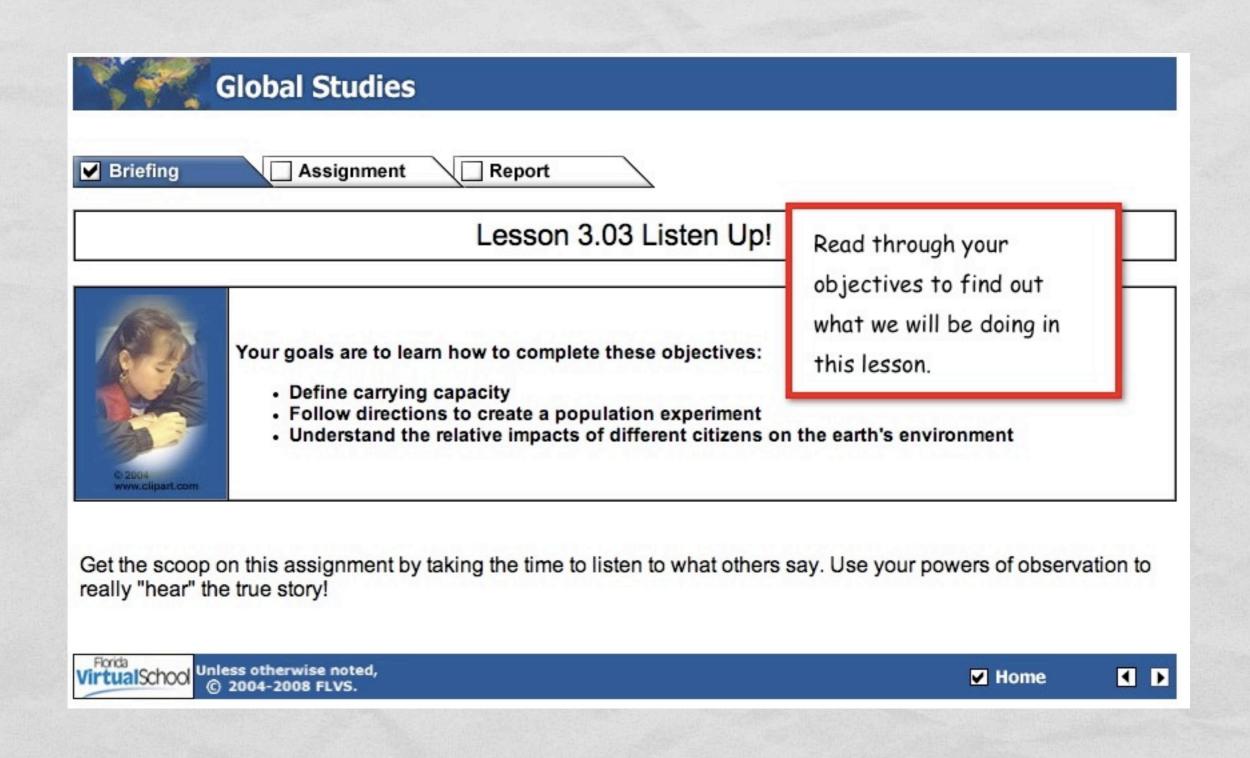


MODULE 3, LESSON 3

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Listen Up!







In Lesson 3.01 you were told that there are over 6 billion people in the world today. That number grows every minute. Even as you are reading this, babies are being born faster than people are dying. At the current rate, the population will be over 13 billion in just 50 years, and all of these people will need resources to live. At this growth rate, no one is sure how much longer the earth will be able to continue to provide those resources, or what the earth's carrying capacity is.



Carrying Capacity



NOVA HOME TV SCHEDULE ARCHIVE ABOUT NOVA SUBSCRIBE TEACHERS RSS FEEDBACK TRANS



Human Numbers Through Time



THIS IMAGE

2,000 years ago ...

...at the dawn of the fir population was around



1,000 years later...

...the population had ri well into the second m percent each year. The This site will explain a little bit more about how the population has grown throughout the years. Keep reading until the end! Close this window to go back to the lesson.

