# Creative Concepts

## Job Aid and Reference Document

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# Creative Concepts

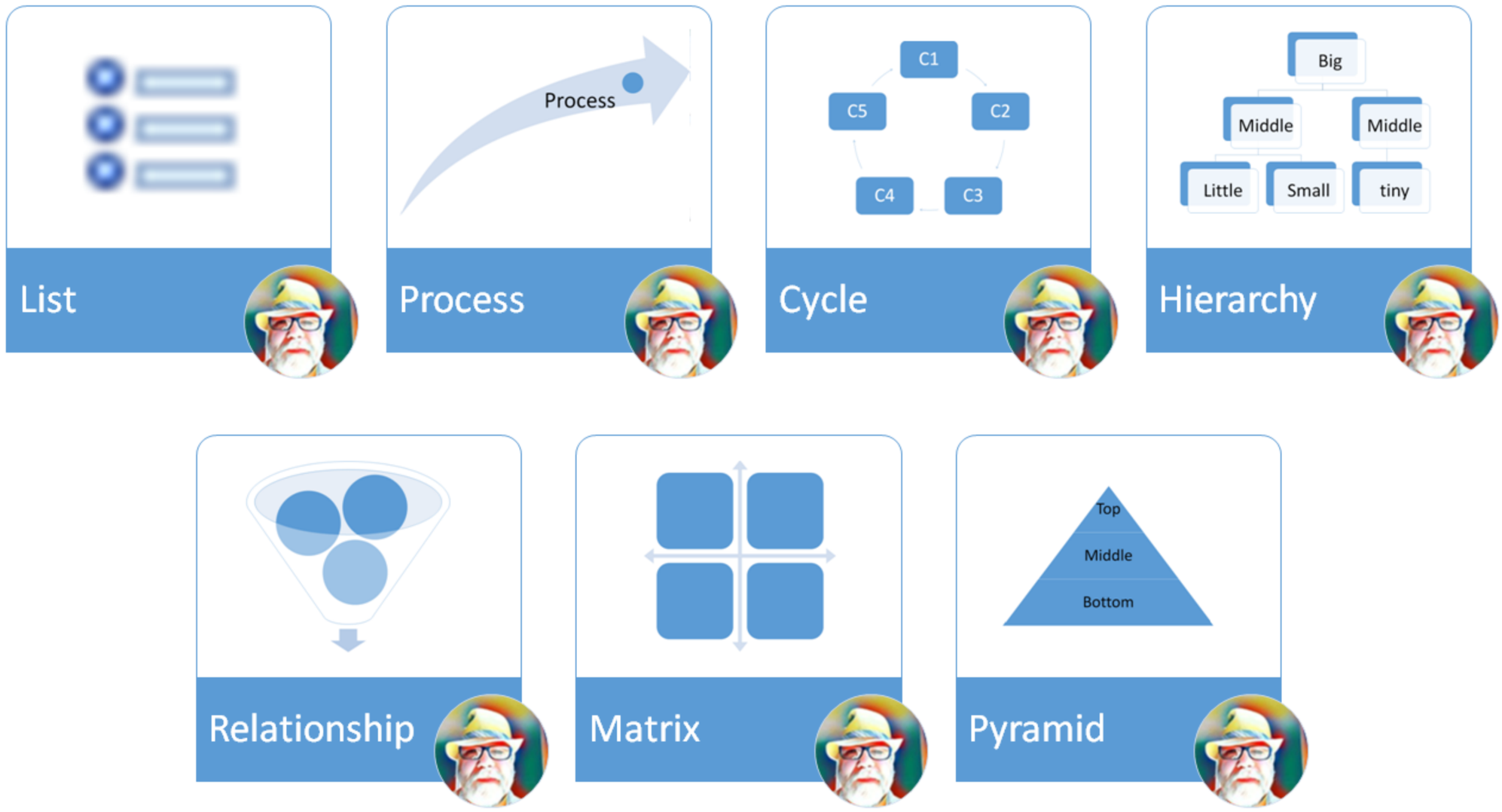
Technique

## Reference diagrams

A diagram is a symbolic representation of information according to some visualization technique.

While “diagram” can refer to a variety of visual illustrations, in HoneycuttScience the expression “diagram” usually indicates some type of qualitative data with shapes that are connected by lines, arrows, or other visual links.

Adapted from https://en.wikipedia.org/wiki/Diagram




*This packet intends to introduce some creative concepts through the use of “SmartArt” graphical diagrams.*

*After reviewing this packet, students will be better equipped to thoughtfully use diagrams to summarize and convey information.*

*The use of diagrams directly supports three of the “4Cs” as part of 21st Century Skills: Critical thinking, Communication, and Creativity.*

*When working on a small team – selecting appropriate diagrams also contributes to Collaboration.*

# How to Use

1. **Review descriptions of diagram-types shown here.**
2. **Examine the example diagrams.**
3. **Select a diagram-type to use with your qualitative data.**

**List** - a number of related items or written consecutively

**Process** - a series of steps taken in order to achieve a particular end

**Cycle** - a series of events regularly repeated in the same order

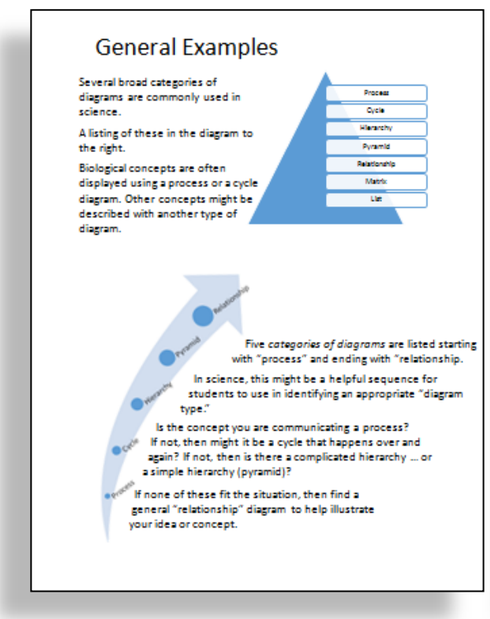
**Hierarchy** - system of persons or things ranked one above another

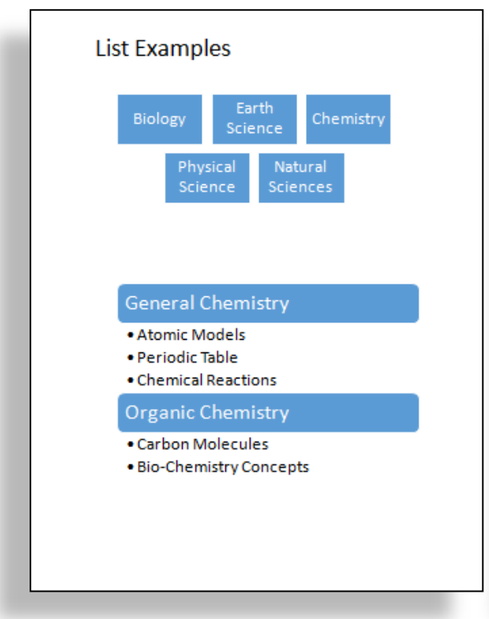
**Relationship** - the way concepts, objects, or people are connected

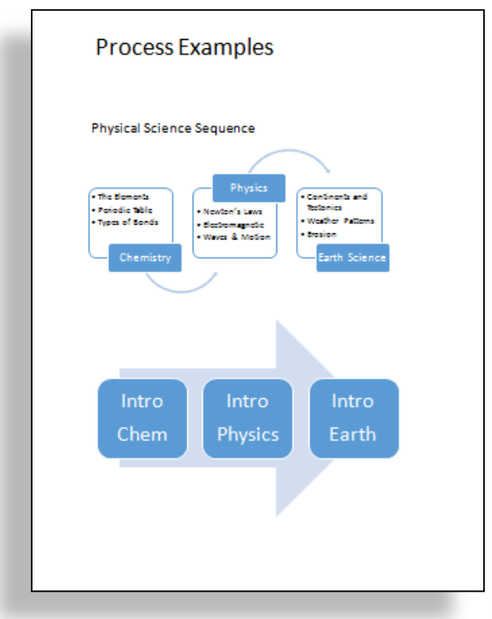
**Matrix** - group of rows and columns such as mathematical tables

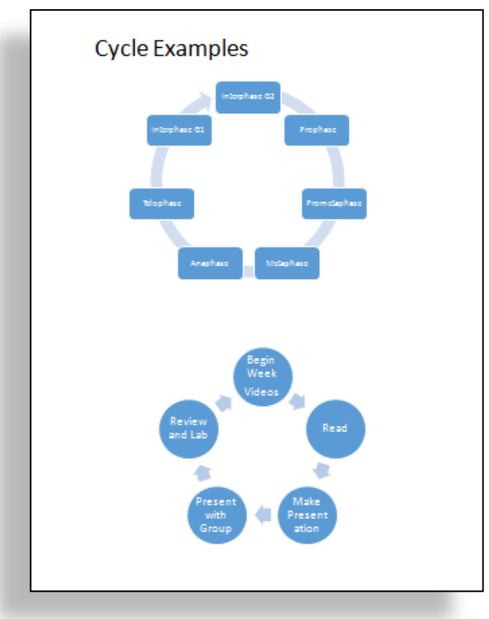
**Pyramid** - a triangle with lines dividing sections to list concepts

