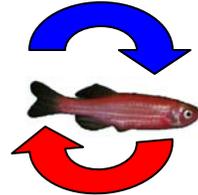


GloFish® Life Cycle



Grade Level: K-4

NATIONAL SCIENCE STANDARDS

Systems, order, and organizations
Evidence, models, and explanation
Life cycles of organisms

INTRODUCTION:

GloFish® Life Cycle is a lesson that affords students an opportunity to learn about the changes that occur during the life cycle of a zebrafish. Additionally, it can be used to guide students in distinguishing from fact and fantasy in a story.

During this activity, students are presented with a fantastic story about fish growth. Then, they are challenged to search within themselves and use their life experiences to determine if the events of the story are real. Afterwards, they are presented with facts, and a song is sung to help students memorize what they have studied. Finally, students are provided with a worksheet to visually reaffirm their knowledge.

OBJECTIVES:

- 1) Students will be able to observe and record changes on the life cycle of a zebrafish
- 2) Students will be able to observe changes in size, mass, shape, and color through the different stages of life of a zebrafish
- 3) Students will listen a story being read aloud and will be able to distinguish fiction from nonfiction, including fact and fantasy

MATERIALS:

- The book [A Fish Out of Water](#) from Helen Palmer
- GloFish® Life Cycle Template for each student
- Pictures from the different stages of a zebra fish life cycle
- London Bridge audio clip
- White sheets of paper for each student
- Scissors
- Glue
- Crayons or Colored pencils

TIME ALLOTMENT: 45 minutes

LEARNING OUTCOMES:

Students recognize that many changes occur during the life cycles of organisms. They are able to name the stages in a zebrafish life cycle, and to describe the characteristics of each stage.

PROCEDURE:

- 1) As an introduction to the topic on how fish grow, read aloud to the students the book A Fish Out of Water from Helen Palmer.
- 2) Talk to the students about fiction and non fiction books. Ask them if they think the story A Fish Out of Water is something that can happen for real, or if it is only fantasy.
- 3) Tell students you are going to show them how a fish grows in real life. Tell them a fish is first an egg, then a larva, then a juvenile and finally an adult.
- 4) Show students pictures from the different stages of a zebra fish life cycle. You can also go to <http://www.mrrcmedia.org/VR/lifecycle.htm> for a small video clip of the different stages.
- 5) Provide students with the following information about some of the characteristics of the different stages. (For more information go to: http://zfin.org/zf_info/zfbook/stages/index.html#Adult)
 - Egg (Embryo): During their egg stage, zebrafish go through a lot of changes before hatching. In this stage, zebrafish develop their brains, their hearts, and their main internal organs. This stage goes from their hour zero through hour forty eight of life.
 - Larva: Zebrafish go through their larval stage from the end of the egg stage to their twenty-ninth day of life. In their larval stage, zebrafish grow from 3.5mm to 7.8mm of total body length. They also grow from six to ten teeth.
 - Juvenile: Zebrafish go through their juvenile stage from their thirtieth day of life to their eightieth day. In this stage, they grow from 10mm to 14mm total body length. They also develop adult fins, obtain their final pigment, and grow twelve teeth.
 - Adult: Fish reach the adult stage when they arrive at their ninetieth day of life. At this stage they are ready to reproduce..
- 6) Tell the students that in order to better memorize the life cycle stages of a GloFish®, they are going to sing a GloFish® song to the tune of London Bridge. Play the song provided along with this lesson plan in your computer, and follow the lyrics. Repeat it as many times as necessary.

GloFish® Life Cycle

Egg, Larva, Juvenile, Adult

Fish life cycle.

Egg, Larva, Juvenile, Adult

That's how GloFish® grows.

That's how GloFish® grows,

Egg, Larva, Juvenile, Adult

Fish life cycle.

- 7) Provide the students with the GloFish® Life Cycle template, and ask the students to cut the different stages, and paste them in chronological order on an independent sheet of paper.

DISCUSSION QUESTIONS:

- A) What are some characteristics of GloFish® in their egg stage?
- B) How do GloFish® look in their larval stage?
- C) Mention two different things that happen to GloFish® in their larval stage.
- D) Is there any other change on GloFish® after their adult stage?
- E) Mention all the stages in chronological order

CONCLUSION:

The structure of this activity helps students in acquiring knowledge by creating a contrast between facts from fiction. It allows students to dig into their minds for logical knowledge creating connections between the information provided and their life experiences.

OUTCOME/ASSESSMENT:

Collect students work, and check if they placed the drawings of the different stages in the appropriate chronological order. Individually ask students one or two of the questions provided above.

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