

STEM *Sims*TM

Hydrozoan Life Cycle



Hydrozoan Life Cycle

Do you need an idea for a scientific study?

Try out one of our ideas or make one of your own.

The timing of each stage of the human life cycle is fairly constant. Humans spend about 20 years as a preadult, 20 years as a reproductive adult, and 20 years as a post-reproductive adult. But other organisms have timings that are highly unusual as compared to humans. Take the following brief quiz to see how much you already know about life cycles. See the bottom of page 4 to check your answers.

1. Which animal has the *shortest* lifespan?
 - a. fire ant
 - b. honeybee
 - c. mayfly
 - d. mosquito
2. How long did the oldest human on record live?
 - a. 105
 - b. 111
 - c. 122
 - d. 132
3. In which organism does the male give birth to offspring instead of the female?
 - a. seahorse
 - b. sea urchin
 - c. horseshoe crab
 - d. monarch butterfly
4. Which animal has the *longest* lifespan?
 - a. humans
 - b. hydra
 - c. tubeworm
 - d. whale shark
5. How long did the oldest koi fish on record live?
 - a. 98
 - b. 137
 - c. 183
 - d. 226



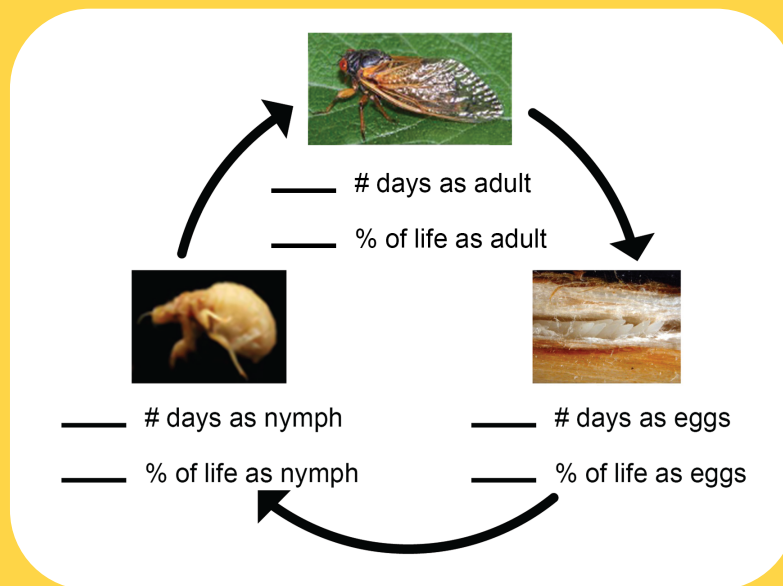
A Very Short “Life!”

The Magicicada is a highly unusual insect in terms of its life cycle. This insect is called a periodical cicada because the adult form only appears once every 17 years. Once the adult cicada appears, it only lives above ground for about one month before the adult dies. During this time, the male uses a special structure called the tymbal to make an extremely loud clicking sound to attract females as mates. The sound is reinforced by the male’s body that acts as a sounding board. The clicking sound can be loud enough to cause hearing loss in people if they are too close to the sounds.

Once the males find a suitable mate, the males and females reproduce. The female then uses special parts to cut slits in the bark of trees and lays up to 400 eggs. After about 8 weeks, the eggs hatch and nymphs emerge. The nymphs fall to the ground and burrow up to 2.5 meters deep below the surface. Once at the correct depth, the nymphs feed on the sap of the tree roots until it is time for them to emerge from the ground as adults and repeat the life cycle.

Procedure

1. Use the information above to complete the diagram below.



Questions

1. Describe some benefits of the strange life cycle of the cicada.

2. Describe some disadvantages of the strange life cycle of the cicada

Hydrozoan Life Cycle

More Weird Facts About Cicada

In addition to having an unusual life cycle, cicadas also have many unique characteristics. The adult stage is highly dependent on temperature. The adults only emerge from the ground when the temperature is exactly 17.8°C (64 °F). When the adults take to the trees, they can have up to 1.5 million adults per each acre. The good news is that cicadas do not damage the trees unlike locust that eat and damage the plants when they swarm. Locust can eat the same amount of food crops as about 35,000 people would eat in a single day.

Cicadas are some of the largest insects with a body length of up to 3 inches and a wingspan of about 8 inches. They also have a relatively long lifespan as compared to other insects, such as the common housefly, which has a life span of only up to 30 days.



The wings of the adult cicada are especially of interest. Their wings have a natural antibiotic that kills bacteria on contact using special chemicals and small spikes that rupture the bacterial membrane. The structure of their wings also functions as a water repellent. Researchers are attempting to replicate the cicada wing structure to make products such as water-repellent raincoats.

Several predators make a meal of cicada when they emerge as adults. These predators include birds, lizards, snakes, fish, raccoons, and even people. In fact, in some areas of the world cicada are viewed as a delicacy and prized for their shrimp-like taste. People eat them grilled, deep-fried, boiled, stuffed, and even raw. Yum!

Please visit our site for more helpful information:
STEMsims.com

Answers: Page 2 Answers: (1) c, (2) c, (3) a, (4) b, (5) d. Page 3 Answers: A Very Short "Life!" The adult lives about 30 days (0.5%), the eggs about 56 days (0.9%), and the nymph about 6,210 days (98.6%) Questions (1) Answers will vary. Might include to avoid predators or harsh weather. (2) Answers will vary. Might include little time for reproduction if the weather is bad and predators are plentiful.

© 2022 STEM Sims. All rights reserved. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable, and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use. Publication thereof does not convey nor imply any license under patent or other industrial or intellectual property rights.