

FOSS Next Generation 6-8 Integrated Scope and Sequence Correlation At-A-Glance

Eighth Grade					
Heredity and	Electromagnetic	Gravity and Kinetic	Waves		Planetary Science
Adaptation	Force	Energy	3.2.6-8.Q • 3.2.6-8.R •	3.2.6-8.	J • 3.2.6-8.R • MS-ESS1-1 •
3.1.6-8.M • 3.1.6-8.N •	3.2.6-8.H • 3.2.6-8.I •	3.2.6-8.G • 3.2.6-8.H •	3.2.6-8.S	3.3.6-8	.B • 3.3.6-8.C • 3.3.6-8.D •
3.1.6-8.0 • 3.1.6-8.P •	3.2.6-8.K • 3.2.6-8.P •	3.2.6-8.J • 3.2.6-8.K •			.E • 3.3.6-8.H • 3.3.6-8.K •
3.1.6-8.Q • 3.1.6-8.S •	3.2.6-8.0 • 3.3.6-8.N	3.2.6-8.L • 3.2.6-8.P •		3.3.6-8	3.L • 3.3.6-8.M • 3.3.6-8.N
3.1.6-8.R • 3.1.6-8.T •		3.2.6-8.0 • 3.3.6-8.B			
3.3.6-8.D					
		Sevent	h Grade		
Chemical I	Chemical Interactions		Earth History Popul		lations and Ecosystems
3.2.6-8.A • 3.2.6	-8.D • 3.2.6-8.C •	3.3.6-8.D • 3.3.6-8.F • 3.3.6-8.E • 3.1.6-8.F • 3.1.6		6-8.G • 3.1.6-8.I • 3.1.6-8.J• 3.1.6-	
3.2.6-8.B • 3.2.6	3.2.6-8.B • 3.2.6-8.E • 3.2.6-8.F•		3.3.6-8.G • 3.3.6-8.K • 3.3.6-8.L • 8.K • 3.		• 3.1.6-8.L• 3.1.6-8.U•
3.2.6-8.M • 3.2.6	3.2.6-8.M • 3.2.6-8.N • 3.2.6-8.O		3.3.6-8.M • 3.3.6-8.N • 3.3.6-8.O •		3.N • 3.3.6-8.M • 3.3.6-8.N
		3.1.6	5-8.0		
		Citath	Cue de		
	1		Grade		
	and Water		Diversity of Life		Human Systems Interactions
3.2.6-8.B • 3.2.6-	3.2.6-8.B • 3.2.6-8.M • 3.2.6-8.N •		3.1.6-8.A • 3.1.6-8.B • 3.1.6-8.C • 3.1.6-8.D • 3.1.6-8.E • 3.1.6-8.F •		3.1.6-8.A • 3.1.6-8.C
3.2.6-8.0 • 3.3.6-8.A • 3.3.6-8.H •		3.1.6-8.G • 3.1.6-8.N		3.1.6-8.G • 3.1.6-8.H	
3.3.6-8.J • 3.3.6-8.I • 3.3.6-8.L •					
3.3.6-8.M • 3.3.0	5-8.N • 3.3.6-8.0				



FOSS Next Generation MS Detail Correlation – 6th Grade Weather and Water

	Weather and Water
3.3.6-8.H Develop	Disciplinary Core Ideas
a model to	ESS2.C: The Roles of Water in Earth's Surface Processes: Investigation 1 Part 1;
describe the	Investigation 2 Parts 1 and 2; Investigation 3 Part 3; Investigation 6 Part 3;
cycling of water	Investigation 7 Parts 2 and 3; Investigation 8 Parts 1-3; Investigation 10 Part 1
through Earth's	
systems driven by	Science and Engineering Practices
energy from the	Developing and Using Models: Investigation 1 Parts 2 and 3; Investigation 2
sun and the force	Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Parts 2 and 3;
of gravity.	Investigation 5 Parts 1-3; Investigation 6 Parts 1-3; Investigation 7 Parts 2 and 3;
	Investigation 8 Parts 1 and 3; Investigation 9 Parts 2 and 3; Investigation 10 Part
	1
	Crease thing Concerts
	Crosscutting Concepts Energy and Matter: Investigation 3 Part 2; Investigation 4 Parts 2 and 3;
	Investigation 5 Parts 1-3; Investigation 6 Parts 2 and 3; Investigation 7 Parts 2
	and 3; Investigation 8 Part 3; Investigation 9 Parts 2 and 3
3.3.6-8.0 Collect	Disciplinary Core Ideas
data to provide	ESS2.C: The Roles of Water in Earth's Surface Processes: Investigation 1 Part 1;
evidence for how	Investigation 2 Parts 1 and 2; Investigation 3 Part 3; Investigation 6 Part 3;
the motions and	Investigation 7 Parts 2 and 3; Investigation 8 Parts 1-3; Investigation 10 Part 1
complex	
interactions of air	ESS2.D: Weather and Climate: Investigation 1 Part 3; Investigation 2 Part 2;
masses result in	Investigation 3 Part 3; Investigation 4 Parts 1 and 3; Investigation 6 Part 3;
changes in weather	Investigation 8 Part 3; Investigation 9 Part 3; Investigation 10 Part 2
conditions.	
	Science and Engineering Practices
	Planning and Carrying Out Investigations: Investigation 1 Parts 2 and 3;
	Investigation 2 Parts 1 and 2; Investigation 3 Parts 1 and 2; Investigation 4 Part
	3; Investigation 5 Parts 1-3; Investigation 7 Part 1; Investigation 9 Part 1
	Crosscutting Concepts
	Cause and Effect: Investigation 1 Parts 1-3; Investigation 2 Parts 1 and 2;
	Investigation 3 Parts 2 and 3; Investigation 4 Parts 2 and 3; Investigation 5 Parts
	2 and 3; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1-3; Investigation 8
	Parts 2 and 3; Investigation 9 Parts 2 and 3; Investigation 10 Parts 1 and 2

Alignment to the Pennsylvania STEELS Standards



	Weather and Water
3.3.6-8.I Develop	Disciplinary Core Ideas
and use a model to	ESS2.C: The Roles of Water in Earth's Surface Processes: Investigation 1 Part 1;
describe how	Investigation 2 Parts 1 and 2; Investigation 3 Part 3; Investigation 6 Part 3;
unequal heating	Investigation 7 Parts 2 and 3; Investigation 8 Parts 1-3; Investigation 10 Part 1
and rotation of the	
Earth cause	ESS2.D: Weather and Climate: Investigation 1 Part 3; Investigation 2 Part 2;
patterns of	Investigation 3 Part 3; Investigation 4 Parts 1 and 3; Investigation 6 Part 3;
atmospheric and oceanic circulation	Investigation 8 Part 3; Investigation 9 Part 3; Investigation 10 Part 2
that determine	Science and Engineering Practices
regional climates.	Developing and Using Models: Investigation 1 Parts 2 and 3; Investigation 2
	Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Parts 2 and 3;
	Investigation 5 Parts 1-3; Investigation 6 Parts 1-3; Investigation 7 Parts 2 and 3;
	Investigation 8 Parts 1 and 3; Investigation 9 Parts 2 and 3; Investigation 10 Part
	1
	Crosscutting Concepts
	Systems and System Models Investigation 1 Part 2; Investigation 3 Part 3;
	Investigation 4 Part 2; Investigation 5 Parts 1-3; Investigation 6 Parts 2 and 3;
	Investigation 7 Parts 1 and 3; Investigation 8 Parts 1 and 3; Investigation 9 Parts
	2 and 3; Investigation 10 Part 1
3.3.6-8.L Analyze	Disciplinary Core Ideas
and interpret data	ESS3.B: Natural Hazards: Investigation 9 Parts 1-3; Investigation 10 Part 1
on natural hazards	
to forecast future	Science and Engineering Practices
catastrophic events and inform the	Analyzing and Interpreting Data: Investigation 1 Parts 2 and 3; Investigation 2
development of	Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3; Investigation 5
technologies to	Parts 1-3; Investigation 6 Part 3; Investigation 7 Parts 1-3; Investigation 8 Parts 2 and 3; Investigation 9 Parts 1-3; Investigation 10 Part 1
mitigate their	and 5, investigation 5 Fails 1-5, investigation to Fail 1
effects.	Crosscutting Concepts
	Patterns: Investigation 1 Parts 1 and 3; Investigation 2 Part 2; Investigation 3
	Parts 1 and 2; Investigation 5 Part 1; Investigation 6 Part 3; Investigation 8 Part
	2; Investigation 9 Parts 1 and 3; Investigation 10 Parts 1 and 2



