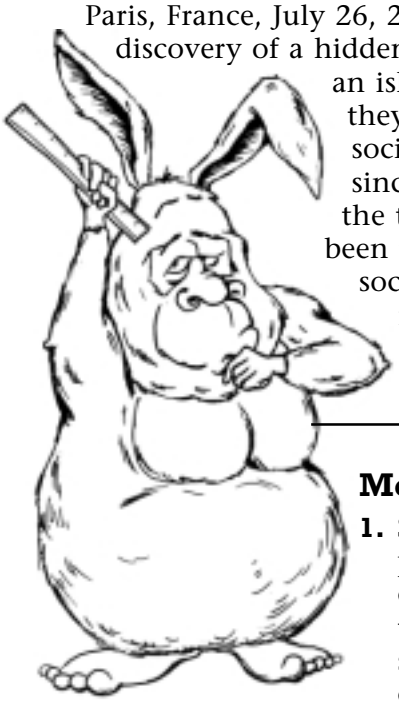
Name _____ Date _____ Class _____

STUDENT WORKSHEET

DESIGN YOUR OWN

The Length of a Fethel



Paris, France, July 26, 2033. After three weeks, the world is still amazed at the discovery of a hidden civilization of intelligent creatures living underground on an island off the coast of France. Called Singelapins by locals, they have thrived for millennia untouched by above-ground society. Their name means "ape-bunnies," which is fitting since they look like gorillas but have long, rabbitlike ears on the top of their heads. Anthropologists and ambassadors have been trying to communicate with this strange subterranean society. They have learned a little about the Singelapinian measuring systems. For example, the basic Singelapinian unit of length is the *fethel,* which is the average length of one of a Singelapin's ears.

Measure for Measure

1. Sharing scientific discoveries in the ancient world would probably have been a lot harder than it is now. The ancient Egyptians, Babylonians, Greeks, and Chinese had their own measuring systems. How did those ancient measuring systems develop? What other systems came into common use over the centuries? What caused systems to become standardized? How did standardization lead to the development of the International System of Units, or SI? How do past systems compare with SI? Share what you've learned in the form of a poster display.

Long-Term Project Ideas

2. What if our system of measurement was based on the volume of a goldfish, the mass of a kernel of corn, and the length of a videocassette? Develop your own system of measurement for mass, length, and volume. Name your system, and then design an all-in-one device that measures the mass, volume, and length of an object using your system. Your device cannot use any standard measurement tools such as a ruler or measuring cup as part of the design. You should be able to measure the volume of a cube and an irregularly shaped object. Write a manual to explain how to use your machine. Be sure to include a brief explanation of the "origin" of your measuring system as well as a table for converting units in your system to SI units.

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INTERNET KEYWORDS

Frogwatch USA

NARCAM

NAAMP

National Wildlife Federation

3. Many amphibian species are disappearing, and frogs with deformities are being found at an increased rate. Help scientists solve the puzzle of the oddly-shaped and disappearing amphibians! Get involved with one of the following amphibian monitoring programs: Frogwatch USA, North American Reporting Center for Amphibian Malformations (NARCAM), or the North American Amphibian Monitoring Program (NAAMP). Use the Internet to find out more information about each program and the guidelines for participation. If you're not a frog fan, check into the National Wildlife Federation's list of other monitoring programs. Make a poster outlining theories on the cause or causes of the decline in amphibian populations.

4. Who are life scientists, and what do they do? Use library and Internet resources to research the life and work of one of the life scientists listed below or another life scientist who interests you. Familiarize yourself with the country and culture in which the scientist lived, major events in the scientist's life, and the ideas that the scientist studied and developed. Then with a partner, write a script for an imaginary interview with the scientist. Include simple and safe demonstrations of the important scientific ideas. Dress in costume and videotape the interview or perform it live for your classmates.

Name	Field
Elizabeth Blackwell	Medicine
Cornelia Clapp	Zoology
Charles Darwin	Biology
Alexander Fleming	Bacteriology
Jane Goodall	Anthropology
Mae C. Jemison	Aeronautics and medicine
Ernest Everett Just	Biology
Barbara McClintock	Genetics
Thomas Hunt Morgan	Zoology and genetics
Mary Walker	Medicine
James D. Watson	Genetics