

Characteristics of Living Things & The Cell Theory



1. Summarize the important differences between living and nonliving things?

- Living meet (have) ALL characteristics of life
- Non-living are missing /or more characteristics

2. Name the characteristic(s) shown by each of the following examples:

Example	Characteristic(s)
A plant that bends towards the light.	Responsiveness
A tadpole develops into a frog.	Growth + Development
Human lungs eliminate carbon dioxide.	Homeostasis
A blue jay feeds on sunflower seeds.	Acquire Energy
A cat gives birth to a kitten.	Reproduction
Human blood contains red and white blood cells.	Order + Organization

3. Are tornadoes alive? Why or why not? Justify your answer with three good reasons.

- No - They cannot maintain homeostasis - They cannot reproduce**
- They are not made of cells

4. Why are viruses considered non-living?

They cannot reproduce without a host or acquire energy independently

5. Name a non-living thing that uses energy. **Car engine, tornado, light bulb.**

6. Name a non-living thing that grows. **Mountains, Puddles**

7. Pick a living thing and provide an example of how it meets the needs of all 7 characteristics of life.

- Dog - Puppy- adult (growth) - made of cells, have tissues, organs (O+O)**
- Eat food (acquire energy) - breeds different characteristics (adaptation)
 - Mate to produce Puppies (reproduction)
 - Bark at door bell (responsiveness)
 - Pant when hot (Homeostasis)

8. According to the modern cell theory all cells are basically the same. If this is true, how is it that cells can be so vastly different? What is it about the cells that is the same?

The DNA (genetic material) is slightly different

- **Different parts (genes) can be turned on/off.**