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TE 804 Science  
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## Life Cycles Science Unit

### Part A. List the standards

**S.IP.01.11** Make purposeful observation of the natural world using the appropriate senses.

**S.IP.01.16** Construct simple charts from data and observations.

**S.IA.01.12** Share ideas about science through purposeful conversation.

**S.IA.01.13** Communicate and present findings of observations.

**S.RS.01.11** Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.

**L.OL.E.2 Life Cycles- Plants and animals have life cycles. Both plants and animals begin life and develop into adults, reproduce, and eventually die. The details of this life cycle are different for different organisms.**

**L.OL.01.21** Describe the life cycle of animals including the following stages: egg, young, adult; egg, larva, pupa, adult.

### Part B. Commonly Held Ideas

When researching my topic I was unable to find many commonly held ideas about life cycles, however, I was about to find some common misconceptions students have on this topic. The misconceptions that I found regarding this topic are the misconceptions that only insects can have a life cycle (metamorphosis), and also that plants are not living things. I think these are two very important ideas to address because if they remain unaddressed the entire basis of the life cycle unit might not make sense. If students do not understand that a plant is living then how will they be able to comprehend and understand the changes the plant is making.

Only insects have life cycles

[http://www.wastatelaser.org/\\_support/toolkits/stc/butterflies/misconcepts.asp](http://www.wastatelaser.org/_support/toolkits/stc/butterflies/misconcepts.asp)

Plants, fungi, eggs and seeds are not living

Berthelsen, B. (1999). Students Naïve Conceptions in Life Science. *MSTA Journal*, 44(1) (Spring'99), pp. 13-19. <http://www.msta-mich.or>

### Part C. Assessment Tasks

Students will be able to correctly order the stages of the life cycle for a plant, a butterfly, and a frog.

- Using cards students will put the cards in the order in which the animal goes through each stage in its development.

Students will be able to identify a specific picture (of live viewing) with the correct stage of the animal or plants life cycle.

- When you looked at the frogs today what did you observe?
- What stage in their life cycle are they in?

Students will be able to draw the life cycle of a butterfly and a frog correctly representing the cycle.

- Students will draw and label the different stages of the life cycle of a butterfly and a frog
- If the butterfly started as an egg and ended as a butterfly how did it get to that point? What happened in between?
- Ask students where the animal started, then what came next, and then next, what did it end up as in the end of the cycle?

#### **Part D. Summary of Ideas**

Some students already understand the stages of the life cycle of a butterfly. In a reading unit they all have done that discusses the metamorphosis all of the students had brief exposure to this topic. Students currently are not aware that plants are living things. Most students only view animals as being a living thing. Therefore the cycle of a plant will be more difficult to comprehend if students do not first understand that plants are living things. Students also do know have the knowledge that frogs go through a metamorphosis. Many students believe that frogs hatch from eggs as small frogs and just get bigger “by eating flies”. I learned that students have a misconception that things grow and get bigger but that most things just look the same as an adult as they did as a young.

My students have the experience of reading about a metamorphosis and butterflies in a reading group with gave them some of the vocabulary for the life cycle of a butterfly. I would like my students to be able to identify the different stages in life cycles of different animals. I also would like my students to gain skills in observations and recording data of their observations.

I learned that my students view the world simply in terms of the way they interact with it. To them plants can't be alive because they can't talk, walk, or visibly eat as they do. This really helped me to understand that comparing living things to them and explaining how they get the same needs met, and how they change but humans do too, will help my students to be successfully in learning about eh world in the way in which they already connect to it, through personal experience.