



COLEGIO NACIONES UNIDAS I.E.D.
NATURAL SCIENCES PREPARATION WORKSHOP
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FIFTH GRADE

This workshop must be developed in the natural sciences notebook and be delivered on
November 8, 2024

Read the information, look at the image and answer

The living beings that make up biological communities have needs such as feeding, growing, reproducing. To satisfy them, they must have electricity, water. For this reason, relationships are established between them and these can be of two types:

Intraspecific: interactions occur between individuals of the same species

Interspecific: between individuals of different species

1. Why do living beings have the need to interact with each other?
2. What types of relationships occur between living things?



INTRASPECIFIC RELATIONSHIPS

Competition: when light, water, or some element does not exist in sufficient quantity to satisfy the needs of individuals, competition is established between them. Food is an example of competition, when it is scarce, the struggle to get food is increasing, in this way the weakest are eliminated.

Territoriality: it is associated with the search for food or reproduction. Each species uses specific cues, such as smells, sounds, and sounds.

Family relationships: A relationship of reproduction or care of the herd is established. There are several types:

- Monogamous parents: male and female with their young.

- Polygamous parents: polygynous male and several females and polyandrous several males and one female
- Matriarchal: female with her offspring

State relations: Society is made up of a set of individuals who relate to each other through various stimuli among which there is a specialization of tasks and a social hierarchy. The cases of higher social organization are given by ants, bees and wasps.

Colonial relations: Colonies are permanent groupings of individuals, they originate when the descendants of the same parent are united.

3. What do you think is guaranteed by family relationships between individuals of the same species?

4. What kind of relationship allows ants, bees, and wasps to have a high organization?
Look at the images and read the text

Competition (interspecific)

- Two or more different species competing for the same resource. This means that the two species have the same niche
– Niche- role or job in the environment



5. What negative consequences can interspecific competition bring to a species?

6. Why do the lion and hyena have a symbiotic relationship?

Types of Interactions: Predation

- **Predation:** One animal eats and kills another
 - Predator benefits from food.
 - Prey benefits by eliminating non-adaptive genes from the gene pool.
 - Prey adaptations may include chemical defenses, stings, camouflage, etc...



7. Why is predation an intraspecific relationship?

8. What can happen in an ecosystem if predators disappear?

sciencenotes.org

Symbiosis

Symbiosis is an ecological relationship between organisms of different species.



Mutualism
both species benefit

humans and gut bacteria



Commensalism
one benefits, other is unaffected

cattle egret and cattle



Parasitism
one benefits, other is harmed

ticks and dogs

9. How does a relationship of parasitism affect or harm a living being?

Look at the periodic table of the elements

The periodic table is a systematic arrangement of chemical elements. It is organized into groups (vertical columns) and periods (horizontal rows). Each element is represented by a unique symbol, atomic number, and name. The table is color-coded to group elements with similar properties. For example, elements in the same group often share similar chemical and physical characteristics. The table also includes a section for Noble Gases, which are inert gases with full outer electron shells, and a section for Lanthanides and Actinides, which are placed below the main table to maintain its structure.

10. What is the periodic table?

11. How many chemical elements are there in the current periodic table?

12. How are the elements classified in the periodic table?