

Packet is available to be downloaded here:

<http://sites.nicholas.duke.edu/superfund/education-and-outreach/resources-for-educators/>

This packet is meant to supplement a lesson plan covering the topic of adaptation and contains the following resources:

1. Worksheet – the worksheet contains a story describing the process of adaptation within a population of fish in the Elizabeth River and includes related questions to encourage students to think critically about adaptation.

Time: approximately 15 minutes if done independently, longer if done in groups.

2. Activity/Game – this activity or game is a role-playing exercise in which students explore the process of adaptation as if they were fish adapting to their environment.

Time: recommended to play for at least 10 minutes (including instructions).

3. Factsheet – this factsheet provides fun facts about the mummichog, a type of fish living in the Elizabeth River, and includes a removable bookmark.

Related Standard of Learning

Standard 4.5a, Strand: Living Systems

“The student will investigate and understand how plants and animals, including humans, in an ecosystem interact with one another and with the nonliving components in the ecosystem. Key concepts include

- a) plant and animal adaptations;
- b) organization of populations, communities, and ecosystems and how they interrelate;
- c) flow of energy through food webs;
- d) habitats and niches;
- e) changes in an organism’s niche at various stages in its life cycle; and
- f) influences of human activity on ecosystems.”

Essential Knowledge, Skills, and Processes addressed by the resources

- Investigate and infer the function of basic adaptations;
- Understand that adaptations allow an organism to succeed in a given environment; and
- Explain how different organisms use their unique adaptations to meet their needs.

Learning outcomes

The learner will:

- Be able to define adaptation
- Be able to define fitness costs
- Understand how adaptation affects the Elizabeth River
- Connect his/her experience on the Elizabeth River Project’s learning barge to the concept of adaptation