Weather and Water		
3.3.6-8.M Apply	Disciplinary Core Ideas	
scientific principles	ESS3.C: Human Impacts on Earth Systems: Investigation 8 Part 3; Investigation	
to design a method	9 Parts 1-3; Investigation 10 Part 2	
for monitoring and		
minimizing a	Science and Engineering Practices	
human impact on	Constructing Explanations and Designing Solutions: Investigation 5 Parts 1-3;	
the environment.	Investigation 9 Parts 2 and 3	
	Crossoutting Concents	
	Crosscutting Concepts Cause and Effect: Investigation 1 Parts 1-3; Investigation 2 Parts 1 and 2;	
	Investigation 3 Parts 2 and 3; Investigation 4 Parts 2 and 3; Investigation 5 Parts	
	2 and 3; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1-3; Investigation 8	
	Parts 2 and 3; Investigation 9 Parts 2 and 3; Investigation 10 Parts 1 and 2	
3.3.6-8.N Construct	Disciplinary Core Ideas	
an argument	ESS3.C: Human Impacts on Earth Systems: Investigation 8 Part 3; Investigation	
supported by	9 Parts 1-3; Investigation 10 Part 2	
evidence for how		
increases in human	Science and Engineering Practices	
population and	Engaging in Argument from Evidence: Investigation 1 Part 2; Investigation 5	
per-capita	Part 3; Investigation 7 Parts 1 and 2; Investigation 9 Part 3; Investigation 10 Part	
consumption of	1	
natural resources		
impact Earth's	Crosscutting Concepts	
systems.	Cause and Effect: Investigation 1 Parts 1-3; Investigation 2 Parts 1 and 2;	
	Investigation 3 Parts 2 and 3; Investigation 4 Parts 2 and 3; Investigation 5 Parts	
	2 and 3; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1-3; Investigation 8	
	Parts 2 and 3; Investigation 9 Parts 2 and 3; Investigation 10 Parts 1 and 2	



Weather and Water		
3.3.6-8.0 Ask	Disciplinary Core Ideas	
questions to clarify	ESS2.C: The Roles of Water in Earth's Surface Processes: Investigation 1 Part 1;	
evidence of the	Investigation 2 Parts 1 and 2; Investigation 3 Part 3; Investigation 6 Part 3;	
factors that have caused the rise in	Investigation 7 Parts 2 and 3; Investigation 8 Parts 1-3; Investigation 10 Part 1	
global	ESS2.D: Weather and Climate: Investigation 1 Part 3; Investigation 2 Part 2;	
temperatures over	Investigation 3 Part 3; Investigation 4 Parts 1 and 3; Investigation 6 Part 3;	
the past century.	Investigation 8 Part 3; Investigation 9 Part 3; Investigation 10 Part 2	
	Science and Engineering Practices	
	Developing and Using Models: Investigation 1 Parts 2 and 3; Investigation 2	
	Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Parts 2 and 3;	
	Investigation 5 Parts 1-3; Investigation 6 Parts 1-3; Investigation 7 Parts 2 and 3;	
	Investigation 8 Parts 1 and 3; Investigation 9 Parts 2 and 3; Investigation 10 Part 1	
	Crosscutting Concepts	
	Systems and System Models Investigation 1 Part 2; Investigation 3 Part 3; Investigation 4 Part 2; Investigation 5 Parts 1-3; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1 and 3; Investigation 8 Parts 1 and 3; Investigation 9 Parts 2 and 3; Investigation 10 Part 1	

Weather and Water		
3.2.6-8.B Develop a model that predicts and describes changes in particle motion,	Disciplinary Core Ideas PS1.A: Structure and Properties of Matter: Investigation 1 Parts 2 and 3; Investigation 2 Part 1; Investigation 3 Parts 2 and 3; Investigation 6 Part 3; Investigation 7 Part 1; Investigation 10 Part 2	
temperature, and state of a pure substance when thermal energy is added or removed.	Science and Engineering Practices Developing and Using Models: Investigation 1 Parts 2 and 3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Parts 2 and 3; Investigation 5 Parts 1-3; Investigation 6 Parts 1-3; Investigation 7 Parts 2 and 3; Investigation 8 Parts 1 and 3; Investigation 9 Parts 2 and 3; Investigation 10 Part 1	
	Crosscutting Concepts Cause and Effect: Investigation 1 Parts 1-3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 2 and 3; Investigation 4 Parts 2 and 3; Investigation 5 Parts 2 and 3; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1-3; Investigation 8 Parts 2 and 3; Investigation 9 Parts 2 and 3; Investigation 10 Parts 1 and 2	



	Weather and Water
3.2.6-8.M Apply	Disciplinary Core Ideas
Scientific principles	PS3.A: Definitions of Energy: Investigation 4 Part 3; Investigation 5 Parts 1-3;
to design,	Investigation 6 Part 3; Investigation 7 Part 3; Investigation 10 Part 2
construct, and test	
a device that either	PS3.B: Conservation of Energy and Energy Transfer: Investigation 3 Part 3;
minimizes or	Investigation 4 Part 3; Investigation 5 part 3; Investigation 6 Part 3;
maximizes thermal	Investigation 7 Part 3; Investigation 10 Part 2
energy transfer.	
	Science and Engineering Practices
	Constructing Explanations and Designing Solutions: Investigation 5 Parts 1-3;
	Investigation 9 Parts 2 and 3
	Crosscutting Concepts
	Energy and Matter: Investigation 3 Part 2; Investigation 4 Parts 2 and 3;
	Investigation 5 Parts 1-3; Investigation 6 Parts 2 and 3; Investigation 7 Parts 2
	and 3; Investigation 8 Part 3; Investigation 9 Parts 2 and 3
3.2.6-8.N Plan an	Disciplinary Core Ideas
investigation to	PS3.A: Definitions of Energy: Investigation 4 Part 3; Investigation 5 Parts 1-3;
determine the	Investigation 6 Part 3; Investigation 7 Part 3; Investigation 10 Part 2
relationships	
among the energy	PS3.B: Conservation of Energy and Energy Transfer: Investigation 3 Part 3;
transferred, the	Investigation 4 Part 3; Investigation 5 part 3; Investigation 6 Part 3;
type of matter, the	Investigation 7 Part 3; Investigation 10 Part 2
mass, and the	
change in the	Science and Engineering Practices
average kinetic	Planning and Carrying Out Investigations: Investigation 1 Parts 2 and 3;
energy of the	Investigation 2 Parts 1 and 2; Investigation 3 Parts 1 and 2; Investigation 4 Part
particles as	3; Investigation 5 Parts 1-3; Investigation 7 Part 1; Investigation 9 Part 1
measured by the	Crosscutting Concepts
temperature of the	Scale, Proportion, and Quantity: Investigation 2 Parts 1 and 2; Investigation 3
sample.	Part 3; Investigation 4 Part 2; Investigation 7 Part 3; Investigation 8 Part 1;
	Investigation 9 Part 1



