

Structures of Life

Investigation 1: Origin of Seeds

Key Concepts: Seeds are living things that contain new plants; seeds need water and air to germinate.

NGSS Alignment: 3-LS1-1 — Develop models to describe that organisms have unique and diverse life cycles.

I can observe and describe the parts of a seed (seed coat, embryo, food storage).

I can identify what plants need to grow (water, air, and warmth).

I can record data on how fast or how many seeds sprout under different conditions.

I can explain how the seed structure helps a plant survive and grow.

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Investigation 2: Growing Further

Key Concepts: Plants have structures (roots, stems, leaves) that serve functions for survival and growth.

NGSS Alignment: 3-LS3-1 — Analyze and interpret data to show that traits are inherited or influenced by the environment.

I can identify and describe the function of each main plant structure (roots take in water, stems transport, leaves make food).

I can compare different plant structures and explain how they help plants live in different environments.

I can collect and organize data about plant growth (measure height, count leaves, etc.).

I can communicate my findings with diagrams and labels.

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Investigation 3: Meet the Crayfish (Animal Structures)

Key Concepts: Animals have different structures that help them survive, grow, and reproduce in their environments.

NGSS Alignment: 3-LS4-3 — Construct an argument that in a particular environment, some organisms can survive well, some less well, and some not at all.

I can observe and describe the structures of a crayfish (antennae, claws, legs, eyes).

I can explain how each structure helps the crayfish survive (claws protect and catch food, legs help movement, etc.).

I can compare crayfish to other animals and identify similar structures (e.g., claws vs. hands).

I can record and communicate observations accurately using drawings and notes.

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Investigation 4: Variation of Traits

Key Concepts: Organisms of the same kind have similarities and differences that affect survival and reproduction.

NGSS Alignment: 3-LS3-1 — Traits are inherited from parents.

NGSS Alignment: 3-LS4-2 — Variations in traits affect survival.

I can observe and record variations in structures among similar plants or animals.

I can identify inherited traits (from parents) and traits influenced by the environment.

I can explain why variations are important for survival (some traits help individuals live better).

I can use evidence to support my ideas about why an organism survives well in its environment.