W

the 1300s—struck down by the Black Plague. But beginning in the late 18th century, the Industrial Revolution would raise living standards and spur growth.



en

Carrying Capacity

Carrying capacity is the maximum number of people the planet can sup by the destruction of the environment and overuse of the earth's resources. C with technological advances that lead to higher production of food and more remote areas.

Scientists have come up with a way to study the impact of this growth and us known as the footprint model.

Learn more about the footprint: Ecological Footprint: Overview fro

The ecological footprint refers to the area of the earth's productive surface it to would appear that we are moving towards an ecological overshoot. What is a humans resource demands are more than nature can supply. An ecological of space and resources for the total number of people on earth. Just how long

Work file

Your editor has a very special assignment for you. Use the then print out the directions for this assignment. Follow earder to complete an experiment on ecological footprints. You

Read assignment directions without downloading the work fi

Just like a car has only a certain number of seats, so does the Earth have a carrying capacity. Read more about the measurement scientists use to measure that capacity: Ecological Footprint. Then click to open the "Work File GNN" or read the assignment by clicking the link.

Lesson 3.03 Listen Up! Work File

Experiment Directions

Materials:

2,500 popcorn kernels (2 cups) or uncooked navy beans (about 3 cups)

Metal container

Two or more au

Questionnaire

If you do not have popcorn or navy beans think of an alternative that will be loud enough to make your point.

Preparation:

- Put the popcorn kernels or uncooked beans into a clean container from whi
- Set up your area so that your audience members can easily view the demo

Demonstration:

- Hold ten kernels or beans in your hand and tell your audience, "This is the person living in Sub-Saharan Africa over the course of his or her lifeting into the pan.
- 2. Now tell them, "This is the ecological impact of one person living in the of his or her lifetime." Very slowly pour the rest of the kernels into the met more dramatic the impact of your demonstration will be!

Audience Participation Questionnaire:

Interview each member of your audience using the following questionnaire. Write

- What was the difference in sound between the two impacts?
- · Why do you think this occurred?
- What do you think would happen if everyone on the earth used as many of the earth's resources as the person living in the United States?
- Is there anything you can do to lessen the ecological impact you make on the earth?

Your first experiment! This is a neat way to demonstrate the ecological footprint of the average person living in the US vs. Sub-Saharan Africa. Find a couple of friends, family members, co-workers, or even teachers and complete this demonstration. Find out what they think by interviewing them afterwards. This is important for your assessment. Question your audience thoroughly.

Comparing Lifestyles

After completing the experiment in the work file, you should have a better different effects on the earth's carrying capacity.

In this section, you will read stories of five families and the difference ecological footprint.

While you are reading, consider the following questions:

- What are some differences between your lifestyle and that of the fam Be prepared to compare and contrast their lifestyles.
- How does the ecological footprint of each family compare to yours?

PBS: World in the Balance: Material World

Wow, what a difference an experiment makes!. Read through the link here to find out about families in different parts of the world. You may want to take note of the demographic data for each country the family lives in, this will help a lot when completing your assessment!

Virtual School

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✓ Home



dwelling, family size, annual income, occupation, and religion. Here, we present five of the photographs Menzel and his team produced, along with updated statistical data for each country.—Susan K. Lewis

China: The Wu Family

The nine members of this extended family—father Wi mother Guo Yu Xian (57), their sons, daughters-in-lay grandchildren—live in a three-bedroom, 600-square-f Yunnan Province. While they have no telephone, they images of a wider world through two radios and the fa possession, a television. In the future, they hope to ge screen as well as a VCR, a refrigerator, and drugs to of the carp they raise in their ponds. Not included in the mandarin trees, vegetable patch, and three pigs.