Weather and Water		
3.2.6-8.0	Disciplinary Core Ideas	
Construct, use, and	PS3.B: Conservation of Energy and Energy Transfer: Investigation 3 Part 3;	
present arguments	Investigation 4 Part 3; Investigation 5 part 3; Investigation 6 Part 3;	
to support the	Investigation 7 Part 3; Investigation 10 Part 2	
claim that when		
the kinetic energy	Science and Engineering Practices	
of an object	Engaging in Argument from Evidence: Investigation 1 Part 2; Investigation 5	
changes, energy is	Part 3; Investigation 7 Parts 1 and 2; Investigation 9 Part 3; Investigation 10 Part	
transferred to or	1	
from the object.		
	Crosscutting Concepts	
	Energy and Matter: Investigation 3 Part 2; Investigation 4 Parts 2 and 3;	
	Investigation 5 Parts 1-3; Investigation 6 Parts 2 and 3; Investigation 7 Parts 2	
	and 3; Investigation 8 Part 3; Investigation 9 Parts 2 and 3	



FOSS Next Generation MS Detail Correlation – 6th Grade Diversity of Life

	Diversity of Life
3.1.6-8.A Conduct	Disciplinary Core Ideas
an investigation to	LS1.A: Structure and Function: Investigation 1 Part 2; Investigation 2 Part 2;
provide evidence	Investigation 3 Parts 1-4; Investigation 4 Parts 1-4; Investigation 5 Part 3;
that living things	Investigation 8 Parts 1 and 2; Investigation 9 Parts 1 and 2
are made of cells;	
either one cell or	Science and Engineering Practices
many different	Planning and Carrying Out Investigations: Investigation 1 Part 2; Investigation 2
numbers and types	Parts 1 and 3; Investigation 3 Parts 1-4; Investigation 4 Parts 1-3; Investigation 5
of cells.	Parts 1-3; Investigation 6 Parts 1-3; Investigation 8 Part 1; Investigation 9 Part 1
	Crosscutting Concepts
	Scale, Proportion, and Quantity: Investigation 1 Part 2; Investigation 2 Parts 1-
	3; Investigation 3 Parts 1-4; Investigation 4 Parts 1, 2 and 4; Investigation 9 Part 1
3.1.6-8.B Develop	Disciplinary Core Ideas
and use a model to	LS1.A: Structure and Function: Investigation 1 Part 2; Investigation 2 Part 2;
describe the	Investigation 3 Parts 1-4; Investigation 4 Parts 1-4; Investigation 5 Part 3;
function of a cell as	Investigation 8 Parts 1 and 2; Investigation 9 Parts 1 and 2
a whole and ways	
the parts of cells	Science and Engineering Practices
contribute to the	Developing and Using Models: Investigation 3 Parts 1-2 and 4; Investigation 4
function.	Parts 1 and 4; Investigation 5 Parts 1 and 2; Investigation 7 Part 2
	Crosscutting Concepts
	Structure and Function: Investigation 1 Part 2; Investigation 2 Part 3;
	Investigation 3 Parts 1-4; Investigation 4 Parts 2 and 4; Investigation 5 Parts 2
	and 3; Investigation 6 parts 1 and 4; Investigation 8 Parts 1 and 2; Investigation 9 Part 2
3.1.6-8.C Use	Disciplinary Core Ideas
argument	LS1.A: Structure and Function: Investigation 1 Part 2; Investigation 2 Part 2;
supported by	Investigation 3 Parts 1-4; Investigation 4 Parts 1-4; Investigation 5 Part 3;
evidence for how	Investigation 8 Parts 1 and 2; Investigation 9 Parts 1 and 2
the body is a	
system of	Science and Engineering Practices
interacting systems	Engaging in Argument from Evidence: Investigation 1 Parts 1 and 2;
composed of	Investigation 2 Part 3; Investigation 3 Parts 2 and 3; Investigation 4 Parts 2-4;
groups of cells.	Investigation 6 Part 4; Investigation 8 Part 2; Investigation 9 Parts 1 and 2
	Crosscutting Concepts
	Systems and Systems Models: Investigation 3 Parts 2 and 4; Investigation 4
	Parts 1 and 4; Investigation 5 Parts 2 and 3; Investigation 6 Part 3; Investigation 8 Part 2; Investigation 9 Parts 1 and 2



Diversity of Life		
3.1.6-8.D Use	Disciplinary Core Ideas	
argument based on	LS1.B Growth and Development of Organisms: Investigation 3 Parts 1-4;	
empirical evidence	Investigation 4 Parts 1-4; Investigation 6 Parts –4; Investigation 7 Parts 1 and 2;	
and scientific	Investigation 8 Parts 1 and 2	
reasoning to		
support an	Science and Engineering Practices	
explanation for how characteristic	Engaging in Argument from Evidence: Investigation 1 Parts 1 and 2;	
animal behaviors	Investigation 2 Part 3; Investigation 3 Parts 2 and 3; Investigation 4 Parts 2-4;	
and specialized	Investigation 6 Part 4; Investigation 8 Part 2; Investigation 9 Parts 1 and 2	
plant structures		
affect the	Crosscutting Concepts	
probability of	Cause and Effect: Investigation 1 Part 2; Investigation 2 Part 3; Investigation 5	
successful	Parts 1 and 3; Investigation 6 Parts 2 and 4; Investigation 7 Parts 1 and 2; Investigation 8 Part 1; Investigation 9 Parts 1 and 2	
reproduction of	investigation o Part 1, investigation 9 Parts 1 and 2	
animals and plants		
respectively.		
3.1.6-8.E Construct	Disciplinary Core Ideas	
a scientific	LS1.B Growth and Development of Organisms: Investigation 3 Parts 1-4;	
explanation based	Investigation 4 Parts 1-4; Investigation 6 Parts –4; Investigation 7 Parts 1 and 2;	
on evidence for	Investigation 8 Parts 1 and 2	
how environmental		
and genetic factors influence the	Science and Engineering Practices	
growth of	Constructing Explanations and Designing Solutions: Investigation 1 Part 2;	
organisms.	Investigation 3 Parts 1-4; Investigation 4 Parts 1-4; Investigation 5 Parts 1-3;	
organisms.	Investigation 7 Parts 1 and 2; Investigation 8 Parts 1 and 2; Investigation 9 Part	
	2	
	Crosscutting Concepts	
	Cause and Effect: Investigation 1 Part 2; Investigation 2 Part 3; Investigation 5	
	Parts 1 and 3; Investigation 6 Parts 2 and 4; Investigation 7 Parts 1 and 2;	
	Investigation 8 Part 1; Investigation 9 Parts 1 and 2	



Diversity of Life		
3.1.6-8.N Develop and use a model to describe why	Disciplinary Core Ideas LS1.B: Growth and Development of Organisms: Investigation 3 Parts 1-4;	
asexual reproduction	Investigation 4 Parts 1-4; Investigation 6 Parts –4; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1 and 2	
results in offspring with identical	LS3.A: Inheritance of Traits: Investigation 7 Parts 1 and 2	
genetic information and	LS3.B Variation of Traits: Investigation 7 Parts 1 and 2	
sexual reproduction	Science and Engineering Practices	
results in offspring with genetic variation.	Developing and Using Models: Investigation 3 Parts 1-2 and 4; Investigation 4 Parts 1 and 4; Investigation 5 Parts 1 and 2; Investigation 7 Part 2	
	Crosscutting Concepts	
	Cause and Effect: Investigation 1 Part 2; Investigation 2 Part 3; Investigation 5 Parts 1 and 3; Investigation 6 Parts 2 and 4; Investigation 7 Parts 1 and 2; Investigation 8 Part 1; Investigation 9 Parts 1 and 2	

FOSS Next Generation MS Detail Correlation – 6th Grade Human Systems Interactions

Human Systems Interactions		
3.1.6-8.C Use	Disciplinary Core Ideas	
argument	LS1.A: Structure and Function: Investigation 1 Parts 1 and 2; Investigation 2	
supported by	Parts 1 and 2; Investigation 3 Parts 1-4	
evidence for how		
the body is a	Science and Engineering Practices	
system of	Engaging in Argument from Evidence: Investigation 1 Parts 1 and 2;	
interacting systems	Investigation 3 Parts 1 and 2	
composed of		
groups of cells.	Crosscutting Concepts	
	Systems and Systems Models: Investigation 1 Parts 1 and 2; Investigaton 2	
	Parts 1 and 2; Investigation 3 Parts 1-4	



	Diversity of Life
3.1.6-8.G Develop	Disciplinary Core Ideas
a model to	LS1.C Organization for Matter and Energy Flow in Organisms: Investigation 2
describe how food	Parts 1 and 2
is rearranged	
through chemical	Science and Engineering Practices
reactions forming	Developing and Using Models: Investigation 2 Parts 1 and 2; Investigation 3
new molecules that	Parts 1 and 2
support growth	
and/or release	Crosscutting Concepts
energy as this	Energy and Matter: Investigation 2 Parts 1 and 2
matter moves	
through an	
organism.	
3.1.6-8.H Gather	Disciplinary Core Ideas
and synthesize	LS1.D Information Processing: Investigation 3 Parts 1-4
information that	
sensory receptors	Science and Engineering Practices
respond to stimuli	Obtaining, Evaluating, and Communicating Information: Investigation 1 Parts 1
by sending	and 2; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-4
messages to the	
brain for	Crosscutting Concepts
immediate	Cause and Effect Investigation 1 Part 2; Investigation 3 Parts 1-4
behavior or storage	
as memories.	



