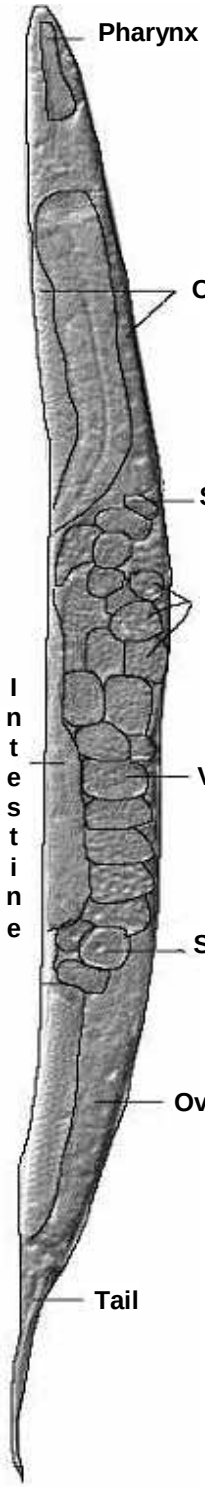
***Caeno*-WHAT??** **Student Name:** _____



That's *Caenorhabditis elegans*, pronounced see-no-rab-DITE-iss el-leh-GANZ. (Greek *kaino* **RECENT**; *rhabdos* **ROD**; Latin *elegans* **ELEGANT**)

This is the scientific name for the worm you see at left.

Don't let the picture scare you--the real worm is only about 1 millimeter long!

Our lab and many other labs around the world study this fascinating little worm. *C. elegans* is probably the most completely understood organism. Scientists have chronicled every one of the cell divisions that produce the mature 959-cell adult worm from a single fertilized egg.

In a heroic scientific feat performed by hundreds of scientists on two continents, the entire 97 million basepairs of the *C. elegans* genome have been sequenced--**this is the only multicellular organism whose entire collection of genes has literally been read!**

By studying *C. elegans,* scientists have already learned crucial lessons about cancer, Alzheimer's disease, muscular dystrophies, aging, and many other important aspects of human biology.

And we're learning more every day.

Permission to use granted by Paul Mahlrab, University of Arizona
www.mcb.arizona.edu/wardlab/Caenowhat.html

© 2000-2008, BrainU, University of Minnesota Department of Neuroscience in collaboration with the Science Museum of Minnesota. **SEPA** (Science Education Partnership Award) Supported by the National Center for Research Resources, a part of the National Institutes of Health.

Take a look at your petri dish under the microscope at 12-15x. What do you see? Draw a picture.

How do the worms move?

How does the worm's shape help the worm move?

How might the worm's movement help it survive?

Do you see different sizes of worms?

Why are there different sizes of worms?

What do you think the worms would move toward?

Why?

What would you expect if the worms couldn't smell or taste anything?

How could you figure out a way to see if your idea (hypothesis) about what the worms would move toward or away from is correct?

© 2000-2008, BrainU, University of Minnesota Department of Neuroscience in collaboration with the Science Museum of Minnesota. **SEPA** (Science Education Partnership Award) Supported by the National Center for Research Resources, a part of the National Institutes of Health.

***Caeno*-WHAT??** **Student Name:** _____

Design an experiment.

Do your experiment! Remember that you will be sharing your data with other students so it is important that you are careful doing your experiment and recording your results.

What happened?

Do your results support your original idea?

What did your classmates do? Did everyone get the same results?

What would you change if you did this experiment again?

Calculate what percent of your worms went toward or away from your tested chemical.

$$\frac{\text{\# of animals counted in the test chemical area}}{\text{\# of animals counted in both the test and control areas}} \times 100\% = \boxed{}$$

So what does this percentage mean? Did the animals move toward or away from the chemical? Why do you think that?

© 2000-2008, BrainU, University of Minnesota Department of Neuroscience in collaboration with the Science Museum of Minnesota. **SEPA** (Science Education Partnership Award) Supported by the National Center for Research Resources, a part of the National Institutes of Health.