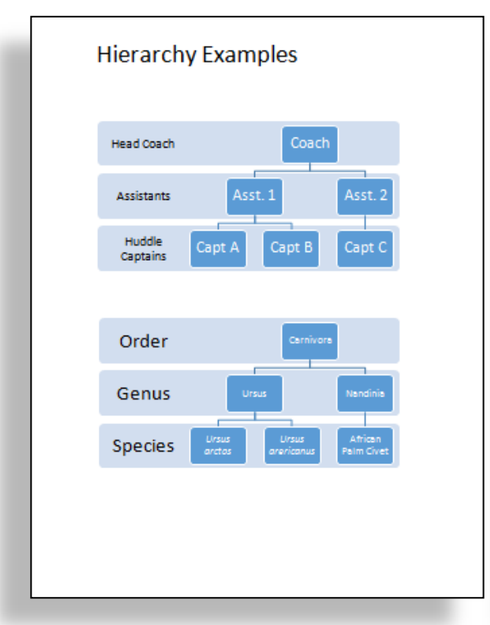
## Examples

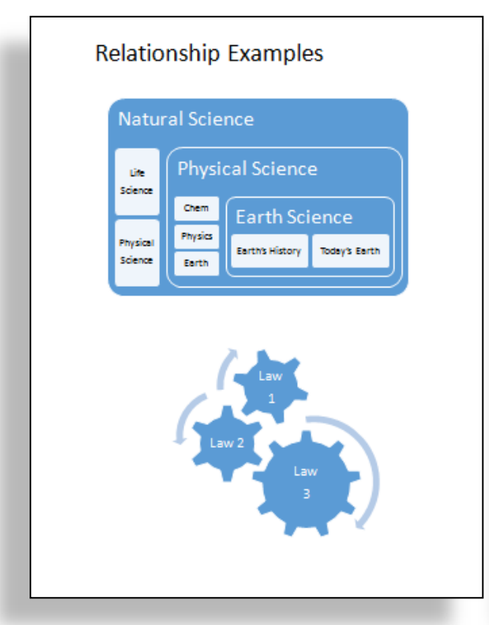


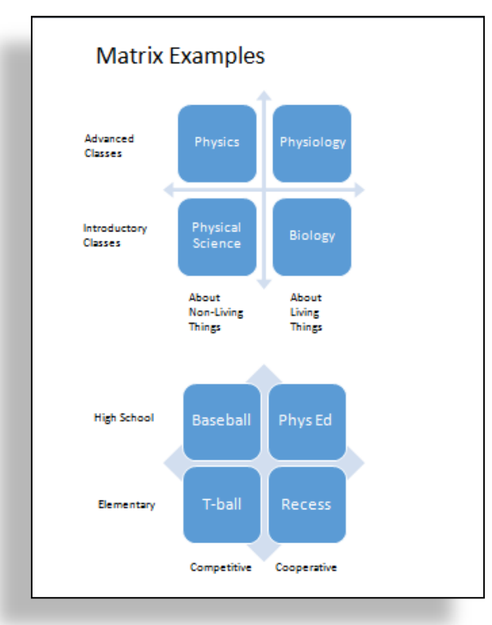



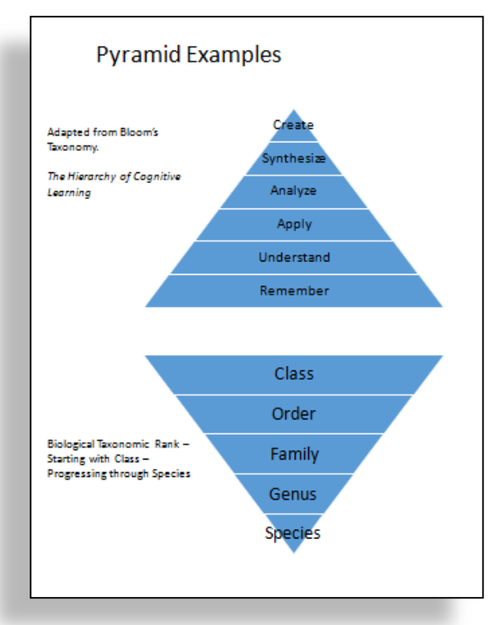

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# How to Use (In Diagrams)

**1. Review descriptions**

**2. Scan examples**

**3. Select a diagram-type**

## Descriptions

**List** - a number of related items or written consecutively

**Process** - a series of steps taken in order to achieve a particular end

**Cycle** - a series of events regularly repeated in the same order

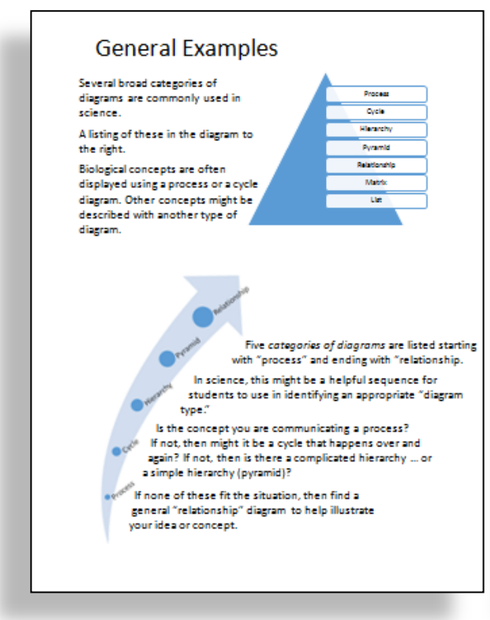
**Hierarchy** - system of persons or things ranked one above another

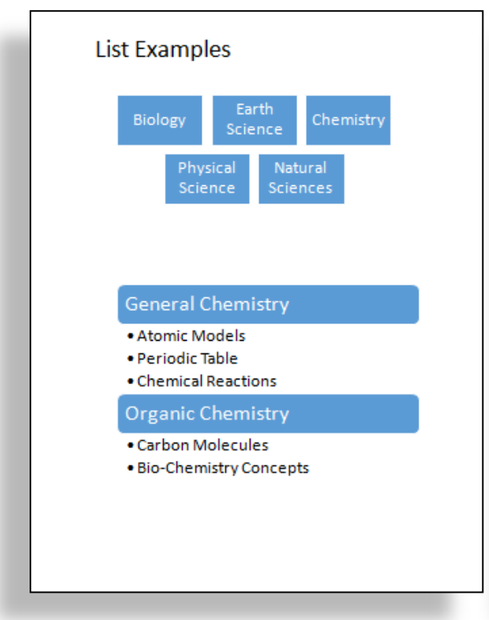
**Relationship** - the way concepts, objects, or people are connected

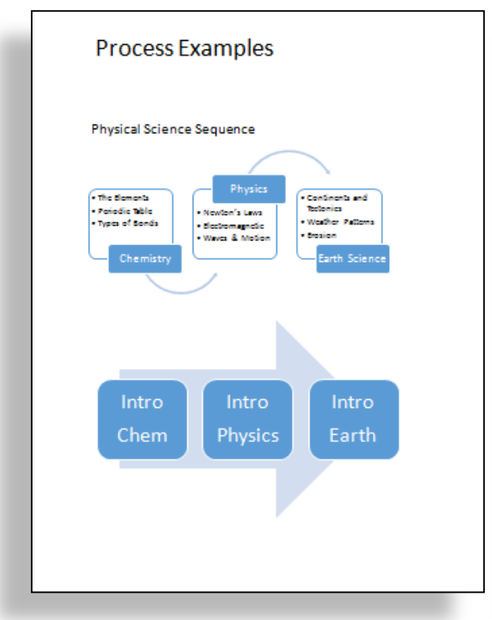
**Matrix** - group of rows and columns such as mathematical tables

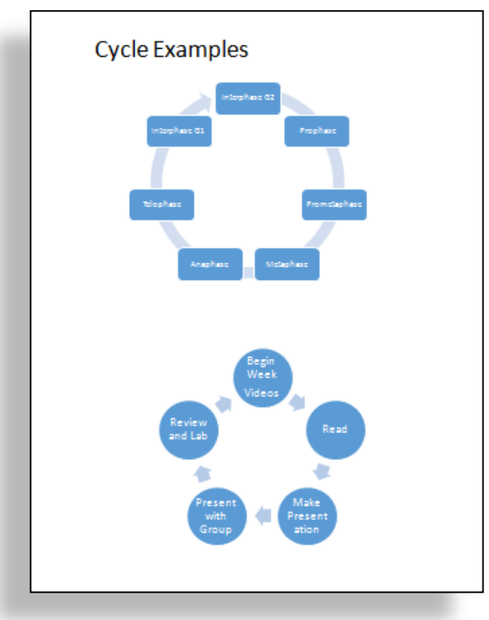
**Pyramid** - a triangle with lines dividing sections to list concepts