FOSS 6th Grade Assessment Opportunities

Disciplinary Core Ideas Assessment Opportunities – 6th Grade

Course	Inv.														
		PS1.A	PS3.A	PS3.B	LS1.A	LS1.B	LS1.C	LS1.D	ESS2.C	ESS2.D	ESS3.B	ESS3.C	ETS1.A	ETS1.B	ETS1.C
Weather	1	х							х	х					
and	2	х							х	х					
Water	3	х		х					х	х					
	4		х	х						х					
	5		х	х									х	x	х
	6	х	x	x					х	x					
	7	х	х	x					х						
	8								х	х		х			
	9									х	х	х			
	10	х	х	х					х	х	х	х	х	х	х
Diversity	1				х										
of Life	2				x										
	3				х	x									
	4				х	x									
	5				х										
	6					х									
	7					x									
	8				х	x									
	9				х										
Human	1														
Systems Interact-	2				х		x								
ions	3				x			x							



Science and Engineering Practices Assessment Opportunities – 6th Grade

Course	Inv.			Scienc	e and Engineering Pra	actices		
		Asking Questions and Defining Problems	Developing and Using Models	Planning and Carrying Out Investigations	Analyzing and Interpreting Data	Constructing Explanations and Designing Solutions	Engaging in Argument from Evidence	Obtaining, Evaluating, and Communicating Information
Weather	1	х	x	х	х		x	
and	2	х	x	х	х			
Water	3		x	х	х			
	4	х	x	х	х			
	5	х	x	х	х	x	x	
	6		x		х			
	7	х	x	Х	х		x	
	8		x		x			
	9	х	x	х	х	x	x	
	10	х	x		х		x	
Diversity	1			х		x	x	
of Life	2			х			x	
	3		х	х		х	x	
	4		х	х		x	х	
	5		х	х		х		
	6			х			x	
	7		х			x		
	8			х		х	x	
	9			х		x	х	
Human	1						x	x
Systems Interact- ions	2		x					x
	3		x				x	x



Crosscutting Concept Assessment Opportunities – 6th Grade

Course	Inv.			Crosscuttin	g Concepts		
		Patterns	Cause and Effect	Scale, Proportion, and Quantity	Systems and System Models	Energy and Matter in Systems	Structure and Function
Weather	1	x	x		x	-	
and	2	х	х				
Water	3	х	х	х	x	х	
	4		х	х	x	х	
	5	х	х	х	x	х	
	6	х	х	x	x	х	
	7		х	x	x	х	
	8	x	x	х	x	x	
	9	х	х	x	x	х	
	10	x	х		x		
Diversity	1		х	х			x
of Life	2		х	х			x
	3			х	х		x
	4			х	x		x
	5		х		x	х	x
	6		х		x		x
	7		х				
	8		х		x		x
	9		х	х	X		x
Human	1		x	х	x		
Systems Interact-	2			х	x	х	
ions	3		x	х	x		



FOSS Next Generation MS Detail Correlation – 7 th Grade Chemic	al Interactions
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	Chemical Interactions
3.2.6-8.A Develop	Disciplinary Core Ideas
models to describe	PS1.A: Structure and Properties of Matter: Investigation 1 Parts 1 and 2;
the atomic	Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Part 1;
composition of	Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-4; Investigation 9 Part 1;
simple molecules	Investigation 10 Part 2
and extended	Science and Engineering Practices
structures.	Developing and Using Models: Investigation 2 Parts 1 and 2; Investigation 3
	Parts 2 and 3; Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6
	Part 2; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1, 2 and 4;
	Investigation 9 Parts 1-3; Investigation 10 Parts 1 and 2
	Crosscutting Concepts
	Scale, Proportion, and Quantity: Investigation 2 Part 2; Investigation 3 Parts 1-
	3; Investigation 4 Part 2; Investigation 5 Part 3; Investigation 7 Part 2;
	Investigation 9 Parts 2 and 3; Investigation 10 Part 1
3.2.6-8.D Analyze	Disciplinary Core Ideas
and interpret data on the properties	PS1.A: Structure and Properties of Matter: Investigation 1 Parts 1 and 2;
of substances	Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Part 1; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-4; Investigation 9 Part 1;
before and after	Investigation 7 Parts 1 and 2, investigation 8 Parts 1-4, investigation 9 Part 1, Investigation 10 Part 2
the substances	
interact to	PS1.B: Chemical Reactions: Investigation 1 Part 2; Investigation 3 Parts 1-3;
determine if a	Investigation 9 Parts 1-3; Investigation 10 Parts 1 and 2
chemical reaction	
has occurred.	Science and Engineering Practices
	Analyzing and Interpreting Data: Investigation 1 Parts 1 and 2; Investigation 3
	Parts 1-3; Investigation 4 Parts 1-3; Investigation 5 Parts 1 and 3; Investigation 6
	Parts 1 and 2; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-3;
	Investigation 9 Parts 2 and 3; Investigation 10 Part 1
	Crosscutting Concepts
	Patterns: Investigation 1 Part 2; Investigation 2 Parts 1 and 2; Investigation 5
	Part 1; Investigation 6 Part 1; Investigation 7 Part 2; Investigation 8 Parts 1 and
	2



Chemical Interactions					
3.2.6-8.C Gather	Disciplinary Core Ideas				
and make sense of	PS1.A: Structure and Properties of Matter: Investigation 1 Parts 1 and 2;				
information to	Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Part 1;				
describe that	Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-4; Investigation 9 Part 1;				
synthetic materials	Investigation 10 Part 2				
come from natural					
resources and	PS1.B: Chemical Reactions: Investigation 1 Part 2; Investigation 3 Parts 1-3;				
impact society.	Investigation 9 Parts 1-3; Investigation 10 Parts 1 and 2				
	Science and Engineering Practices				
	Obtaining, Evaluating, and Communicating Information: Investigation 1 Part 2;				
	Investigation 2 Parts 1 and 2; Investigation 3 Parts 2 and 3; Investigation 4 Parts				
	2 and 3; Investigation 5 Part 2; Investigation 6 Part 2; Investigation 7 Part 2;				
	Investigation 8 Parts 2 and 4; Investigation 9 Parts 1-3; Investigation 10 Parts 1				
	and 2				
	Crosscutting Concepts				
	Structure and Function: Investigation 2 Part 2; Investigation 5 Part 2;				
	Investigation 6 Parts 1 and 2; Investigation 8 Part 3; Investigation 9 Part 1				
3.2.6-8.B Develop a	Disciplinary Core Ideas PS1.A: Structure and Properties of Matter: Investigation 1 Parts 1 and 2;				
model that predicts	Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Part 1;				
and describes	Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-3; Investigation 9 Part 1;				
changes in particle					
motion,	Investigation 10 Part 2				
temperature, and	Science and Engineering Dreations				
state of a pure	Science and Engineering Practices Developing and Using Models: Investigation 2 Parts 1 and 2; Investigation 3				
substance when	Parts 2 and 3; Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6				
thermal energy is	Part 2; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1, 2 and 4;				
added or removed.	Investigation 9 Parts 1-3; Investigation 10 Parts 1 and 2				
	Crosscutting Concepts				
	Cause and Effect: Investigation 1 Parts 1 and 2; Investigation 3 Parts 2 and 3;				
	Investigation 4 Parts 1-3; Investigation 6 Part 1; Investigation 7 Parts 1 and 2;				
	Investigation 8 Parts 1-4; Investigation 9 Parts 1-3; Investigation 10 Part 1				



