

Characteristics of Living Things: What makes something alive?

Subject 1: Human Beings

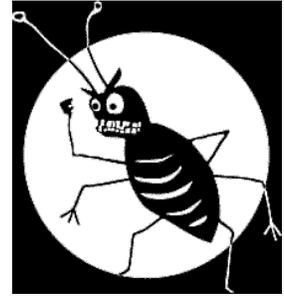
1. Does a human **grow and develop**?
2. Do humans eat other organisms or **require energy**?
3. Can humans **reproduce**?
4. Do humans **respond** to a stimulus? What happens if you wave or clap your hands in front of a person?
5. Do humans **require oxygen** or gas exchange? What happens if you were to hold your breath?
6. Based on your answers to questions 1-5, do you think human beings are considered to be alive?

Subject 2: Fire

1. Does fire **grow and develop**? Think about forest fires. How do they start? How do they change over time?
2. Does fire consume (or "eat") other organisms or **require energy**? Think about forest fires again. What happens to the trees and animals in a forest during a forest fire?
3. Use the candle that your teacher lit to light your second candle. What happens? Based on your observations, does fire **reproduce**?
4. Does fire **respond** to a stimulus? What happens if you blow on it softly (not hard enough to put it out)? What happens if you wave your hand over it?
5. Does fire **require oxygen** or gas exchange? What happens if you put a jar over the candle?
6. Based on your answers to questions 1-5, do you think fire is considered to be alive?

Extension: Name at least 2 characteristics that human beings have that fire does not. Do you think these characteristics are essential to be defined as living?

Biology is the study of **living things**. The following are **7 characteristics of living things**:
(O & C go together in the acronym)



- R _____
- O _____
- A _____
- C _____
- H _____
- E _____
- R _____
- G _____

What is meant by...

- **Cell=**
 - Example:

- **Homeostasis=**
 - Example:

- **Adaptation and Evolution=**
 - Example:

In addition, all living things have common needs:

- 1.
- 2.
- 3.
- 4.

Characteristics of Living Things Project **Due:** _____

Goal: To show in a visual and written form the characteristics of living things in a way that you will remember the characteristics.

Directions: Pick a character from your favorite book/tv show/movie. Provide an example for how this character exhibits each characteristic of a living thing. Please include a picture as well as a short description for each characteristic.

Grading Rubric:

	Exceeding Standard	Meeting Standard	Approaching Standard	Below Standard
Pictures	Has 7 of life characteristics represented by the character of the student's choosing 5	Has 6 life characteristics represented by the character of the student's choosing 4	Has 4-6 life characteristics represented, some are not of living things 3	Has less than 4 life characteristics represented 0-1
Explanation	Has 7 life characteristics described in detail & how the pictures represents them is given in great detail 10	Has 6 life characteristics described in detail & how the pictures represents them is given in great detail 8	Has 4-6 life characteristics described, lacking detailed explanation & or detailed description of the life characteristic 6	Has less than 4 life characteristics described, lacking detailed explanation & or detailed description of the life characteristic 0-4
Creativity	Pictures are innovative & thought was put into placement 5	Pictures represent the characteristics & thought was put into placement 4	Pictures minimally represent the characteristics, little thought put into placement 3	Pictures minimally or do not represent the characteristics, lack of thought for the placement 0-1
Neatness Part 1	Descriptions are typed 2.5	Descriptions are hand written, but legible 2	Descriptions are hard to read 1.5	Descriptions are illegible 0-5
Neatness Part 2	Poster is put together as though a lot of time was put into it 2.5	Poster is put together as though time was put into it 2	Poster is put together as though little time was put into it 1.5	Poster was put together with virtually no time spent 0-5