

# Content Terms Across the FOSS Next Generation K-8 Sequence

The purpose of this document is to allow educators to get an overview of the content terms introduced and reinforced throughout a student’s elementary science learning. We recommend using this document one of two ways:

- 1. Grade bands**—By comparing the grades before and the grades after you teach, you can identify both the prior learning of your students, by seeing the terms they have already been introduced to, as well as understand their future learning, by viewing the content terms that will come up for them in future years.
- 2. Course-Specific Content Sequence**—By following the conceptual framework (*right*), you can get a better idea of when the specific content covered in your grade has been presented and when it will be expanded upon.

**FOSS Next Generation—K-8 Sequence**

	PHYSICAL SCIENCE		EARTH SCIENCE		LIFE SCIENCE	
	MATTER	ENERGY AND CHANGE	ATMOSPHERE AND EARTH	ROCKS AND LANDFORMS	STRUCTURE/FUNCTION	COMPLEX SYSTEMS
6-8	Waves; Gravity and Kinetic Energy Chemical Interactions Electromagnetic Force; Variables and Design		Planetary Science Earth History Weather and Water		Heredity and Adaptation Human Systems Interactions Populations and Ecosystems Diversity of Life	
5	Mixtures and Solutions		Earth and Sun		Living Systems	
4		Energy		Soils, Rocks, and Landforms	Environments	
3	Motion and Matter		Water and Climate		Structures of Life	
2	Solids and Liquids			Pebbles, Sand, and Silt	Insects and Plants	
1		Sound and Light	Air and Weather		Plants and Animals	
K	Materials and Motion		Trees and Weather		Animals Two by Two	

If you are just interested in searching **one** specific term to see in which grades it appears, press **Ctrl + F** (Windows) or **⌘ Command + F** (Mac) and type in the desired word (i.e. gravity).

All words in **red** are not only cross-cutting concepts (i.e. system, energy) that should be addressed in each year, but also function as a core idea/content in grade-specific courses and are therefore included.

Please note that this is **NOT** a comprehensive vocabulary list. This document only includes terms that appear **multiple times** (and therefore in more than one grade level) throughout the FOSS Next Generation K-8 Sequence.

# GRADE K

## EARTH SCIENCE

Air  
Cold  
Cool  
Direction  
Flower  
Freezing  
Hot  
Ocean  
Property  
River  
Rough  
Season  
Seed  
Shape  
Size  
Smooth  
Streamer  
Temperature  
Texture  
Thermometer  
Valley  
Weather

## PHYSICAL SCIENCE

Grain  
Gravity  
Material  
Motion  
Property  
Pull  
Push  
Rough  
Senses  
Smooth  
Speed  
Texture

## LIFE SCIENCE

Animal  
Aquarium  
Carapace  
Clitellum  
Float  
Fresh water  
Living  
Nonliving  
Plant  
Section  
Segment  
Smooth  
Soil  
Terrarium  
Top Antenna

# GRADE 1

## EARTH SCIENCE

Air  
Air resistance  
Cold  
Compress  
Cool  
Day  
Degrees Celsius  
Degrees Fahrenheit  
Direction  
Distance  
Gas  
Hot  
**Matter**  
Meteorologist  
Migrate  
Moon  
Pressure  
Push  
Rain gauge  
Season  
Star  
Sun  
**System**  
Temperature  
Thermometer  
Water vapor  
Weather  
Wind speed  
Wind vane

## PHYSICAL SCIENCE

Angle  
Direction away  
Gravity  
Length  
Light  
Pitch  
Property  
Reflection  
Sound  
Sun  
**System**  
Translucent  
Transparent  
Travel

## LIFE SCIENCE

Behavior  
Bud  
**Function**  
Habitat  
Nutrient  
Offspring  
Plant  
Predator  
Seed  
Shelter  
**Structure**  
Survive  
**System**  
Terrarium  
Variation

# GRADE 2

## EARTH SCIENCE

Clay  
Decay  
Erosion  
Fresh water  
Gas  
Geologist  
Humus  
Layer  
Liquid  
Mineral  
Mixture  
Natural resources  
Ocean  
Particle  
Property  
Retain  
River  
Rock  
Rough  
Salt water  
Shape  
Silt  
Sink  
Size  
Smooth  
Soil  
Solid  
Stream  
Texture  
Valley  
Volcano  
Weathering