	Chemical Interactions				
3.2.6-8.E Develop	Disciplinary Core Ideas				
and use a model to	PS1.B: Chemical Reactions: Investigation 1 Part 2; Investigation 3 Parts 1-3;				
describe how the	Investigation 9 Parts 1-3; Investigation 10 Parts 1 and 2				
total number of					
atoms does not	Science and Engineering Practices				
change in a	Developing and Using Models: Investigation 2 Parts 1 and 2; Investigation 3				
chemical reaction	Parts 2 and 3; Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6				
and thus mass is	Part 2; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1, 2 and 4;				
conserved.	Investigation 9 Parts 1-3; Investigation 10 Parts 1 and 2				
	Crosscutting Concepts				
	Energy and Matter: Investigation 3 Parts 2 and 3; Investigation 4 Parts 1-3;				
	Investigation 5 Parts 1-3; Investigation 6 Parts 1 and 2; Investigation 8 Parts 1-4;				
	Investigation 9 Parts 2 and 3				
3.2.6-8.F	Disciplinary Core Ideas				
Undertake a design	PS1.B: Chemical Reactions: Investigation 1 Part 2; Investigation 3 Parts 1-3;				
project to	Investigation 9 Parts 1-3; Investigation 10 Parts 1 and 2				
construct, test, and					
module a device	Science and Engineering Practices				
that either releases	Constructing Explanations and Designing Solutions: Investigation 1 Part 2;				
or absorbs thermal	Investigation 2 Parts 1 and 2; Investigation 3 Parts 2 and 3; Investigation 4 Parts				
energy by chemical	1-3; Investigation 5 Parts 1-3 Investigation 7 Parts 1 and 2; Investigation 8 Parts				
processes.	1-4; Investigation 9 Parts 1 and 3; Investigation 10 Parts 1 and 2				
	Crosscutting Concepts				
	Energy and Matter: Investigation 3 Parts 2 and 3; Investigation 4 Parts 1-3;				
	Investigation 5 Parts 1-3; Investigation 6 Parts 1 and 2; Investigation 8 Parts 1-4;				
	Investigation 9 Parts 2 and 3				



	Chemical Interactions
3.2.6-8.M Apply	Disciplinary Core Ideas
scientific principles	PS3.A: Definitions of Energy: Investigation 4 Parts 1-3; Investigation 5 Parts 1-3;
to design,	Investigation 6 Parts 1 and 2; Investigation 7 Part 2; Investigation 10 Part 2
construct, and test	
a device that either	PS3.B: Conservation of Energy and Energy Transfer: Investigation 4 Parts 1-3;
minimizes or	Investigation 5 Parts 1-3; Investigation 6 Parts 1 and 2; Investigation 8 Part 1;
maximizes thermal	Investigation 10 Parts 1 and 2
energy transfer.	
	Science and Engineering Practices
	Constructing Explanations and Designing Solutions: Investigation 1 Part 2;
	Investigation 2 Parts 1 and 2; Investigation 3 Parts 2 and 3; Investigation 4 Parts
	1-3; Investigation 5 Parts 1-3 Investigation 7 Parts 1 and 2; Investigation 8 Parts
	1-4; Investigation 9 Parts 1 and 3; Investigation 10 Parts 1 and 2
	Crossoutting Concerts
	Crosscutting Concepts Energy and Matter: Investigation 3 Parts 2 and 3; Investigation 4 Parts 1-3;
	Investigation 5 Parts 1-3; Investigation 6 Parts 1 and 2; Investigation 8 Parts 1-4;
	Investigation 9 Parts 2 and 3
3.2.6-8.N Plan an	Disciplinary Core Ideas
investigation to	PS3.A: Definitions of Energy: Investigation 4 Parts 1-3; Investigation 5 Parts 1-3;
determine the	Investigation 6 Parts 1 and 2; Investigation 7 Part 2; Investigation 10 Part 2
relationships	
among the energy	PS3.B: Conservation of Energy and Energy Transfer: Investigation 4 Parts 1-3;
transferred, the	Investigation 5 Parts 1-3; Investigation 6 Parts 1 and 2; Investigation 8 Part 1;
type of matter, the	Investigation 10 Parts 1 and 2
mass, and the	
change in the	Science and Engineering Practices
average kinetic	Planning and Carrying Out Investigations: Investigation 1 Parts 1 and 2;
energy of the	Investigation 3 Parts 1 and 2; Investigation 4 Parts 1 and 2; Investigation 5 Parts
particles as	1 and 3; Investigation 6 Parts 1 and 2; Investigation 7 Parts 1 and 2;
measured by the	Investigation 8 Parts 1-3; Investigation 9 Parts 2 and 3; Investigation 10 Part 1
temperature of the	Crosscutting Concepts
sample.	Scale, Proportion, Quantity: Investigation 2 Part 2; Investigation 3 Parts 1-3;
	Investigation 4 Part 2; Investigation 5 Part 3; Investigation 7 Part 2;
	Investigation 9 Parts 2 and 3; Investigation 10 Part 1



	Chemical Interactions				
3.2.6-8.0	Disciplinary Core Ideas				
3.2.6-8.0 Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.	 PS3.B: Conservation of Energy and Energy Transfer: Investigation 4 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6 Parts 1 and 2; Investigation 8 Part 1; Investigation 10 Parts 1 and 2 Science and Engineering Practices Engaging in Argument from Evidence: Investigation 1 Part 2; Investigation 3 Parts 2 and 3; Investigation 6 Part 1; Investigation 8 Parts 1 and 3; Investigation 9 Part 3 Crosscutting Concepts Energy and Matter: Investigation 3 Parts 2 and 3; Investigation 4 Parts 1-3; 				
	Investigation 5 Parts 1-3; Investigation 6 Parts 1 and 2; Investigation 8 Parts 1-4; Investigation 9 Parts 2 and 3				



Earth History				
3.3.6-8.D Construct	Disciplinary Core Ideas			
a scientific	ESS1.C: The History of Planet Earth: Investigation 1 Parts 1-3; Investigation 3			
explanation based	Parts 1-3; Investigation 4 Parts 1-3; Investigation 6 Parts 1-3; Investigation 7			
on evidence from	Parts 1 and 2; Investigation 9 Parts 1 and 2			
rock strata for how				
the geologic time	Science and Engineering Practices			
scale is used to	Constructing Explanations and Designing Solutions: Investigation 1 Part 1;			
organize Earth's	Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1 and 3;			
4.6-billion-year-old	Investigation 5 Part 1; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1 and			
history.	2; Investigation 8 Parts 2 and 3; Investigation 9 Parts 1 and 2			
	Crosscutting Concepts			
	Scale, Proportion, and Quantity: Investigation 1 Parts 2 and 3; Investigation 2			
	Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 2 and 3; Investigation 5			
	Parts 2 and 3; Investigation 6 Parts 1 and 3; Investigation 9 Part 1			
3.3.6-8.F Develop a	Disciplinary Core Ideas			
model to describe	ESS2.A: Earth's Materials and Systems: Investigation 1 Parts 1-3; Investigation 2			
the cycling of	Parts 1-3; Investigation 3 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6			
earth's materials	Parts 1-3; Investigation 7 Parts 1 and 2; Investigation 9 Parts 1 and 2			
and the flow of				
energy that drives	Science and Engineering Practices			
this process.	Developing and Using Models: Investigation 1 Part 3; Investigation 2 Part 2;			
	Investigation 3 Parts 1-3; Investiation 4 Part 2; Investigation 5 Part 2;			
	Investigation 6 Part 3; Investigation 7 Parts 1 and 2; Investigation 9 Part 1			
	Crossevitting Concents			
	Crosscutting Concepts Stability and Changes Investigation 4 Part 2: Investigation 6 Parts 2 and 2:			
	Stability and Change: Investigation 4 Part 3; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1 and 2; Investigation 8 Parts 2 and 3			

