



Patterns

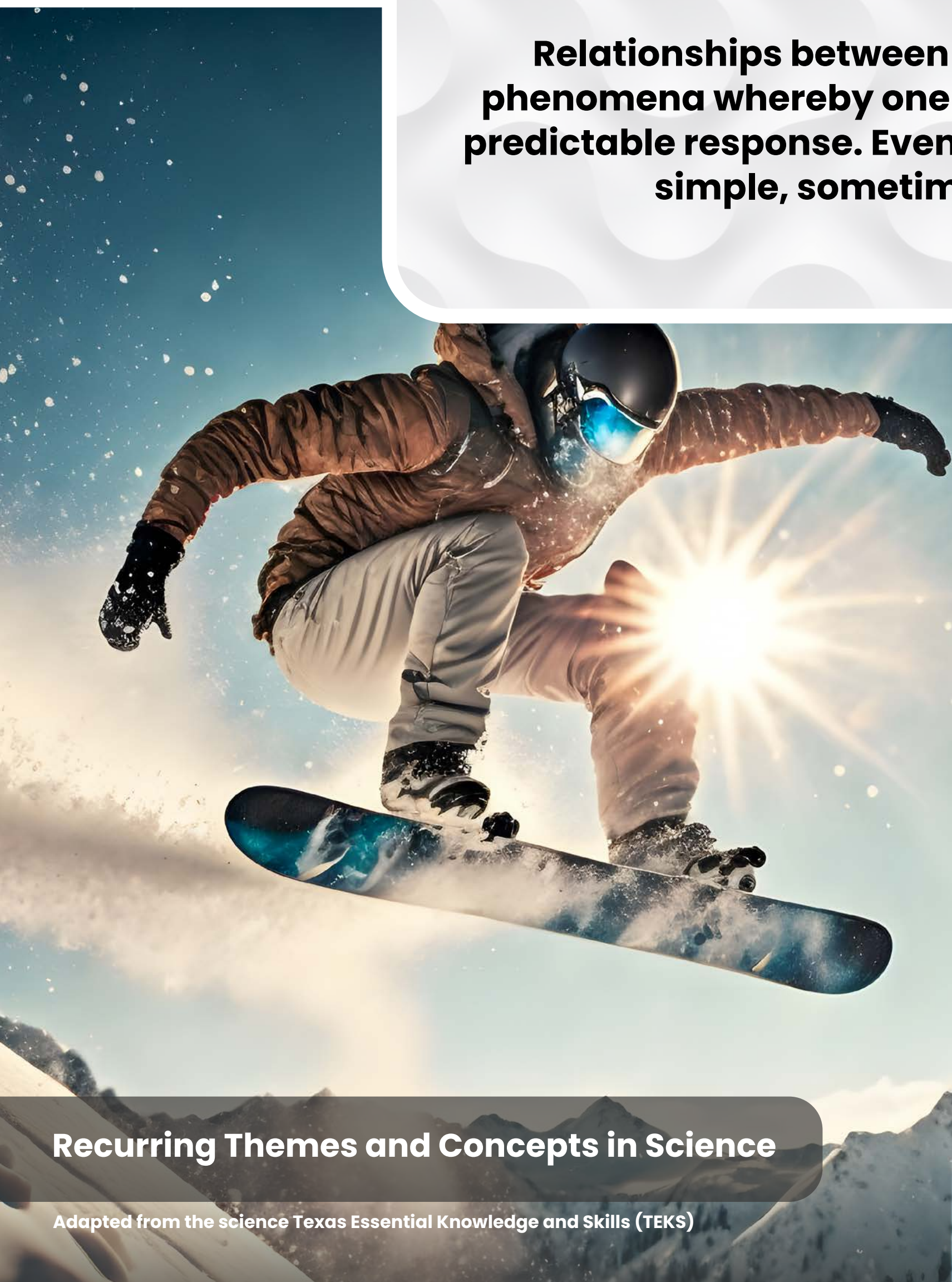
Regular sequences that can
be found throughout
nature.





Cause and Effect Relationships

Relationships between two or more variables or phenomena whereby one variable or event leads to a predictable response. Events have causes—sometimes simple, sometimes multi-faceted.