## PHYSICAL SCIENCE

Crystal  
Dissolve  
Evaporate  
Float  
Freeze  
Gas  
Grain  
Gravity  
Heat  
Hot  
Layer  
Liquid  
Material  
**Matter**  
Melt  
Mixture  
Particle  
Property  
Shape  
Smooth  
Solid  
Texture  
Translucent  
Transparent

## LIFE SCIENCE

Adult  
Antenna  
Bud  
Dead  
Flower  
Germinate  
Habitat  
Insect  
Larva  
Life cycle  
Light  
Living  
Metamorphosis  
Molt  
Molting  
Nutrient  
Nymph  
Offspring  
Organism  
Plant  
Pupa  
Seed  
Segment  
Shelter  
Soil  
Space  
Stage  
Waste

# GRADE 3

## EARTH SCIENCE

## PHYSICAL SCIENCE

## LIFE SCIENCE

Absorb  
Climate  
Climatologist  
Cold  
Condensation  
Constraint  
Contract  
Degree  
Celsius  
Direction  
Drought  
Earth material  
**Energy**  
Evaporation  
Expand  
Float  
Forecast  
Freeze  
Gas  
Gravel  
Gravity  
Hot  
Humus  
Less dense  
Liquid  
Mass  
Melt  
Meteorology  
Dense (more, less)

Natural resource  
Nonrenewable resource  
Precipitation  
Rain gauge  
Relationship  
Renewable resource  
Repel  
Retain  
Season  
Shaft  
Sink  
Slope  
Soil  
Solid  
State  
Surface (area)  
**System**  
Temperature  
Thermometer  
Tornado  
Volume  
Water cycle  
Water retention  
Water vapor  
Weather  
Wind vane

Attract  
Carbon dioxide  
Change of motion  
Chemical reaction  
Conservation of mass  
Constraint  
Direction  
Dissolve  
Force  
Friction  
Gravity  
Magnet  
Magnetic field  
Magnetic force  
Magnetism  
Mixture  
Motion  
Pattern of motion  
Pull  
Push  
Repel  
Shaft  
Slope  
Solution  
**System**  
Transparent  
Variable

Adaptation  
Adult  
Antenna  
Behavior  
Bone  
Carapace  
Carnivore  
Characteristic  
Dormant  
**Energy**  
Environment  
Flower  
Food chain  
Fossil  
**Function**  
Germination  
Habitat  
Herbivore  
Hydroponics  
Inherit  
Joint  
Life cycle  
Living  
Molt  
Muscle

Nutrient  
Offspring  
Omnivore  
Organism  
Parent plant  
Population  
Predator  
Prey  
Property  
Protective coloration  
Reproduce  
Seed  
Skeletal muscle  
Skeletal system  
Skeleton  
Species  
Survive  
Sustainable  
**System**  
Tendon  
Territory  
Tissue  
Trait  
Variation

# GRADE 4

## EARTH SCIENCE

Abrasion  
Chemical reaction  
Chemical weathering  
Clay  
Deposition  
Earth material  
Elevation  
Erosion  
Expand  
Fossil  
Fossil fuel  
Freeze  
Gravel  
Humus  
Lava  
Magma  
Mantle  
Natural resource  
Nonrenewable resource  
Petrification  
Physical weathering  
Renewable resource  
River channel  
Rock  
Sediment  
Sedimentary rock  
Silt  
Slope  
Soil  
Solar energy  
**System**  
Topographic map  
Valley  
Volcano  
Weathering

## PHYSICAL SCIENCE

Amplitude  
Attract  
Circuit  
Collision  
Component  
Compression  
Contact point  
Core  
Cycle  
Electric current  
Electricity  
Electromagnetic  
Electromagnetism  
**Energy**  
Force  
Frequency  
Friction  
Gravity  
Heat  
Induced magnetism  
Kinetic energy  
Light  
Magnetic field  
Magnetism  
Pole  
Potential energy  
Repel  
Sound  
**System**  
Temporary magnet  
Transfer  
Wave  
Wavelength

## LIFE SCIENCE

Adaptation  
Adult  
Algae  
Antennae  
Aquarium  
Behavior  
Carnivore  
Carrying capacity  
Consumer  
Controlled experiment  
Decomposer  
Dominant plant  
Ecosystem  
**Energy**  
Environment  
Food chain  
Food web  
**Function**  
Herbivore  
Inherited trait  
Irrigate  
Larva  
Life cycle  
Living  
Microorganism  
Migrate  
Molting  
Nonliving  
Omnivore  
Organism  
Plant distribution  
Population  
Predator  
Prey  
Producer  
Pupa  
Range of tolerance  
Reproduce  
Stage  
**Structure**  
Survive  
Variation