FOSS Next Generation MS Detail Correlation – 7th Grade Earth History



	Earth History
3.3.6-8.E Construct	Disciplinary Core Ideas
an explanation	ESS2.A: Earth's Materials and Systems: Investigation 1 Parts 1-3; Investigation 2
based on evidence	Parts 1-3; Investigation 3 Parts 1-3; Investigation 5 Parts 1-3; Investigation 6
for how geoscience processes have	Parts 1-3; Investigation 7 Parts 1 and 2; Investigation 9 Parts 1 and 2
changed Earth's surface at varying time and spatial scales.	ESS2.C: The Roles of Water in earth's Surface Processes: Investigation 1 Parts 1-3; Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 9 Parts 1 and 2
	Science and Engineering Practices
	Constructing Explanations and Designing Solutions: Investigation 1 Part 1;
	Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1 and 3;
	Investigation 5 Part 1; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1 and 2; Investigation 8 Parts 2 and 3; Investigation 9 Parts 1 and 2
	Crosscutting Concepts
	Scale, Proportion, and Quantity: Investigation 1 Parts 2 and 3; Investigation 2
	Parts 1-3; Investigation 3 parts 1-3; Investigation 4 Parts 2 and 3; Investigation 5
	Parts 2 and 3; Investigation 6 Parts 1 and 3; Investigation 9 Part 1
3.3.6-8.G Analyze	Disciplinary Core Ideas
and interpret data	ESS1.C: The History of Planet Earth: Investigation 1 Parts 1-3; Investigation 3
on the distribution	Parts 1-3; Investigation 4 Parts 1-3; Investigation 6 Parts 1-3; Investigation 7
of fossils and rocks,	Parts 1 and 2; Investigation 9 Parts 1 and 2
continental shapes,	FCC2 B. Plate Testenics and Lange Cools Contain Interactions Investigation C
and seafloor	ESS2.B: Plate Tectonics and Large-Scale System Interactions: Investigation 6
structures to	Parts 1-3; Investigation 7 Parts 1 and 2
provide evidence	Science and Engineering Practices
of the past plate motions.	Analyzing and Interpreting Data: Investigation 1 Parts 2 and 3; Investigation 2
motions.	Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3; Investigation 5
	Parts 1-3; Investigation 6 Parts 1 and 2; Investigation 7 Part 2
	Crosscutting Concepts
	Patterns: Investigation 1 Parts 1-3; Investigation 2 Parts 2 and 3; Investigation 3
	Parts 1-3; Investigation 4 Parts 1-3; Investigation 5 Parts 2 and 3; Investigation 6
	Parts 1-3; Investigation 7 Part 2; Investigation 8 Part 2; Investigation 9 Part 1



	Earth History
3.3.6-8.K Construct	Disciplinary Core Ideas
a scientific	ESS3.A: Natural Resources: Investigation 8 Parts 1-3
explanation based	
on evidence for	Science and Engineering Practices
how the uneven	Constructing Explanations and Designing Solutions: Investigation 1 Part 1;
distribution of	Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1 and 3;
Earth's mineral,	Investigation 5 Part 1; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1 and
energy, and	2; Investigation 8 Parts 2 and 3; Investigation 9 Parts 1 and 2
groundwater	Crossoutting Concerts
resources are the	Crosscutting Concepts Cause and Effect: Investigation 1 Part 3; Investigation 2 Parts 1-3; Investigation
result of past and	3 Part 2; Investigation 4 Parts 1-3; Investigation 5 Parts 2 and 3; Investigation 6
current geoscience	Parts 1-3; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-3; Investigation 9
processes.	Parts 1 and 2
3.3.6-8.M Analyze	Disciplinary Core Ideas
and interpret data	ESS3.B: Natural Hazards: Investigation 6 Parts 1-3; Investigation 8 Parts 1-3
on natural hazards	
to forecast future	Science and Engineering Practices
catastrophic events	Analyzing and Interpreting Data: Investigation 1 Parts 2 and 3; Investigation 2
and inform the	Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3; Investigation 5
development of	Parts 1-3' Investigation 6 Parts 1 and 2; Investigation 7 Part 2
technologies to	
mitigate their	Crosscutting Concepts
effects.	Patterns: Investigation 1 Parts 1-3; Investigation 2 Parts 2 and 3; Investigation 3
	Parts 1-3; Investigation 4 Parts 1-3; Investigation 5 Parts 2 and 3; Investigation 6
3.3.6-8.M Apply	Parts 1-3; Investigation 7 Part 2; Investigation 8 Part 2; Investigation 9 Part 1 Disciplinary Core Ideas
scientific principles	ESS3.C: Human Impacts on Earth Systems: Investigation 8 Parts 1-3
to design a method	Lossie. Haman impacts on Earth Systems. Investigation of arts 1-5
for monitoring and	Science and Engineering Practices
minimizing a	Constructing Explanations and Designing Solutions: Investigation 1 Part 1;
•	Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1 and 3;
human impact on the environment.	Investigation 5 Part 1; Investigation 6 Parts 2 and 3; Investigation 7 Parts 1 and
	2; Investigation 8 Parts 2 and 3; Investigation 9 Parts 1 and 2
	Crosscutting Concepts
	Cause and Effect: Investigation 1 Part 3; Investigation 2 Parts 1-3; Investigation
	3 Part 2; Investigation 4 Parts 1-3; Investigation 5 Parts 2 and 3; Investigation 6
	Parts 1-3; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-3; Investigation 9
	Parts 1 and 2



Earth History						
3.3.6-8.N Construct	Disciplinary Core Ideas					
an argument	ESS3.C: Human Impacts on Earth Systems: Investigation 8 Parts 1-3					
supported by						
evidence for how	Science and Engineering Practices					
increases in human	Engaging in Argument from Evidence: Investigation 3 Part 3; Investigation 7					
population and	Part 2; Investigation 8 Part 3; Investigation 9 Part 2					
per-capita						
consumption of	Crosscutting Concepts					
natural resources	Cause and Effect: Investigation 1 Part 3; Investigation 2 Parts 1-3; Investigation					
impact Earth's	3 Part 2; Investigation 4 Parts 1-3; Investigation 5 Parts 2 and 3; Investigation 6					
systems.	Parts 1-3; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-3; Investigation 9 Parts 1 and 2					
3.3.6-8.0 Ask	Disciplinary Core Ideas					
questions to clarify	ESS3.D: Global Climate Change: Investigation 8 Parts 1-3					
evidence of the						
factors that have	Science and Engineering Practices					
caused the rise in	Asking Questions and Defining Problems: Investigation 1 Parts 1 and 2;					
global	Investigation 5 Part 1; Investigation 6 Parts 1 and 3; Investigation 8 Parts 1-3					
temperatures over						
the past century.	Crosscutting Concepts					
	Stability and Change: Investigation 4 Part 3; Investigation 6 Parts 2 and 3;					
	Investigation 7 Parts 1 and 2; Investigation 8 Parts 2 and 3					

	Earth History
3.1.6-8.0 Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life	Disciplinary Core Ideas LS4.A: Evidence of Common Ancestry and Diversity: Investigation 4 Parts 1-3 Science and Engineering Practices Analyzing and Interpreting Data: Investigation 1 Parts 2 and 3; Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3; Investigation 5 Parts 1-3' Investigation 6 Parts 1 and 2; Investigation 7 Part 2 Crosscutting Concepts
forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.	Cause and Effect: Investigation 1 Part 3; Investigation 2 Parts 1-3; Investigation 3 Part 2; Investigation 4 Parts 1-3; Investigation 5 Parts 2 and 3; Investigation 6 Parts 1-3; Investigation 7 Parts 1 and 2; Investigation 8 Parts 1-3; Investigation 9 Parts 1 and 2