Recurring Themes and Concepts in Science

Adapted from the science Texas Essential Knowledge and Skills (TEKS)



Scale, Proportion, and Quantity in Systems

It is important to consider how changes in scale, proportion, or quantity affect a system's structure or performance. Scale refers to the size of an object in relation to another object or its environment. Proportion is the ratio of one quantity to another. Quantity is a count of a set of objects or a measurement of a substance.





Model the Interdependence and Parts of a System

A system is a whole made of parts that work together. It has components and boundaries. It can interact with or be part of other systems.



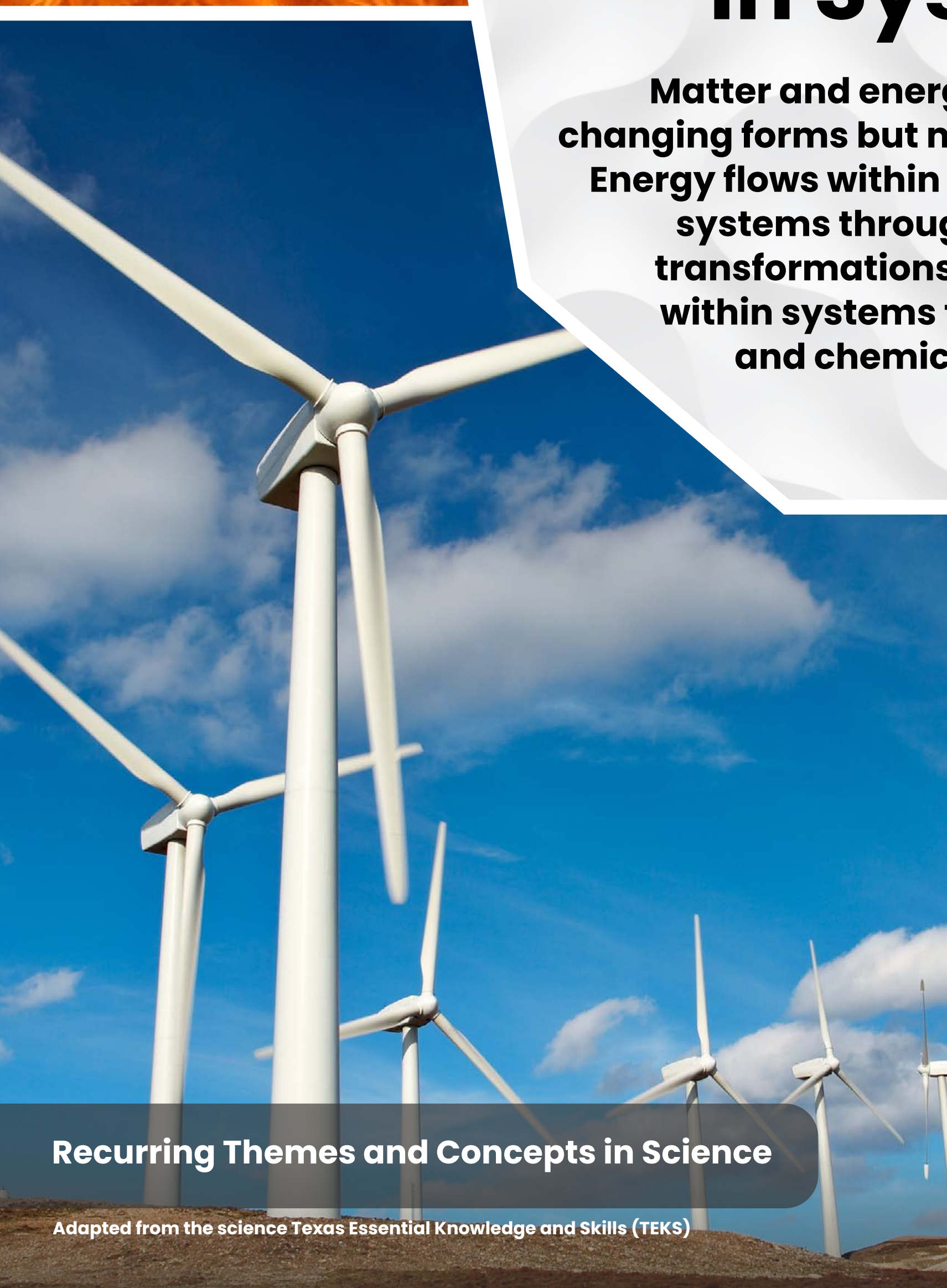
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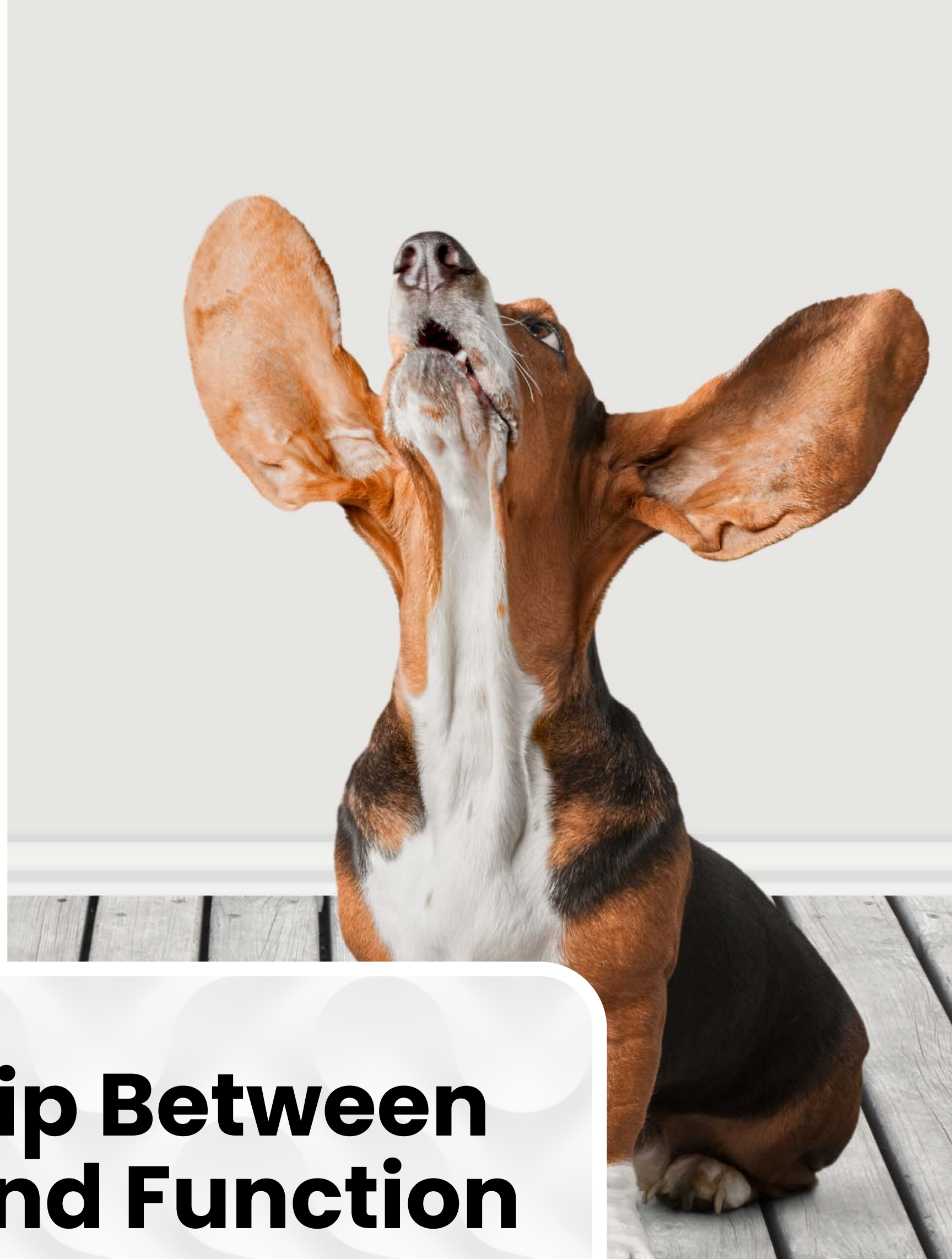
Flow of Energy and Cycling of Matter in Systems

Matter and energy are conserved, changing forms but maintaining quantities. Energy flows within a system or between systems through transfers and transformations. Matter is cycled within systems through physical and chemical processes.