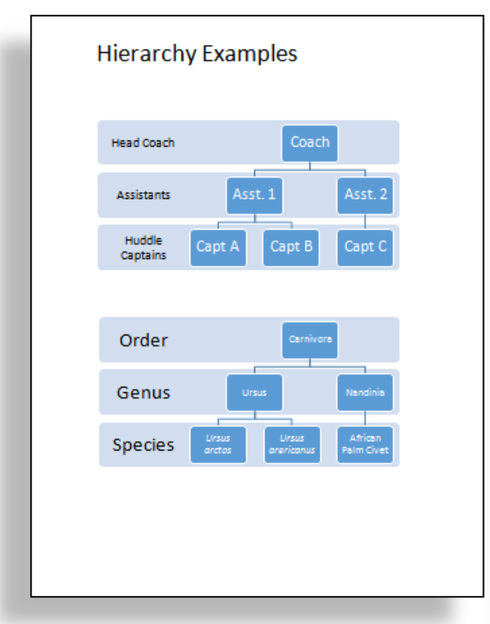
## Examples

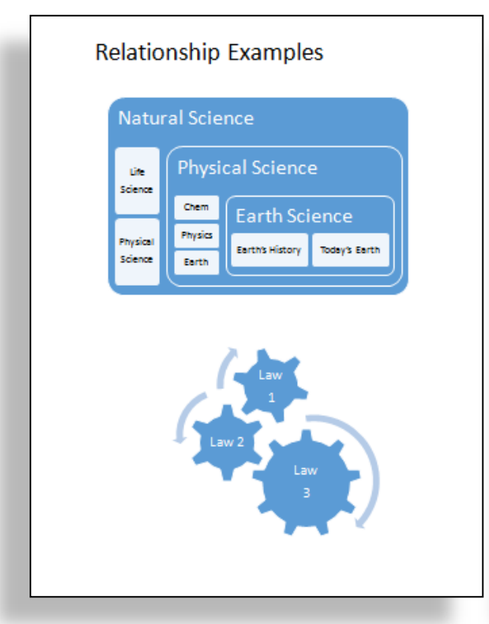


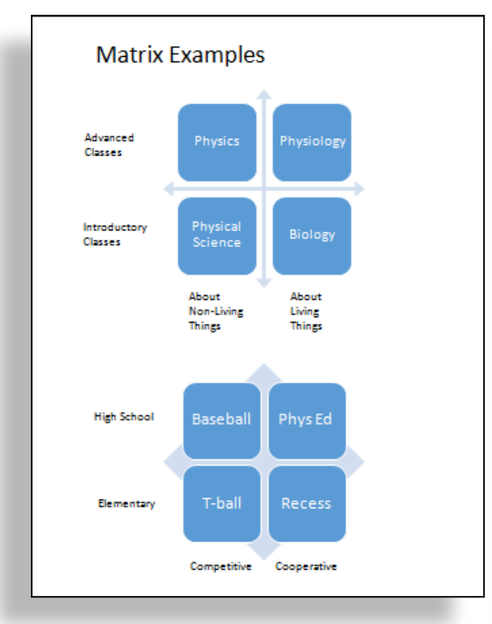



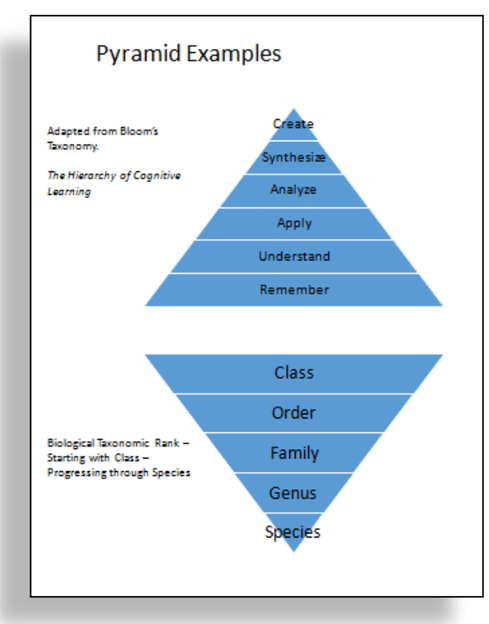

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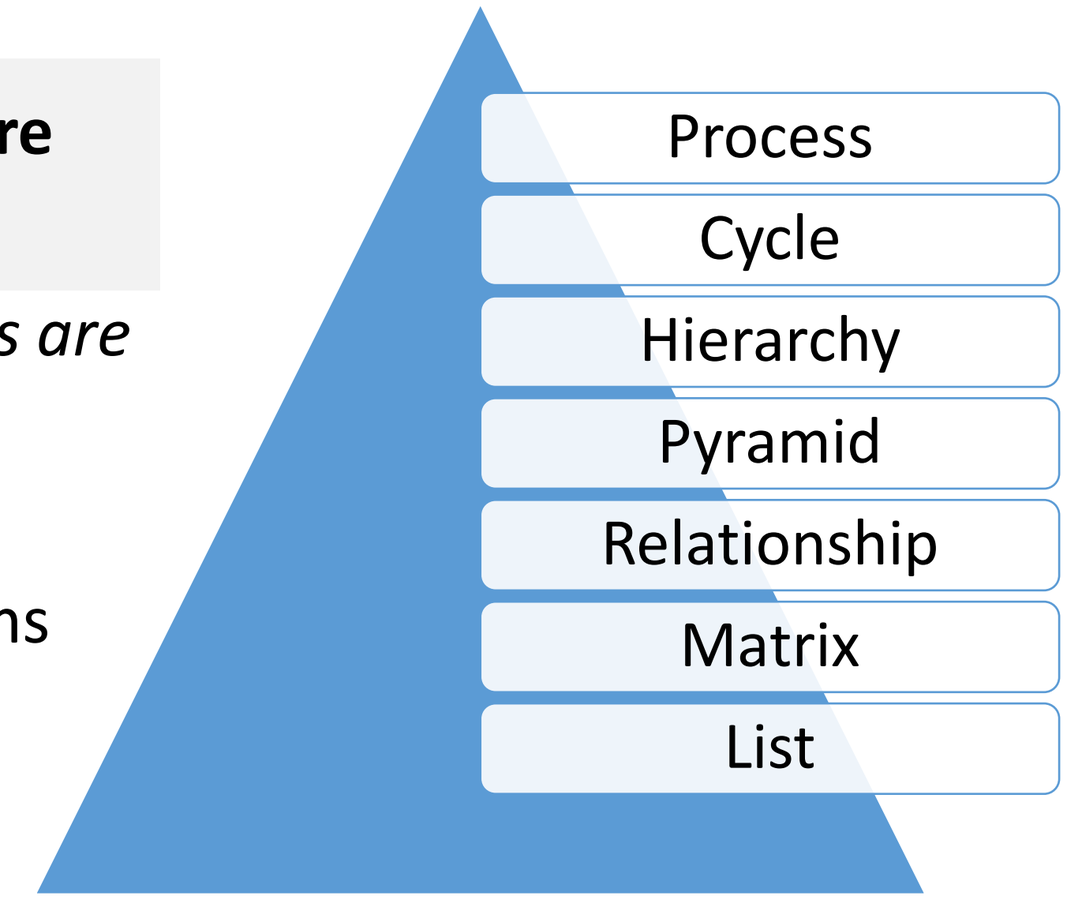
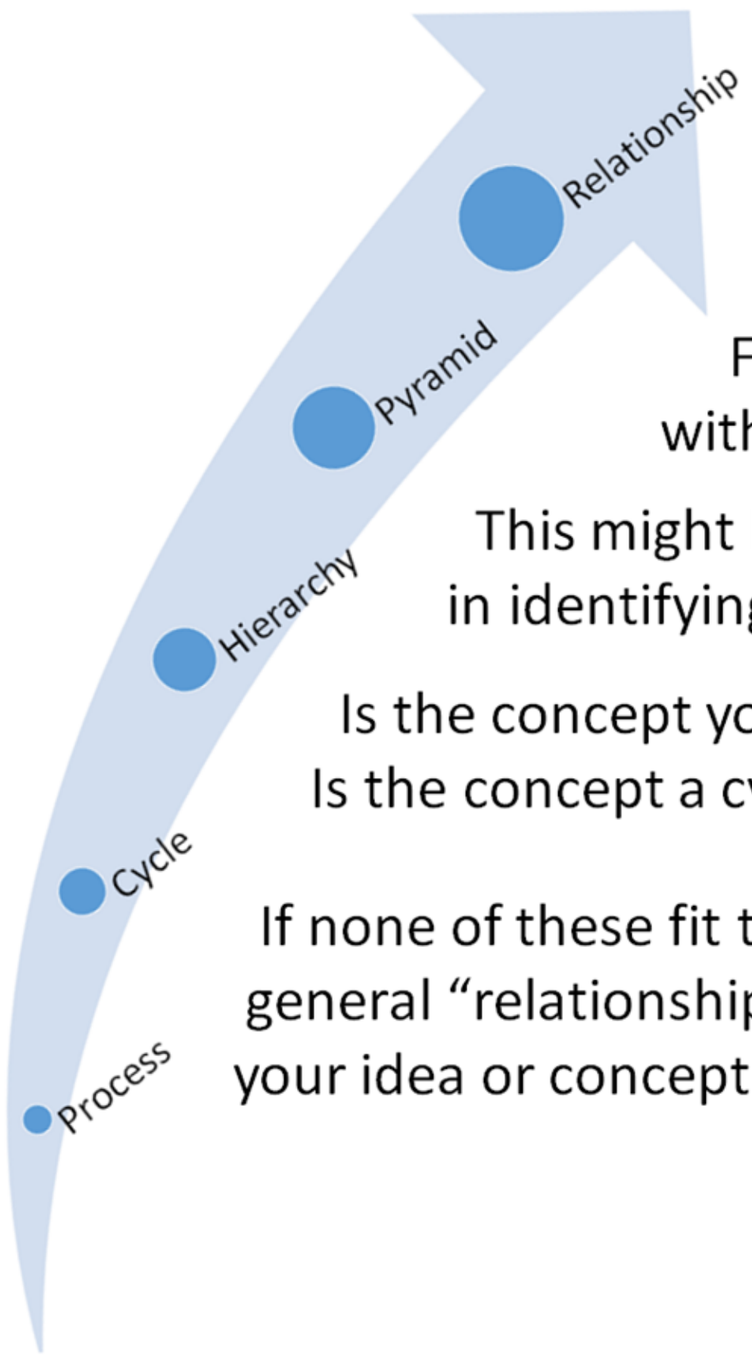
# General Examples