FOSS Next Generation MS Detail Correlation – 7th Grade Populations and Ecosystems

	Populations and Ecosystems
3.1.6-8.F Construct	Disciplinary Core Ideas
a scientific	LS1.C Organization for Matter and Energy Flow in Organisms: Investigation 5
explanation based on evidence for the	Parts 1-4; Investigation 6 Parts 1-4
role of	Science and Engineering Practices
photosynthesis in the cycling of matter and flow of energy into and	Constructing Explanations and Designing Solutions: Investigation 2 Part 1; Investigation 5 Parts 1,2 and 4; Investigation 6 Parts 1-4; Investigation 7 Part 1; Investigation 8 Parts 1-3; Investigation 9 Parts 2 and 3
out of organisms.	Crosscutting Concepts
	Energy and Matter: Investigation 3 Parts 1 and 2; Investigation 5 Parts 1, 2 and 4; Investigation 6 Parts 1-4
3.1.6-8.G Develop	Disciplinary Core Ideas
a model to describe how food	LS1.C Organization for Matter and Energy Flow in Organisms: Investigation 5 Parts 1-4; Investigation 6 Parts 1-4
is rearranged	
through chemical reactions forming new molecules that support growth	Science and Engineering Practices Developing and Using Models: Investigation 1 Part 2; Investigation 2 Part 1; Investigation 3 Parts 2 and 3; Investigation 4 Parts 2 and 3; Investigation 5 Part 4; Investigation 6 Parts 2 and 4; Investigation 7 Part 1
and/or release	Crosscutting Concepts
energy as this	Energy and Matter: Investigation 3 Parts 1 and 2; Investigation 5 Parts 1, 2 and
matter moves	4; Investigation 6 Parts 1-4
through an	,
organism.	
3.1.6-8.I Analyze	Disciplinary Core Ideas
and interpret data	LS2.A: Interdependent Relationships in Ecosystems: Investigation 1 Parts 1-3;
to provide	Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3;
evidence for the	Investigation 6 Parts 1-4; Investigation 7 Parts 1-3; Investigation 8 Parts 1-3
effects of resource	
availability on	Science and Engineering Practices
organisms and	Analyzing and Interpreting Data: Investigation 1 Part 3; Investigation 2 Parts 1
populations of organisms in an	and 2; Investigation 3 Parts 1-3; Investigation 4 Parts 2 and 3; Investigation 5
ecosystem.	Parts 1-4; Investigation 6 Parts 1 and 2; Investigation 7 Parts 1-3; Investigation 8
	Parts 1-3; Investigation 9 Parts 1 and 2
	Crosscutting Concepts Cause and Effect: Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 2 and 3; investigation 5 Part 1; Investigation 6 Part 2; investigation 7 Parts 1-3; Investigation 8 Parts 1-3; Investigation 9 Parts 1-3



	Populations and Ecosystems
3.1.6-8.J Construct	Disciplinary Core Ideas
an explanation that	LS2.A: Interdependent Relationships in Ecosystems: Investigation 1 Parts 1-3;
predicts patterns	Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3;
of interactions	Investigation 6 Parts 1-4; Investigation 7 Parts 1-3; Investigation 8 Parts 1-3
among organisms	
across multiple	Science and Engineering Practices
ecosystems.	Constructing Explanations and Designing Solutions: Investigation 2 Part 1;
	Investigation 5 Parts 1,2 and 4; Investigation 6 Parts 1-4; Investigation 7 Part 1;
	Investigation 8 Parts 103; Investigation 9 Parts 2 and 3
	Crosscutting Concepts
	Patterns: Investigation 1 Parts 1 and 3; Investigation 3 Parts 2 and 3;
	Investigation 5 Parts 1 and 2; investigation 6 Parts 2 and 3; Investigation 7 Parts
	1-3; Investigation 8 Part 1
3.1.6-8.K Develop a	Disciplinary Core Ideas
model to describe	LS2.B Cycle of Matter and Energy Transfer in Ecosystems: Investigation 3 Parts
the cycling of	1-3; Investigation 5 Parts 1-4; Investigation 6 Parts 1-4
matter and flow of	
energy among	Science and Engineering Practices
living and nonliving	Developing and Using Models: Investigation 1 Part 2; Investigation 2 Part 1;
parts of an	Investigation 3 Parts 2 and 3; Investigation 4 Parts 2 and 3; Investigation 5 Part
ecosystem.	4; Investigation 6 Parts 2 and 4; Investigation 7 Part 1
	Crosscutting Concepts
	Energy and Matter: Investigation 3 Parts 1 and 2; Investigation 5 Parts 1, 2 and
	4; Investigation 6 Parts 1-4
3.1.6-8.L Construct	Disciplinary Core Ideas
an argument	LS2.C Ecosystem Dynamics, Functioning, and Resilience: Investigation 4 Parts
supported by	1-3; Investigation 6 Parts 1-4; Investigation 7 Parts 1-3; investigation 8 Parts 1-3;
empirical evidence	Investigation 9 Parts 1-3
that changes to	
physical or	Science and Engineering Practices
biological	Engaging in Argument from Evidence: Investigation 2 Part 1; Investigation 6
components of an	Part 1; Investigation 7 Part 2; Investigation 8 Part 2; Investigation 9 Parts 2 and
ecosystem affect	3
populations.	
	Crosscutting Concepts
	Stability and Change: Investigation 1 Part 3; Investigation 3 Part 1; Investigation
	6 Parts 2 and 4; Investigation 7 Parts 1-3; Investigation 8 Parts 1-3; Investigation
	9 Parts 2 and 3



	Populations and Ecosystems
3.1.6-8.U Evaluate	Disciplinary Core Ideas
competing design	LS2.C Ecosystem Dynamics, Functioning, and Resilience: Investigation 4 Parts
solutions for	1-3; Investigation 6 Parts 1-4; Investigation 7 Parts 1-3; investigation 8 Parts 1-3;
maintaining	Investigation 9 Parts 1-3
biodiversity and	
ecosystem	Science and Engineering Practices
services.	Engaging in Argument from Evidence: Investigation 2 Part 1; Investigation 6
	Part 1; Investigation 7 Part 2; Investigation 8 Part 2; Investigation 9 Parts 2 and
	3
	Crosscutting Concepts
	Stability and Change: Investigation 1 Part 3; Investigation 3 Part 1; Investigation
	6 Parts 2 and 4; Investigation 7 Parts 1-3; Investigation 8 Parts 1-3; Investigation
	9 Parts 2 and 3

	Populations and Ecosystems
3.3.6-8.M Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.	Populations and Ecosystems Disciplinary Core Ideas ESS3.C: Human Impacts on Earth Systems: Investigation 8 Parts 1-3; Investigation 9 Parts 1-3 Science and Engineering Practices Constructing Explanations and Designing Solutions: Investigation 2 Part 1; Investigation 5 Parts 1,2 and 4; Investigation 6 Parts 1-4; Investigation 7 Part 1;
the environment.	Investigation 8 Parts 1-3; Investigation 9 Parts 2 and 3 Crosscutting Concepts Cause and Effect: Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 2 and 3; investigation 5 Part 1; Investigation 6 Part 2; investigation 7 Parts 1-3; Investigation 8 Parts 1-3; Investigation 9 Parts 1-3
3.3.6-8.N Construct an argument supported by evidence for how	Disciplinary Core Ideas ESS3.C: Human Impacts on Earth Systems: Investigation 8 Parts 1-3; Investigation 9 Parts 1-3
increases in human population and per-capita consumption of	Science and Engineering Practices Engaging in Argument from Evidence: Investigation 2 Part 1; Investigation 6 Part 1; Investigation 7 Part 2; Investigation 8 Part 2; Investigation 9 Parts 2 and 3
natural resources impact Earth's systems.	Crosscutting Concepts Cause and Effect: Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 2 and 3; investigation 5 Part 1; Investigation 6 Part 2; investigation 7 Parts 1-3; Investigation 8 Parts 1-3; Investigation 9 Parts 1-3



