

Educational Resources from *Phenomenon Science Education*

Student Proficiency Goals for **NGSS MS-LS1-1**



Information about MS-LS1-1

NGSS Performance Expectation MS-LS1-1.

Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.

Clarification Statement.

Emphasis is on developing evidence that living things are made of cells, distinguishing between living and non-living things, and understanding that living things may be made of one cell or many and varied cells.

Assessment Limits.

No specific assessment limits are listed for this Performance Expectation.

Science and Engineering Practice (Planning and Carrying Out Investigations)

- Conduct an investigation to produce data to serve as the basis for evidence that meet the goals of an investigation.

Disciplinary Core Idea (LS1.A: Structure and Function)

- All living things are made up of cells, which is the smallest unit that can be said to be alive. An organism may consist of one single cell (unicellular) or many different numbers and types of cells (multicellular).

Crosscutting Concept (Scale, Proportion, and Quantity)

- Phenomena that can be observed at one scale may not be observable at another scale.

Educational Resources from *Phenomenon Science Education*

Student Proficiency Goals for **NGSS MS-LS1-1**



Student Proficiency Goals

SEP (Planning and Carrying Out Investigations):

- Students identify and describe the specific purpose and goals of an investigation to provide evidence that living things are made of cells and that the cell is the smallest biological unit that can be said to be alive.
- Students identify and describe the data that will serve as evidence that living things are made of cells and cells are the smallest biologic unit that can be said to be alive.
- Students describe the tools and methods that will be used in the investigation to collect the data that will serve as evidence.
- Students conduct an investigation to collect identified data about living and nonliving things.
- Students evaluate their data to determine if it provides evidence that all living things are made of cells and that the cell is the smallest biological unit that can be said to be alive.

DCI (LS1.A Structure and Function):

- Students know that living things are made of cells and nonliving things may not be made of cells.
- Students know that cells are the smallest biological unit that can be said to be alive.
- Students know that some organisms consist of a single cell (unicellular).
- Students know that some organisms consist of many different numbers and types of cells (multicellular).

CCC (Scale, Proportion, and Quantity):

- Students consider how observations of both living and nonliving things at one scale are both like and not like observations of those things at another scale.
- Students use observations at multiple scales as evidence that living things are made of cells and nonliving things may not be made of cells.