SCIENCE

NAME: PERIOD: DATE:

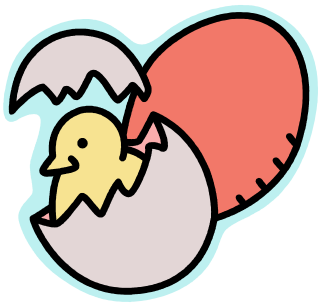
CHARACTERISTICS OF ORGANISMS NOTES

Before a person can study living things, they must be able to answer one important question: How do I know when something is alive?

If they were cool, they would use this checklist. Pick an object. If that object can do all the things on this checklist at some point, it's alive. If it fails any part of the checklist, it is not alive.

1. Living things move. Living things can get from place to place under their own power.
- Some living things grow from place to place, like plants.
- Living things that stay in one place for most of their life are called **sessile**.

2. Living things use energy. All living things have to get or make their own food. In order to get the energy out of their food living things use oxygen.
- Living things that make their own food from non-food materials are called **producers**.
- Living things that get their food by eating other living things are called **consumers**.



3. Living things reproduce. Living things can make more of themselves.

4. Living things grow and develop.
- **Growing** means that as an organism gets larger.
- **Development** means that an organism's body changes.

5. Living things only live for a certain amount of time. The amount of time a living thing is expected to live is called its **lifespan**. The lifespan is different for each kind of living thing. Certain fruit flies live only 24 hours, while some trees live for thousands of years.

6. Living things are made up of one or more cells. **Cells** are the smallest units of living things that can do all the things that are necessary to stay alive. Inside cells are many smaller cell parts that do specific jobs. (Cells are microscopically small, but are much bigger than atoms.) Some living things have a body that is only one cell.

7. Living things react to and respond to their environment. This occurs in many ways:
- **Homeostasis** – is when a living thing's body tries to maintain stable body conditions no matter what is happening outside the body. (Ex. A person's body tries to keep the same body temperature all the time.)
- **Stimulus and Response** – Organisms detect things with their senses and can then take action. Anything that can be detected with a living thing's senses is a **stimulus**. What a living thing does after detecting a stimulus is its **response**.
- Over many generations, the living things that survive the best pass their traits on to the next generation. Over long periods of time, this causes that type of living thing to be better able to survive. The characteristics that make a living thing better able to survive in its environment are **adaptations**.

If an object can do all 7 of the things on the checklist is alive. (Like you.)

If it used to be alive, but it isn't anymore then it is dead. (Like a dead bird or a block of wood.)

If it never could do all the things on the checklist, it's non-living and never was alive. (Like a rock.)

Another Important Word:

Organism – any living thing is an organism. (Hey, it's shorter than saying "living thing" all the time!)