# GRADE 5

## EARTH SCIENCE

Absorb  
 Air  
 Air pressure  
 Asteroid  
 Atmosphere  
 Axis  
 Barometer  
 Climate  
 Climatologist  
 Compress  
 Condensation  
 Conduction  
 Constellation  
 Contract  
 Convection  
 current  
 Day  
 Dense (less,  
 more)  
 Drought  
 Earth material  
 Energy  
 transfer  
 Evaporate  
 Evaporation  
 Expand  
 Fluid  
 Force  
 Forecast  
 Fresh water  
 Gravity  
 Humidity  
 Mass  
**Matter**  
 Meteorologist  
 Moon  
 Ocean  
 Orbit  
 Phase  
 Precipitation  
 Pressure  
 Radiant energy  
 Radiation  
 Ray  
 Revolution  
 River  
 Rotation  
 Salt water  
 Solar energy  
 Solar system  
 Star  
 Sun  
 Temperature  
 Terrestrial  
 planet  
 Thermometer  
 Tornado  
 Troposphere  
 Uneven  
 heating  
 Variable  
 Water cycle  
 Water vapor  
 Waxing Moon  
 Weather  
 Wind direction  
 Wind speed  
 Wind vane

## PHYSICAL SCIENCE

Carbon dioxide  
 Chemical reaction  
 Concentration  
 Density  
 Dissolve  
 Filter  
 Gas  
 Layer  
 Mixture  
 Property  
 Reactant  
 Solubility  
 Solute  
 Solution  
 Solvent  
 Substance  
 Transparent

## LIFE SCIENCE

Adaptation  
 Algae  
 Alveoli  
 Artery  
 Atmosphere  
 Behavior  
 Biosphere  
 Capillary  
 Carbon  
 dioxide  
 Carnivore  
 Cell  
 Central  
 nervous  
 system  
 Chlorophyll  
 Circulatory  
 system  
 Consumer  
 Decomposer  
 Digestive  
 system  
 Ecosystem  
**Energy**  
 Food chain  
 Food web  
 Fungus  
 Herbivore  
 Inherited  
 trait  
 Living  
 Metabolism  
 Micro-  
 organism  
 Neuron  
 Nonliving  
 Nutrient  
 Omnivore  
 Photo-  
 synthesis  
 Predator  
 Prey  
 Producer  
 Receptor  
 Respiratory  
 system  
 Response  
 Stimulus  
**System**  
 Terrestrial  
 ecosystem  
 Transpira-  
 tion  
 Vascular  
 system  
 Vein  
 Vital  
 capacity  
 Waste

# GRADE 6

## EARTH SCIENCE

## PHYSICAL SCIENCE

## LIFE SCIENCE

Absorb  
 Air  
 Air mass  
 Air pressure  
 Atmosphere  
 Atmospheric  
 pressure  
 Barometer  
 Carbon dioxide  
 Carbon  
 sequestration  
 Climate change  
 Climatologist  
 Compress  
 Condensation  
 Conduction  
 Constraint  
 Convection  
 Density  
 Differential  
 heating  
 Emission  
 Energy transfer  
 Equilibrium  
 Evaporation  
 Expand  
 Fluid  
 Forecast  
 Global warming  
 Greenhouse  
 effect  
 Greenhouse  
 gas  
 Heat  
 Humidity  
 Insulation  
 Jet stream  
 Kinetic energy  
 Latitude  
 Mass  
**Matter**  
 Meteorologist  
 Meteorology  
 Ocean current  
 Particle  
 Permanent gas  
 Pollutant  
 Precipitation  
 Pressure  
 Radiant energy  
 Radiation  
 Ray  
 Solar angle  
 State  
 Temperature  
 Thermal energy  
 Transpiration  
 Troposphere  
 Variable gas  
 Water cycle  
 Weather  
 Weight

Attract  
 Circuit  
 Component  
 Constraint  
 Contact point  
 Core  
 Electric current  
 Electromagnetic force  
 Electromagnetism  
**Energy**  
 Energy transfer  
 Force  
 Fossil fuel  
 Friction  
 Gravitational force  
 Induced magnetism  
 Insulation  
 Kinetic energy  
 Magnet  
 Magnetic field  
 Magnetism  
 Nonrenewable  
 Pole  
 Potential energy  
 Renewable  
 Repel  
 Shaft