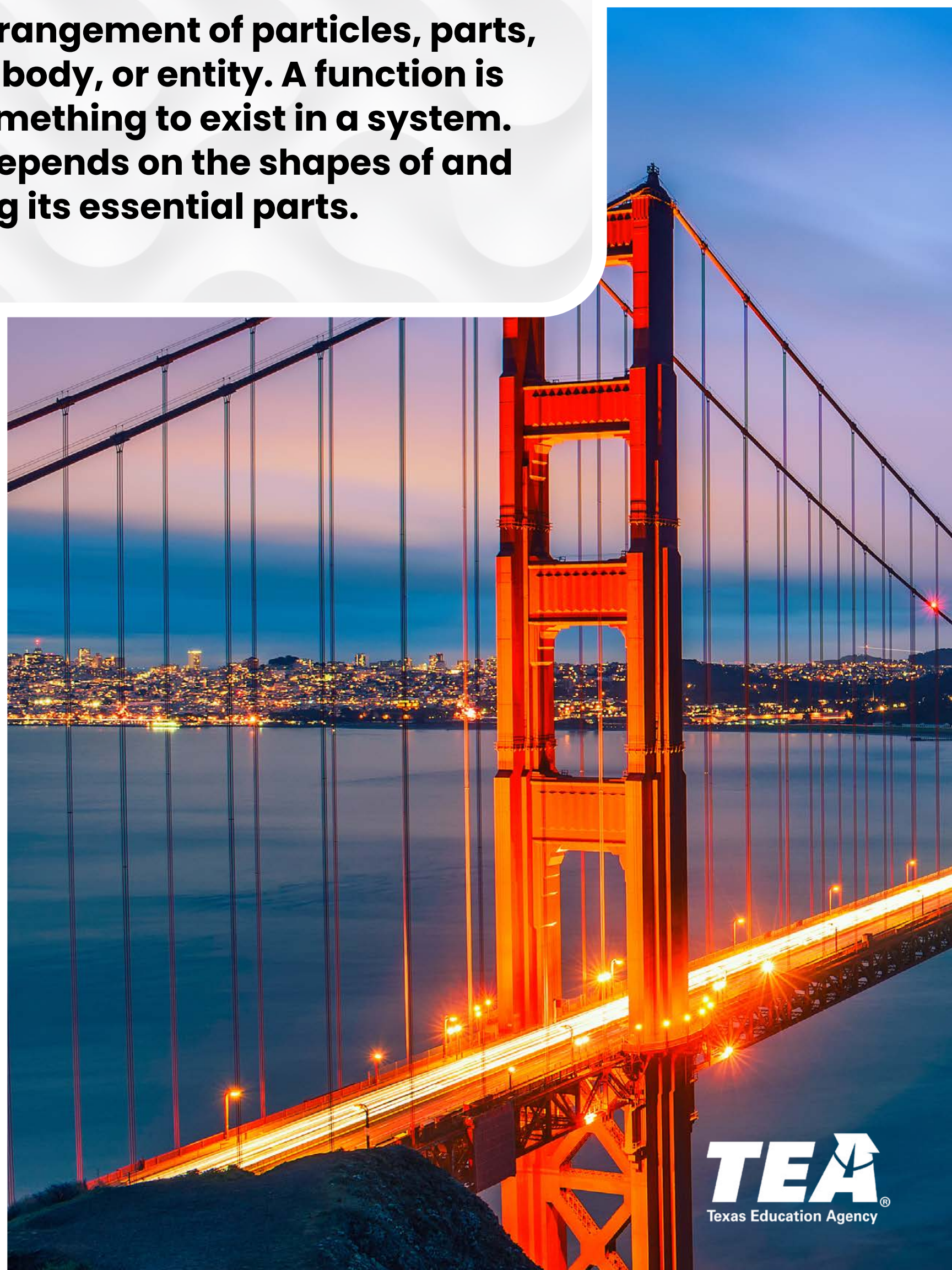
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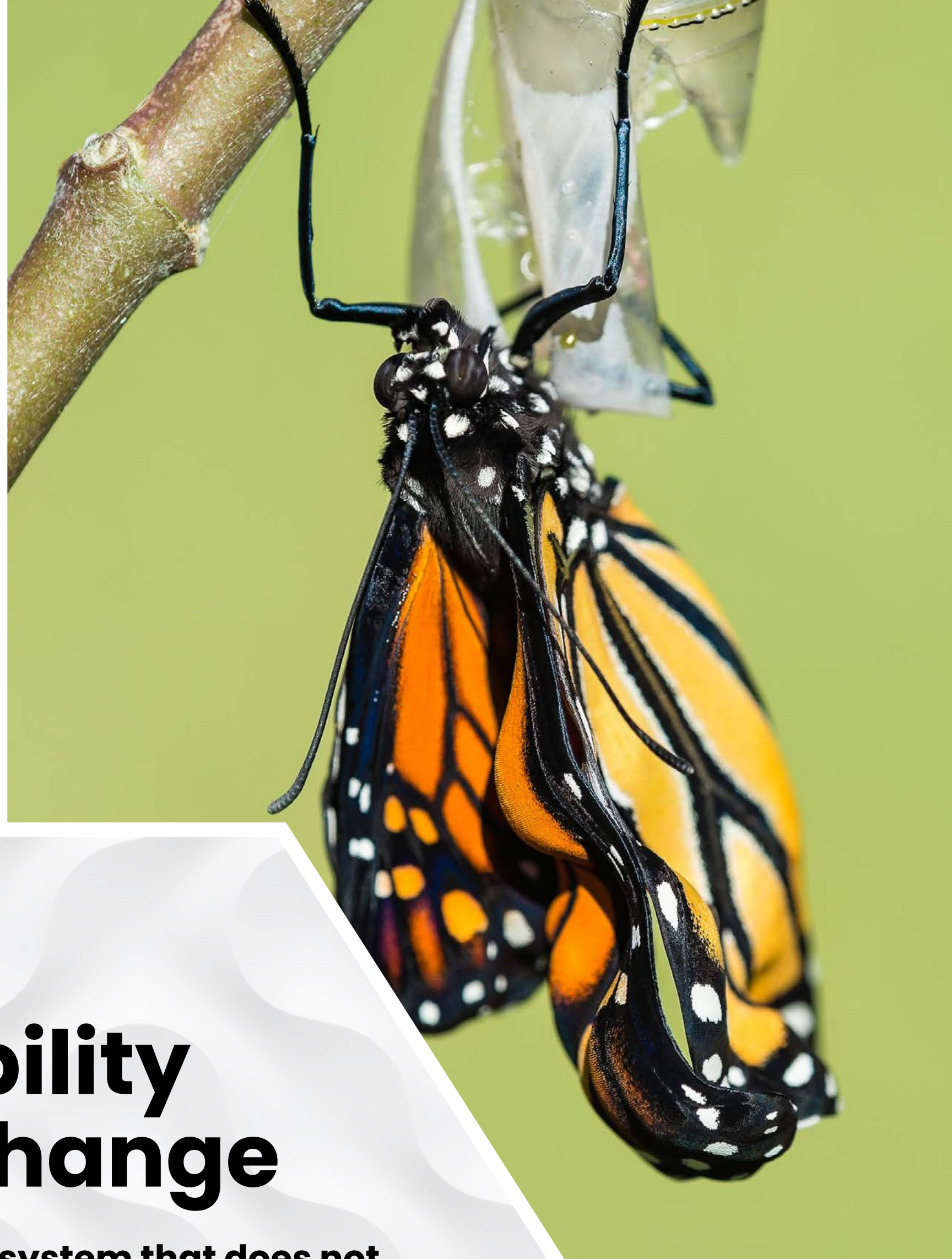
Relationship Between Structure and Function

A structure is an organized arrangement of particles, parts, or elements in a substance, body, or entity. A function is the purpose or reason for something to exist in a system. The function of a structure depends on the shapes of and relationships among its essential parts.



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Stability and Change

Stability describes a system that does not change at the observed scale. Stability implies that a small disturbance will die out, and the system will return to a stable state. Change in the system can come from modifying a factor or condition.