**Broad categories of diagrams are useful in communicating.**

*Seven general types of diagrams are listed here.*

**Process** diagrams, **Hierarchy** diagrams, and basic **List** diagrams are commonly used in science.




## Suggested Approach

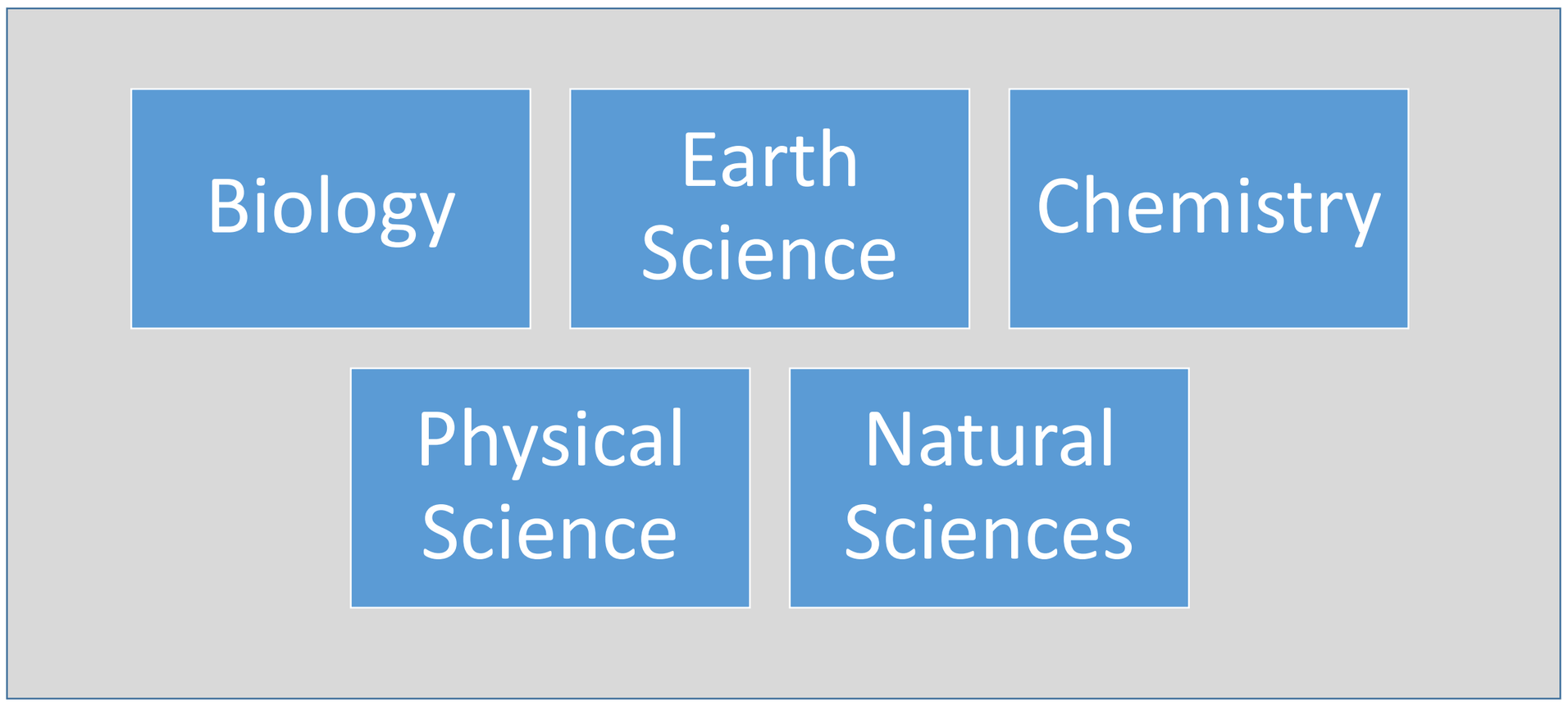
Five *categories of diagrams* are listed starting with "process" and ending with "relationship.

This might be a helpful sequence for students in identifying an appropriate "diagram type."

Is the concept you are communicating a process? Is the concept a cycle or hierarchy, etc … ?

If none of these fit the situation, then find a general "relationship" diagram to help illustrate your idea or concept.

