

SEVENTH GRADE LIFE SCIENCE SYLLABUS

A syllabus is an outline of what we will be learning this year. The seventh grade science syllabus is meant to help you understand what life science is all about. Of course this is tentative and may have to change. All standards are for South Dakota and middle school (MS). Feel free to contact me with questions or concerns.

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First Unit- Introduction to Life Science

Standard(s)- ETS1-1 thru ETS 1-4 Engineering Design

I can define a problem, design a solution, analyze data, and develop test model.

Activities- Science Fair, Banana Bread, Alien Gizmo

Chapter in Textbook- 1

Time Frame- Aug and early Sept.

Second Unit- Classification of Life

Standard(s)- LS1-4 and LS1-5

I can explain how animals and plants grow and reproduce.

Activities- Daubenmire Frames, Dichotomous Keys, River Macro Invertebrates, Dendrochronology, (also starfish dissection in April)

Chapter in Textbook- 2 and 3

Time Frame- Sept.

Third Unit- Cells

Standard(s)- LS1-1 and LS1-2 Organelles and Functions

I can model how cells function and prove living things are made of cells.

Activities- Cell Models, Biological Drawings, Microscope Identification, Osmosis

Chapter in Textbook- 4

Time Frame- Oct.

Standard(s)- LS1-6 and LS 1-7 Photosynthesis and Respiration

I can explain how energy flows and model release of energy

Activities- Photosynthesis models

Chapter in Textbook- 5

Time Frame- Oct

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Fourth Unit- Cellular Reproduction

Standard(s)- LS3-1 and LS 3-2

I can model asexual and sexual reproduction resulting in genetic variations and mutations.

Activities- Strawberry DNA, Mitosis/Meiosis Flip Book, DNA base pairing, Dr. Letter

Chapter in Textbook- 6

Time Frame- Nov

Standard(s)- LS4-6 Punnet Squares

I can explain natural selection using mathematical representations.

Activities- Penny Flip, Mice Gizmo, Dimples

Chapter in Textbook- 7

Time Frame- Nov

Fifth Unit- Human Body Systems

Standard(s)- LS1-3

I can prove that subsystems interact in body as groups of cells

Activities- Reaction time, Digestive model, temperature, muscles, heart, CO₂, growth measurements, cow eyeball, frog organs, Zombie Autopsy, growth mindset, concussions, daily food plan,

Chapter in Textbook- 9-14

Time Frame- Dec and Jan

Sixth Unit- Ecology

Standard(s)- LS2-1, LS2-2, LS2-4 Ecosystem Interactions

I can analyze data and interaction patterns and explain how changes affect populations.

Activities-Baby Dice, Deer counting, emerald ash borer, Yellowstone, Isle Royale, Symbiosis, prairie posters, bison/crocodile range, abiotic/biotic, Rachel Carson

Chapter in Textbook- 15

Time Frame- Feb

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Standard(s)-LS2-3 Energy Cycles

Activities- owl pellets, nature cycles, food chains/webs, available fresh water

Chapter in Textbook- 16

Time Frame- Feb-March

Standard(s)- LS2-5 Ecology Solutions

I can evaluate ecosystem and biodiversity solutions.

Activities- Water Quality Testing, Alternate Energy, Greenhouse Gizmo, Invasive species, utopias, climate change, Big Sioux River, biodiversity posters, Black Footed ferret

Chapter in Textbook- 17

Time Frame- March- April

Seventh Unit- Change Over Time

Standard(s)- LS4-1, 4-2, 4-4, and 4-5

I can analyze fossil data and explain how variations affect survival. Evaluate how humans use technology to affect inheritance.

Activities- timeline, cladograms, bird beak adaptations, pepper moth

Chapter in Textbook- 18

Time Frame- April- May