VERY FEW THINGS ARE ALWAYS CONSERVED

READ: When something is "conserved" for some period of time, that thing has to exist in the same amount for that entire time. No part of it can vanish into nothingness and it can't appear out of nothing. It can't increase or decrease in amount. If something is always conserved, it can move from place to place but it has to always exist. This general way to be conserved is called **global conservation**. This is a tall order!

The Universe seems to always do something even more special! If something is conserved, the Universe always conserves it locally. That means not only is there always the same amount (global conservation), but it ALSO can't teleport from place to place. If it is at point A and moves to point B, it follows some smooth path between those points. No teleporting, apparating (Harry Potter reference), or anything like that. Water from Mars will never spontaneously appear over your head in a job interview. This is **local conservation**. This is what the Universe really does when things are conserved. Most things are conserved some of the time. Very few things are conserved all of the time.

DO: Categorize the following things by whether the universe conserves them ALWAYS or SOMETIMES. *If the universe conserves the thing only some of the time, give an example when it is conserved and another example when it isn't.* Use the Internet as a resource. If you don't know what something is, look it up.

1. Hot pockets -

2. Water -

3. Molecules –

4. Fire -

5. Light -

6. Living things: animals (both human and nonhuman), plants, bacteria, etc. -

7. Atoms -

8. Subatomic particles like: electrons, protons, neutrons -

9. Charge -

10. Mass -

11. Energy -

12. Kinetic Energy -

13. Potential Energy -

14. Linear Momentum -

15. Angular momentum -