China Stats

Population: 1.3 billion

Population density: 627 people per sq. km. Total fertility rate: 1.7 children per woman

Population doubling time: 67 years

Percentage urban/rural: 37% urban, 63% rural Per capita energy use: 905 kg. oil equivalent Infant mortality: 32 deaths per 1,000 births Life expectancy: 69 (male), 73 (female) Adult illiteracy: 7.9% (male), 22.1% (female)

Internet users: 46 million

When looking at each family be sure to read the stats or statistics for each country. I bet you will find that this information correlates with how each family lives. I suggest taking some notes on

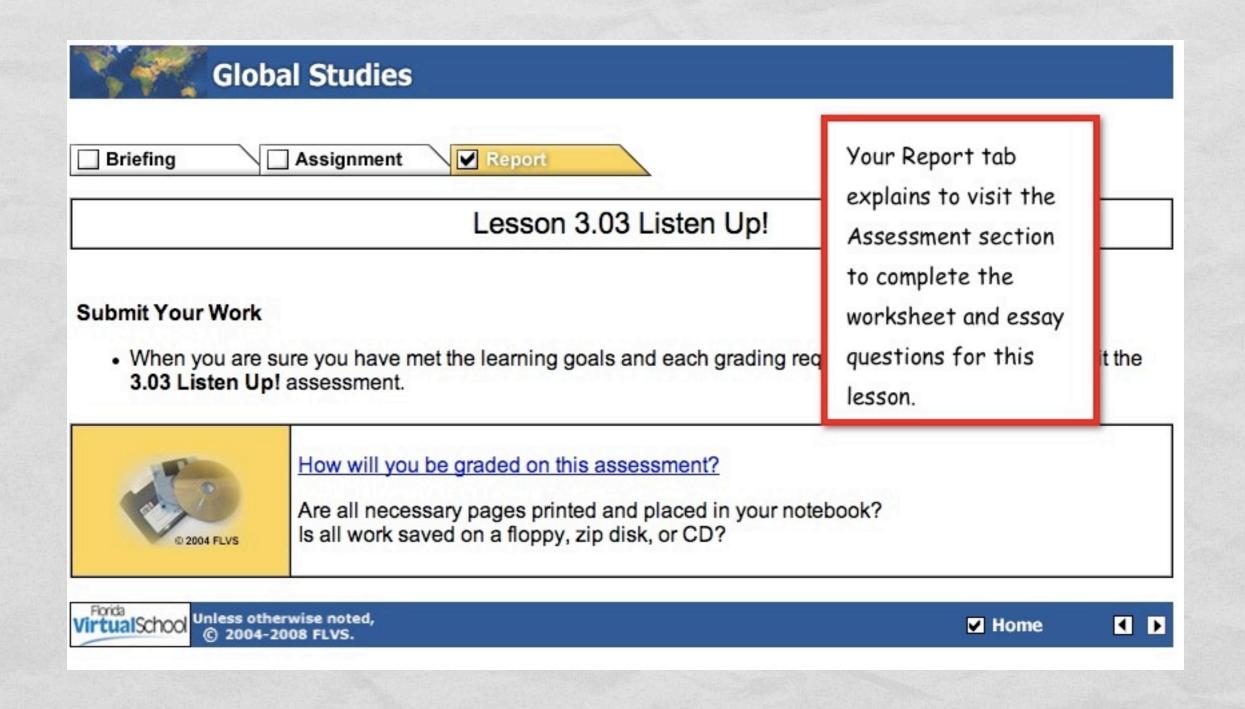
similarities so that you can

use it in your assessment.



India: The Yadev Family

At age 25. Mashre Vadey is already mother to four children, the oldest of



3.03 ASSESSMENT

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Under the "Assessment" button, click on 3.03
Listen Up.

Worksheet: 1.04 The Right Tools Assignment: 2.01 Using Geography urses Click here to start the Worksheet: 2.02 Geographic Analysis assessment for 3.03. Assignment: 2.03 Getting There ools There are multiple choice Worksheet: 2.04 Global Climates Worksheet: 2.06 Global Perspectives Survey and 3 essay questions. Be Assignment: 2.07 You Decide sure to answer each one Worksheet: 2.08 Module Quiz thoroughly for the most Worksheet: 3.01 Six Billion and Counting points possible. Exam: 3.02 Using Demographics Worksheet: 3.03 Listen Up Not submitted Assignment: 3.04 What's Your Shoe Size? None / Unlimited Assignment: 3.05 Hungry World Not submitted None / Unlimited This lesson helps to explain carrying capacity, ecological footprint and how it affects us all in the world. We start to see how much of an impact we all have on our resources and we are beginning to think of ways to reduce that impact.

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For the assessment be sure to answer each essay question in a well-developed paragraph. That should include between 5-8 sentences.

