

HOW DOES EVOLUTION WORK: ON-LINE LESSON

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1. Go to <http://www.pbs.org/wgbh/evolution/educators/lessons/lesson4/act2.html>
2. Launch the Sex and the Single Guppy Web Activity
 - a. Select “I’m ready to find out.”
 - b. Read the Text and click on the pools to investigate the guppy stream more closely
 - c. Then click on “What causes guppy color variation?” Select one of the hypothesis or create your own, and record it on the data form.
 - d. Visit the Guppy Gallery, Read about the different types of guppies, their predators, and their habitats.

Click on “simulation.” Proceed with the simulation by creating and carrying out a field experiment to gather data to test your hypothesis. Record your data.

Flashy Fish: Data

1. If being flashy attracts predators, why are male guppies so colorful?
2. What do you think is responsible for the variation in color from one generation to the next?
3. Select a hypothesis from the Sex and the Single Guppy Web activity or come up with your own and record it here.
4. Next you will set up your experiment as directed in the simulation. Record your initial settings here.

Predator types and numbers:

Initial guppy population:
5. Run your initial experiment for at least five generations and record your results here.

Number of guppies:
Number of generations:
Number of weeks:
Male color types:
Brightest male guppy ____%
Bright male guppy ____%
Drab male guppy ____%
Drabbest male guppy ____%

6. Was your hypothesis supported by your data? If so, why? If not, you may want to change your hypothesis and rerun your experiment.

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7. New hypothesis:

Record your new data here.

Number of guppies:

Number of generations:

Number of weeks:

Male color types:

Brightest male guppy ____%

Bright male guppy ____%

Drab male guppy ____%

Drabbest male guppy ____%

8. Was your new hypothesis supported by your data? If so, why? If not, redo.

9. Summarize what you learned from your experiments.

Flashy Fish: Discussion Questions

1. Why do some guppies tend to be drabber than others?

2. Why do some guppies tend to be more colorful?

3. What role does color play in guppy survival?

4. Explain the push and pull that the environment has on the coloration of guppies in Endler's pools.