# List Examples



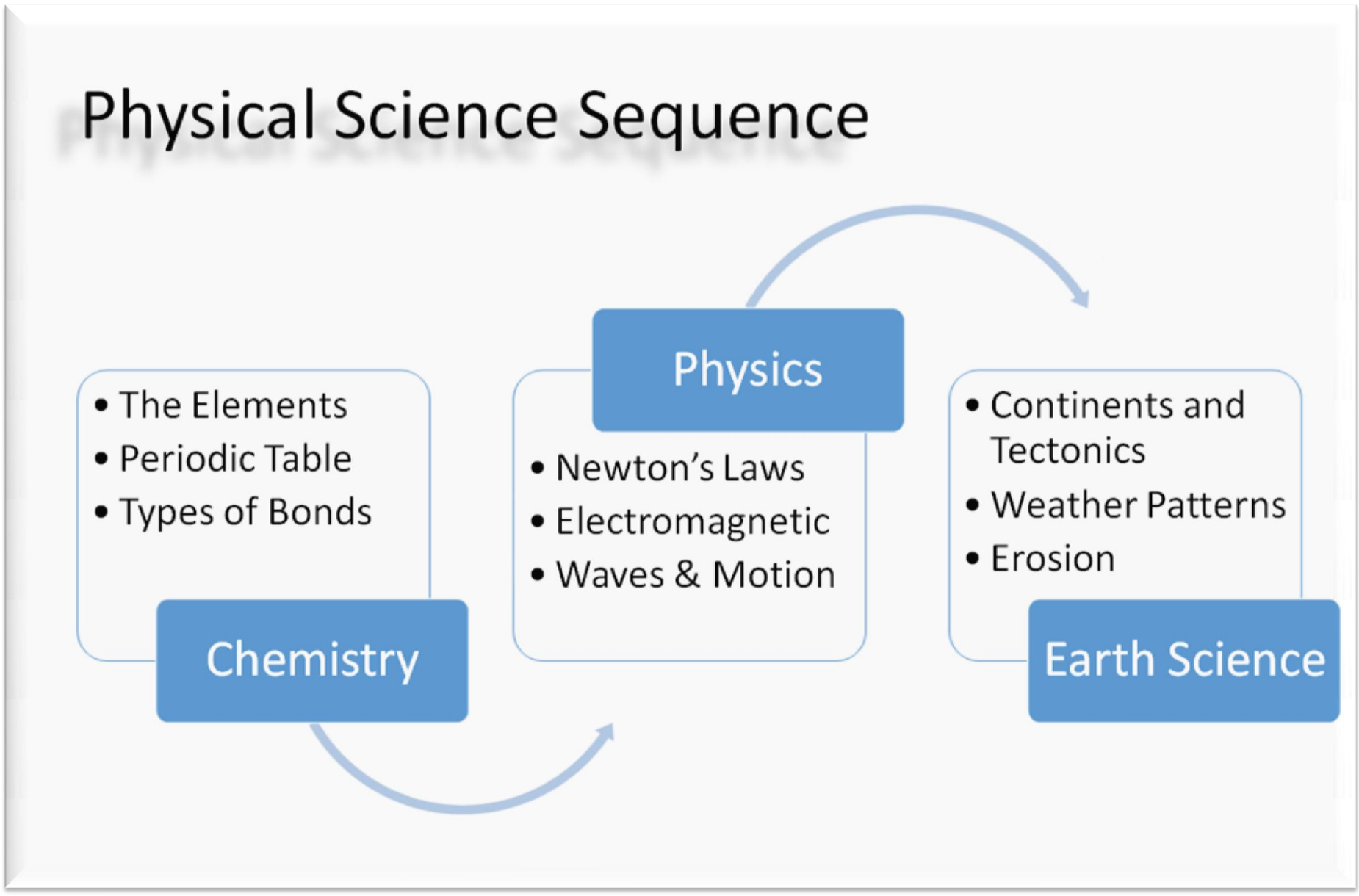

## General Chemistry

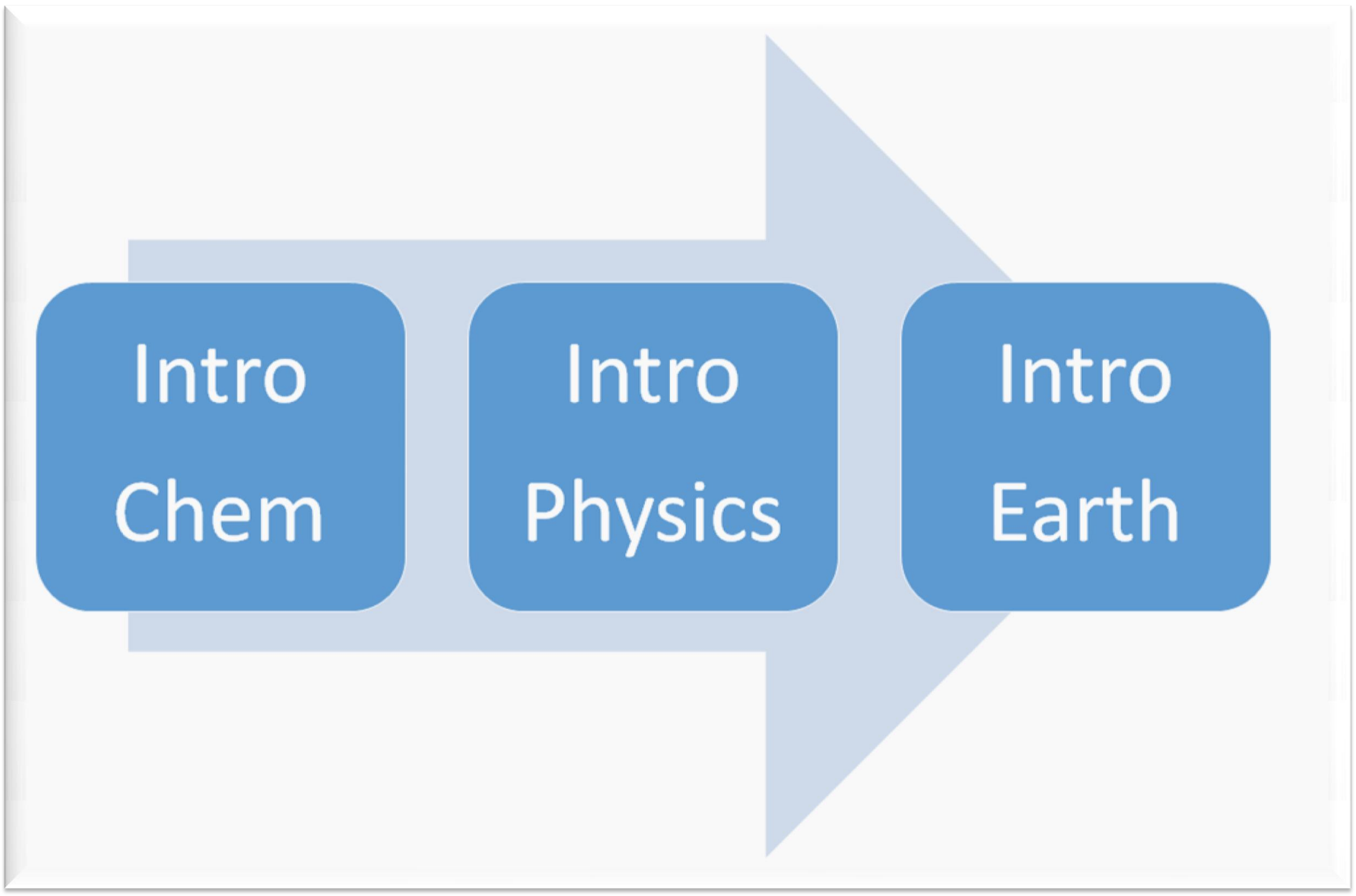
- Atomic Models
- Periodic Table
- Chemical Reactions

## Organic Chemistry

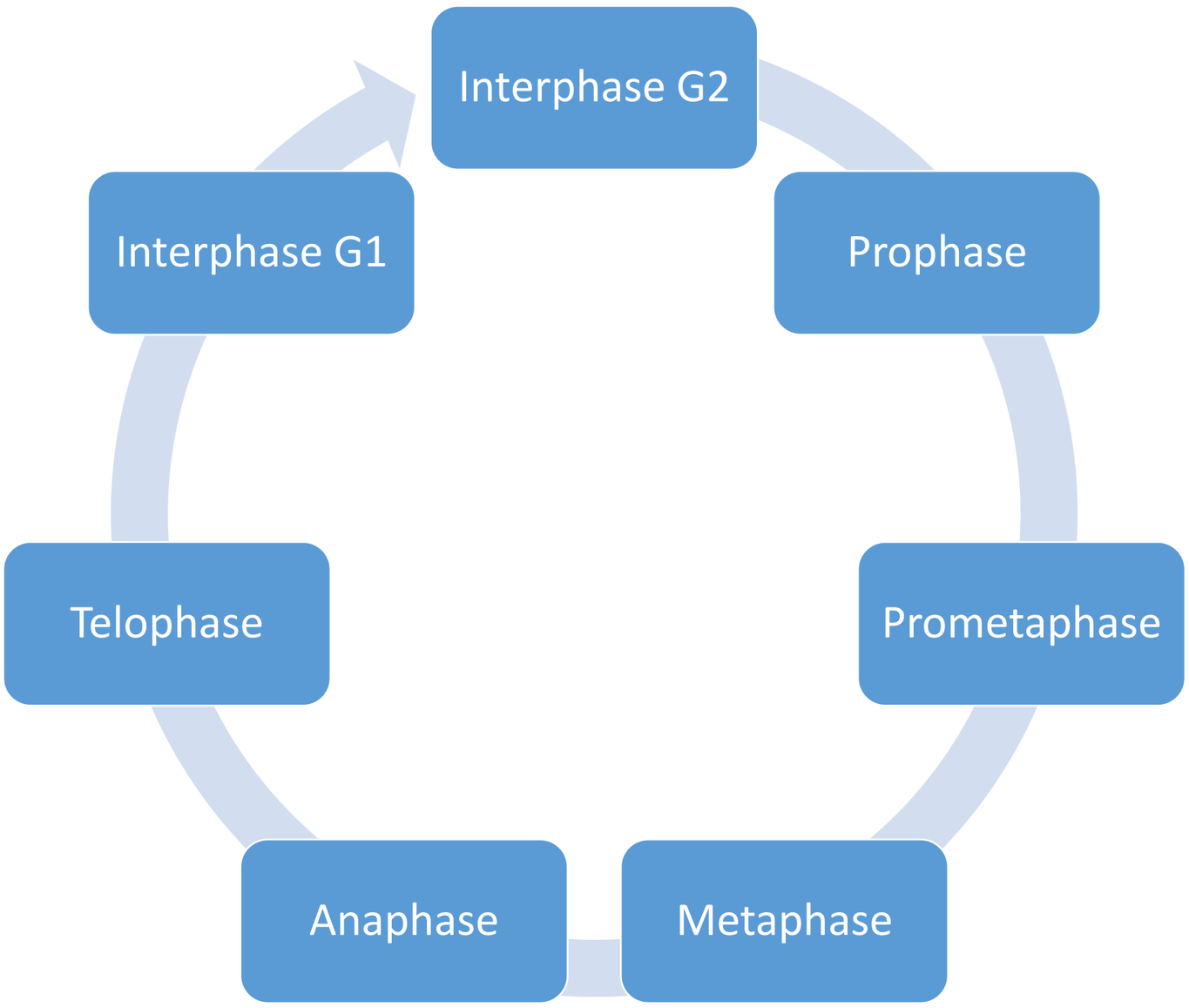
- Carbon Molecules
- Bio-Chemistry Concepts