Adaptation  
 Aerobic  
 cellular  
 respiration  
 Allele  
 Atom  
 Behavior  
 Biodiversity  
 Cell  
 (structure)  
 Characteristic  
 Chlorophyll  
 Chloroplast  
 Chromosome  
 Control  
 Dead  
 Dominant  
 Dormant  
 Feature  
**Function**  
 Fungus  
 Gene  
 Generation  
 Genotype  
 Germination  
 Heredity  
 Heterozygous  
 Homozygous  
 Living  
 Micro-  
 organism  
 Molecule  
 Nonliving  
 Organ  
 (system)  
 Organism  
 Phenotype  
 Photo-  
 synthesis  
 Population  
 Recessive  
 Seed  
**Structure**  
 Tissue  
 Trait  
 Transpiration  
 Variation  
 Vascular  
 system  
 Vein  
 Virus



# GRADE 7

## EARTH SCIENCE

Clay  
Convection  
Deposition  
Erosion  
Geologist  
Igneous rock  
Lava  
Magma  
Mantle  
Metamorphic rock  
Period  
Sediment  
Sedimentary rock  
Silt  
Spreading ridge

## PHYSICAL SCIENCE

Atom  
Calorie  
Chemical reaction  
Compound  
Compression  
Condensation  
Conduction  
Conservation of energy  
Constraint  
Crystal  
Dissolve  
Element  
Energy transfer  
Equilibrium  
Evaporation  
Expansion  
Freeze  
Freezing point  
Gas  
Heating  
Insulation  
Kinetic energy  
Limiting factor  
Liquid  
**Matter**  
Melt  
Melting point  
Mixture  
Molecule  
Particle  
Phase change  
Solid  
Solubility  
Solute  
Solution  
Solvent  
State of matter  
Substance  
Sublimation  
Temperature  
Thermometer

## LIFE SCIENCE

Aerobic cellular respiration  
Biodiversity  
Calorie  
Carnivore  
Control  
Controlled experiment  
Decomposer  
Detritivore  
Ecosystem  
**Energy**  
First-level consumer  
Food chain  
Food web  
Habitat  
Herbivore  
Introduced species  
Invasive species  
Limiting factor  
Mass  
Migrate  
Molt  
Native species  
Nymph  
Observational study  
Omnivore  
Organism  
Photosynthesis  
Population  
Population study  
Predator  
Prey  
Primary consumer  
Producer  
Second-level consumer  
Secondary consumer  
Species  
Sustainable  
Terrestrial  
Tertiary consumer  
Third-level consumer

# GRADE 8

## EARTH SCIENCE

Asteroid  
Atmosphere  
Axis  
Beam spreading  
Elevation  
Emission line  
Latitude  
Longitude  
Orbit  
Phase  
Ray  
Revolution  
Rotation  
Season  
Solar angle  
Solar system  
Spectrum  
Visible Light  
Waning  
Waxing

## PHYSICAL SCIENCE

Absorb  
Acceleration  
Air resistance  
Amplitude  
Collision  
Compression wave  
Constraint  
Demodulation  
Distance  
Electromagnetic spectrum  
Energy  
Fiber optics  
Filter  
Force  
Frequency  
Friction  
Gravity  
Inverse relationship  
Kinetic energy  
Mass  
Modulation  
Potential energy  
Reflection  
Refraction  
Slope  
Spectrum  
Speed  
Variable  
Velocity  
Wave  
Wavelength  
Weight

## LIFE SCIENCE

Adaptation  
Aerobic cellular respiration  
Allele  
Alveoli  
Artery  
Artificial selection  
Atom  
Autonomic nervous system  
Biodiversity  
Bone marrow  
Calorie  
Capillary  
Cardiac muscle  
Cell  
Cell structure  
Central nervous system  
Characteristic  
Chromosome  
Circulatory system  
Digestive system  
Dominant  
Endocrine system  
Excretory system  
Extinct  
Feature  
Fossil  
Gene  
Generation  
Genotype  
Heredity  
Heterozygous  
Homozygous  
Inheritance  
Joint  
Metabolism

Molecule  
Muscular system  
Natural selection  
Nervous system  
Neuron  
Organ  
Organ system  
Organism  
Paleontology  
Peripheral nervous system  
Phenotype  
Photosynthesis  
Population  
Pressure  
Principle of superposition  
Punnett square  
Receptor  
Recessive  
Respiratory system  
Response  
Receptor  
Recessive  
Senses  
Sedimentary rock  
Skeletal muscle  
Skeletal system  
Smooth muscle  
Species  
Stimulus  
Tendon  
Tissue  
Trait  
Variation  
Vein