

7th Grade Science Summer Assignment  
Due Date: 1st day of School (to be determined)  
Turn in through Google Classroom.

**Topic:** Frozen Frog Living Not Living Worksheet

**Summary:** Students review the characteristics of life to determine if a frozen frog is alive.

**Goals & Objectives:** Students will be able to analyze conditions of an animal and apply the characteristics of life to that animal.

**Time Length:** 10 minutes

**NGSS Standards:** HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

**Materials:**

Projector, YouTube, and pencil or pen

**Prerequisite Knowledge:** Characteristics of Life.

**Procedures:**

1. Students need to read the contents of the handout then to check off which characteristics are missing.
2. Students watch the Frozen Frog video.  
<https://www.youtube.com/watch?v=TYJv-wxwvLw>
3. Students need to explain how defining what is living and not living is difficult for scientists.
4. New class sections for 7<sup>th</sup> grade will be assigned in September when schools open. Once, you know your respective class sections, you will upload or turn in your completed summer assignment worksheet in Google Classroom.
5. Open Google Classroom then click JOIN CLASS by typing your specific section class code. Click 2020 Summer Assignment.

**Google Classroom JOIN CLASS codes by section:**

**7.1: zhrgkyv**

**7.2: 3kdo5i3**

**7.3: 2y7hyll**

## Frozen Frog – Is it Alive?

Video: North American Wood Frog <https://www.youtube.com/watch?v=TYJv-wxwvLw>



The North American wood frog's body will become frozen at the touch of an ice crystal. Most water inside the internal organs of the frog is removed and turned into solid ice around the frog. The cells inside the frog use a natural antifreeze to protect the cells from becoming destroyed when the frog freezes. When it is spring, the frog thaws and resumes living and reproduces. This whole process is amazing and goes against the idea that there are certain characteristics of life.

1. What is the natural antifreeze that the frog uses to protect its cells? \_\_\_\_\_
2. Check off which characteristics of life the frog is/are **missing** when the frog is frozen.

Made of cells

Interdependence (responds to stimuli)

Heredity

Metabolism

Evolve

Homeostasis

Reproduction

3. Explain why it is difficult for scientists in defining what a living/nonliving thing is.
4. What are the characteristics of living things?