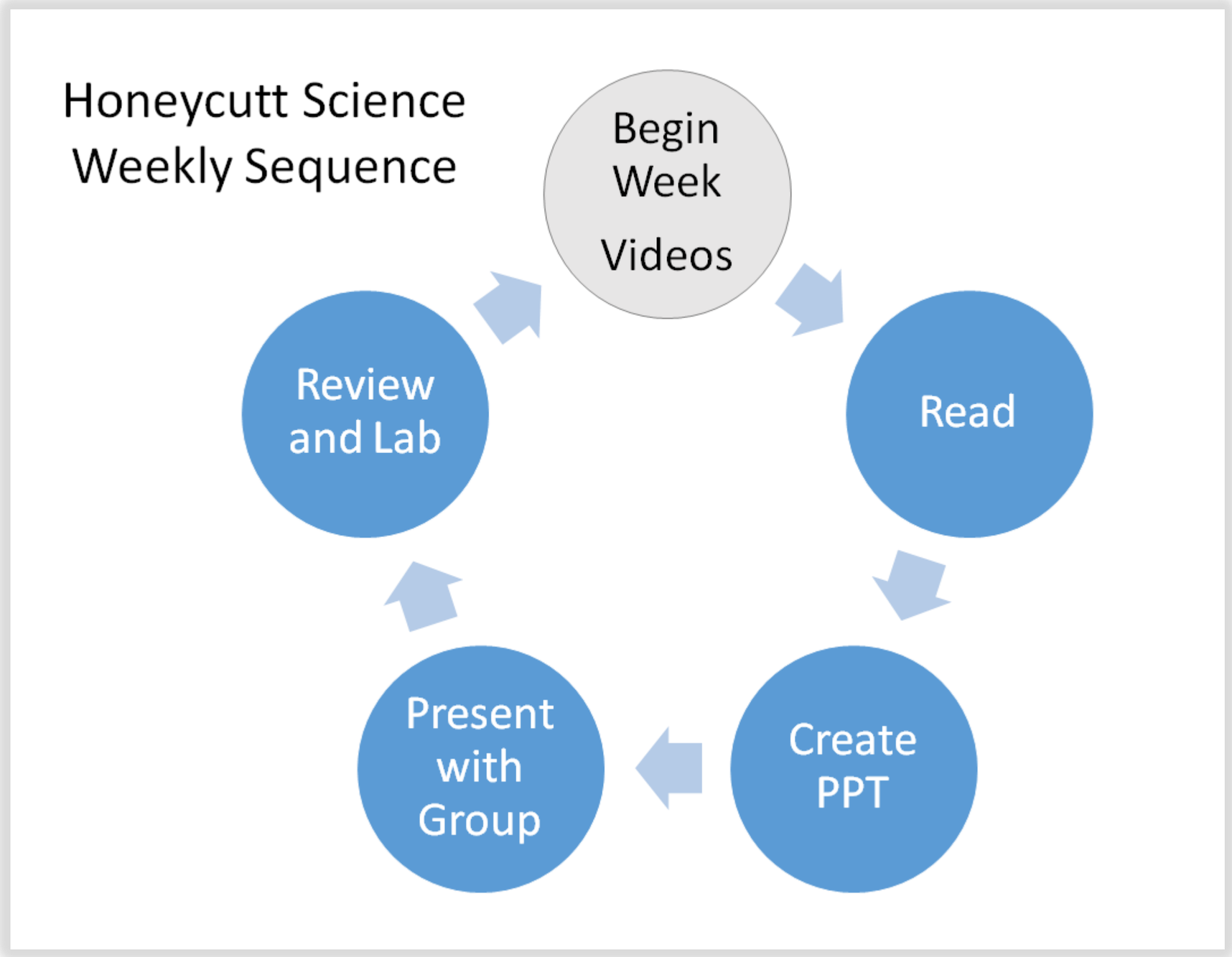
# Process Examples



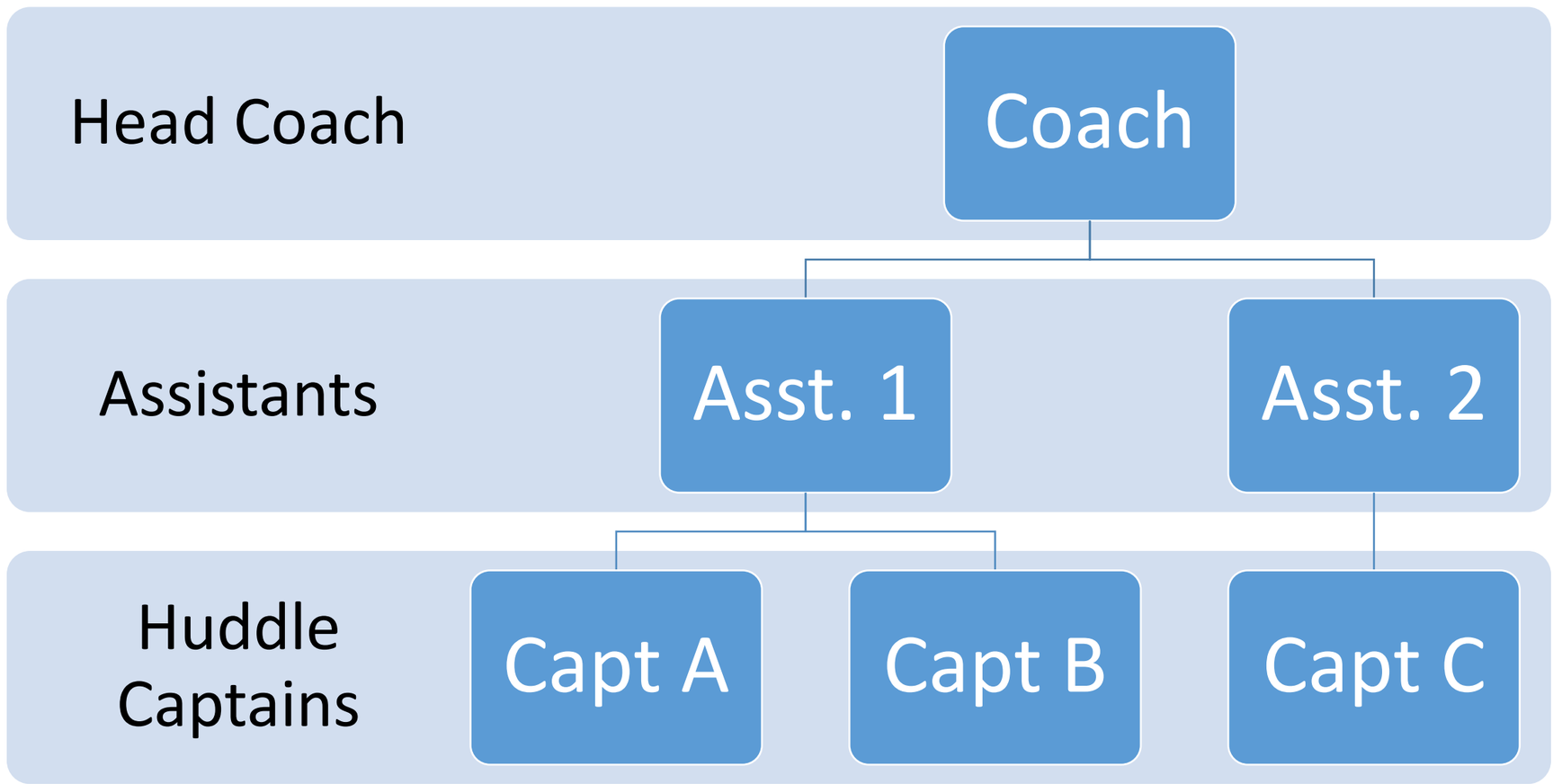



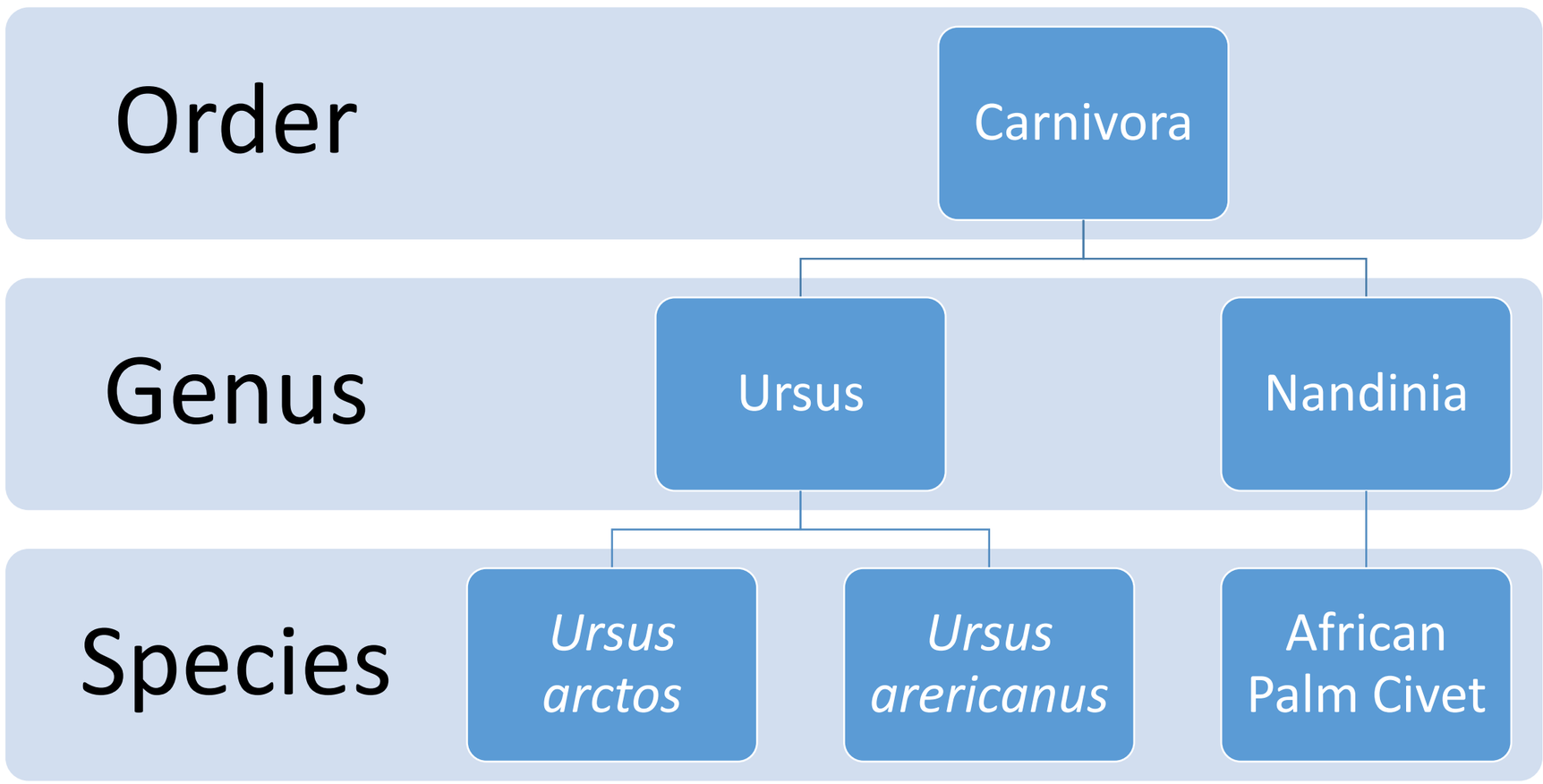
# Cycle Examples



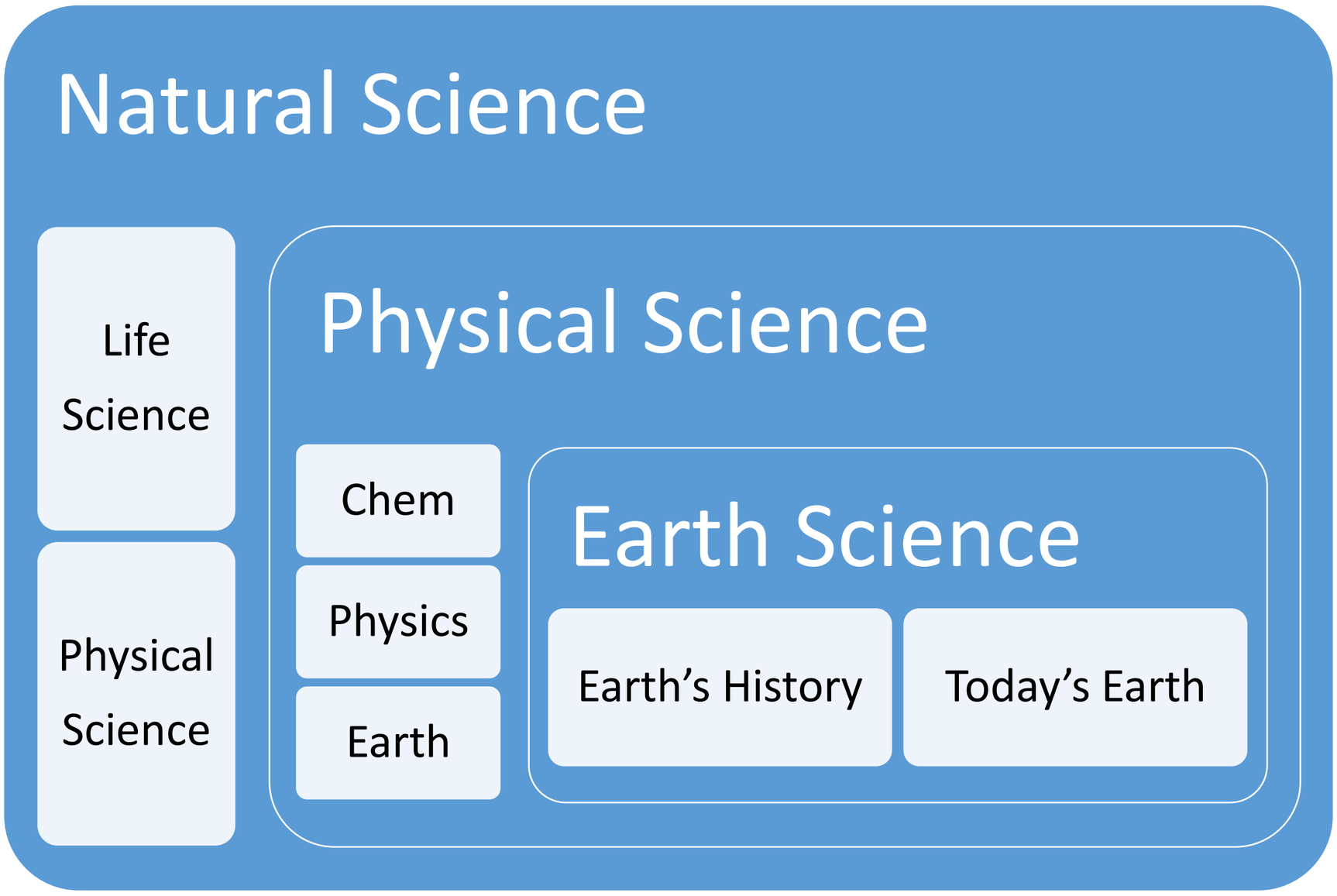



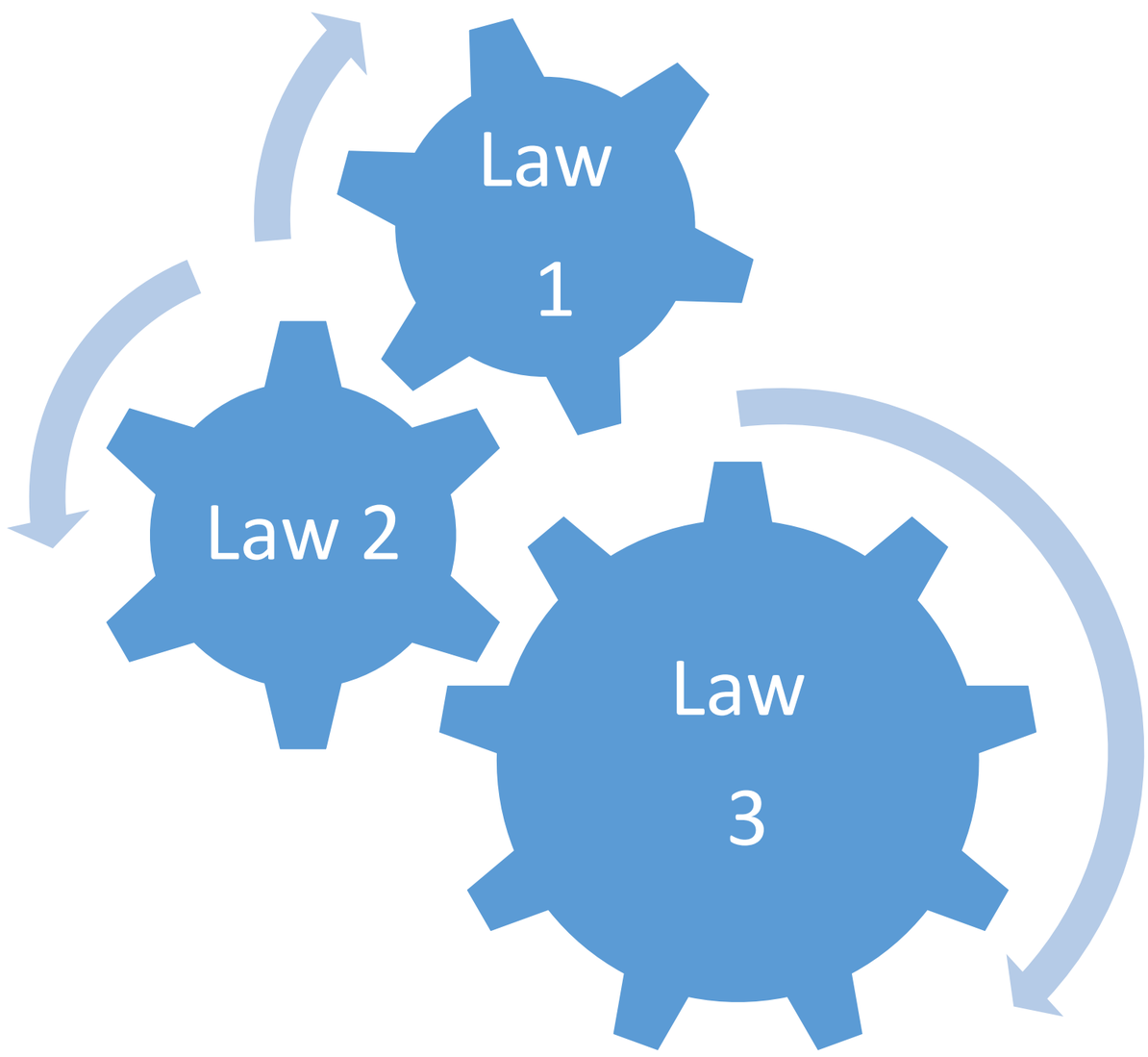
# Hierarchy Examples



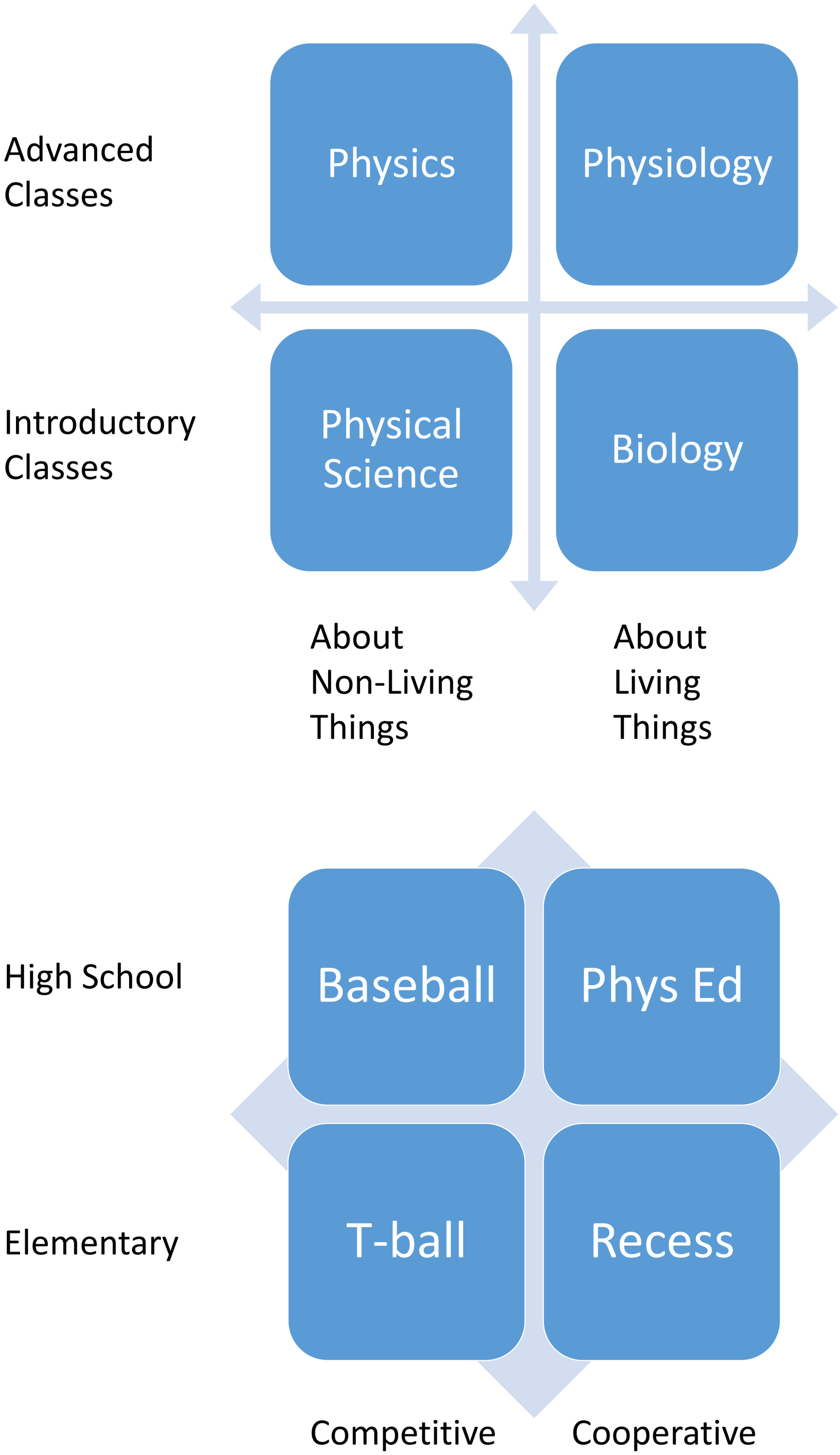



# Relationship Examples



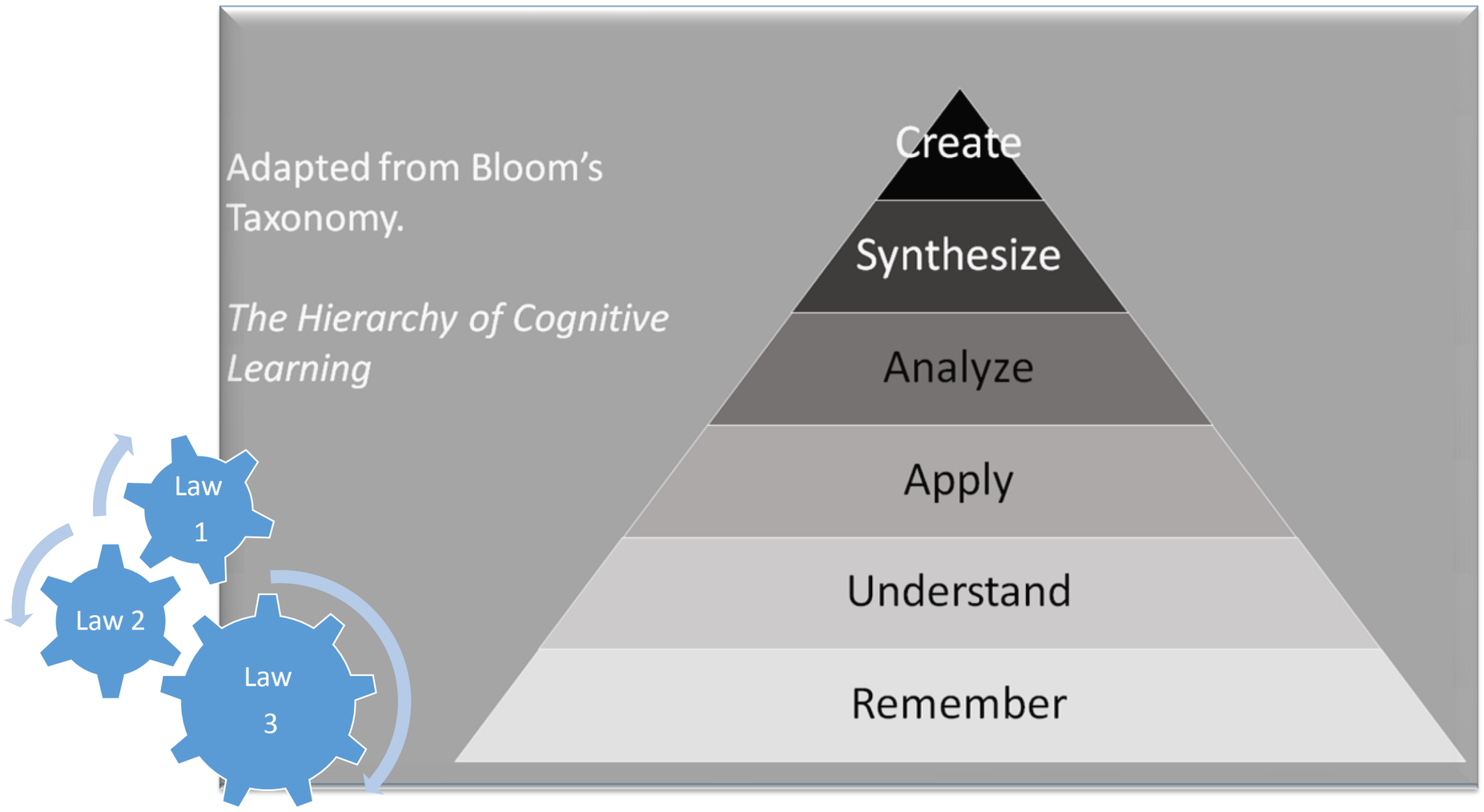



# Matrix Examples



# Pyramid Examples

Apply Bloom's Taxonomy to Accelerate Learning of Physics.




Biological Taxonomic Rank – Starting with Class – Progressing through Species