FOSS 7th Grade Assessment Opportunities

Disciplinary Core Ideas Assessment Opportunities – 7th Grade

Course	Inv		Disciplinary Core Ideas																		
	•	PS1.A	PS1.B	PS3.A	PS3.B	LS1.C	LS2.A	LS2.B	LS2.C	LS4.A	ESS1. C	ESS2. A	ESS2. B	ESS2. C	ESS3. A	ESS3. B	ESS3. C	ESS3. D	ETS1. A	ETS1. B	ETS1. C
Chemical	1	x	x										-			-	•	-		-	-
Inter-	2	x																			
actions	3	x	x							1										1	
	4	x		x	x																
	5			x	x																
	6			x	х														x	x	x
	7	x		x																	
	8	x			x															x	x
	9	x	x																		
	10	x	x	x	х															x	x
Earth	1										x	x		x							
History	2											X		X							
	3										x	x		x							
	4									x	x										
	5											x									
	6										x	x	x			x					
	7										x	x	x								
	8		1							1					x	x	x	х		1	
	9		1							1	x	x		x						1	
Popula-	1		1				х			1										1	
tions and	2		1				х			1										1	
Eco-	3		1				х	x		1										1	
systems	4	1		1			х		x												
	5	1				x		x		1											1
	6	1				x	х	x	x	1											
	7	1					x		x												
	8	1					x		x								x				
	9	1	ł						x	ł			1			1	x		х	х	+



Science and Engineering Practices Assessment Opportunities – 7th Grade

Course	Inv.							
		Asking	Developing and	Planning and	Analyzing and	Constructing	Engaging in	Obtaining,
		Questions and	Using Models	Carrying Out	Interpreting	Explanations	Argument from	Evaluating, and
		Defining	Ū	Investigations	Data	and Designing	Evidence	Communicating
		Problems		U		Solutions		Information
Chemical	1			x	x	x	x	x
Interactions	2		Х			x		x
	3	x	Х	х	x	x	x	x
	4		х	х	x	x		x
	5		х	х	x	x		x
	6		х	х	x		x	x
	7		х	х	x	x		x
	8	x	х	х	x	x	x	x
	9		х	х	x	x	x	x
	10		х	х	x	x		x
Earth	1	x	х		x	x		
History	2		x		x	x		
	3		х		x	x	x	
	4		х		x	x		
	5	x	x		x	x		
	6	x	x		x	x		
	7		х		x	x	x	
	8	x				x	x	
	9		x			x	x	
Populations	1	x	x	x	x			
and Ecosystems	2		х	х	x	x	x	
Ecosystems	3	x	х		x			
	4		х	х	x			
	5		х	х	x	x		
	6	х	х	х	x	x	x	
	7	х	х	х	x	x	x	
	8			х	x	x	x	
	9	x		х	x	x	х	



Crosscutting Concepts Assessment Opportunities – 7th Grade

Course	Inv.						
		Patterns	Cause and Effect	Scale, Proportion, and Quantity	Energy and Matter in Systems	Structure and Function	Stability and Change of Systems
Chemical	1	x	x				
Interactions	2	x	x	х		х	
	3		x	x	х		
	4		x	x	х		
	5	х		x	Х	х	
	6	х	x		Х	х	
	7	х	x	х			
	8	х	x		Х	x	
	9		x	х	Х	x	
	10		x	х			
Earth History	1	х	x	х			
	2	х	x	х			
	3	х	x	х			
	4	х	х	x			х
	5	х	x	х			
	6	х	x	х			х
	7	х	x				х
	8	х	x				х
	9	х	x	х			
Populations	1	x		х			х
and Ecosystems	2		x	x			
	3	х	x	х	х		х
	4		x				
	5	x	x	x	х		
	6	x	x	х	х		х
	7	x	x	x			х
	8	x	x	x			х
	9		x				х



FOSS Next Generation MS Detail Correlation – 8th Grade Heredity and Adaption

	Heredity and Adaptation
3.1.6-8.M Develop	Disciplinary Core Ideas
and use a model to	LS3.A: Inheritance of Traits: Investigation 2 Parts 1-4; Investigation 3 Parts 1-3
describe why	
structural changes	LS3.B: Variation of Traits: Investigation 2 Parts 1-4; Investigation 3 Parts 1-3
to genes	
(mutations)	Science and Engineering Practices
located on	Developing and Using Models: Investigation 2 Parts 1, 3 and 4; Investigation 3
chromosomes may	Parts 1 and 2
affect proteins and	
may result in harmful, beneficial,	Crosscutting Concepts
or neutral effects	Structure and Function: Investigation 1 Part 2; Investigation 3 Part 1
to the structure	
and function of the	
organism.	
3.1.6-8.N Develop	Disciplinary Core Ideas
and use a model to	LS3.A: Inheritance of Traits: Investigation 2 Parts 1-4; Investigation 3 Parts 1-3
describe why	
asexual	LS3.B: Variation of Traits: Investigation 2 Parts 1-4; Investigation 3 Parts 1-3
reproduction	
results in offspring	
with identical	Science and Engineering Practices
genetic	Developing and Using Models: Investigation 2 Parts 1, 3 and 4; Investigation 3
information and	Parts 1 and 2
sexual	
reproduction	Crosscutting Concepts
results in offspring	Cause and Effect: Investigation 2 Parts 2 and 4; Investigation 3 Parts 1-3
with genetic	
variation.	

Alignment to the Pennsylvania STEELS Standards



Heredity and Adaptation					
3.1.6-8.0 Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of the Earth under the assumption that	Heredity and Adaptation Disciplinary Core Ideas LS4.A: Evidence of Common Ancestry and Diversity: Investigation 1 Parts 1 and 2: Investigation 2 Parts 1-4; Investigation 3 Part 2 Science and Engineering Practices Analyzing and Interpreting Data: Investigation 1 Parts 1 and 2; Investigation 2 Parts 2-4 Crosscutting Concepts Patterns: Investigation 1 Part 2; Investigation 2 Parts 1-4; Investigation 3 Parts 1-3				
natural laws operate today as in the past. 3.1.6-8.P Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.	Disciplinary Core Ideas LS4.A: Evidence of Common Ancestry and Diversity: Investigation 1 Parts 1 and 2; Investigation 2 Parts 1-4; Investigation 3 Part 2 Science and Engineering Practices Constructing Explanations and Designing Solutions: Investigation 1 Part 2; Investigation 2 Parts 2 and 3; Investigation 3 Parts 2 and 3 Crosscutting Concepts Patterns: Investigation 1 Part 2; Investigation 2 Parts 1-4; Investigation 3 Parts 1-3				
3.1.6-8.Q Analyze displays of pictorial data to compare patterns of similarities in the embryological development across multiple species to identify relationships note evidence in the fully formed anatomy.	 Disciplinary Core Ideas LS4.A: Evidence of Common Ancestry and Diversity: Investigation 1 Parts 1 and 2; Investigation 2 Parts 1-4; Investigation 3 Part 2 Science and Engineering Practices Analyzing and Interpreting Data: Investigation 1 Parts 1 and 2; Investigation 2 Parts 2-4 Crosscutting Concepts Patterns: Investigation 1 Part 2; Investigation 2 Parts 1-4; Investigation 3 Parts 1-3 				



	Heredity and Adaptation
3.1.6-8.S Construct	Disciplinary Core Ideas
an explanation	LS4.B: Natural Selection: Investigation 3 Parts 1-3
based on evidence	
that describes how	Science and Engineering Practices
genetic variations	Constructing Explanations and Designing Solutions: Investigation 1 Part 2;
of traits in a	Investigation 2 Parts 2 and 3; Investigation 3 Parts 2 and 3
population	
increase some	
individuals'	Crosscutting Concepts
probability of	Cause and Effect: Investigation 2 Parts 2 and 4; Investigation 3 Parts 1-3
surviving and	
reproducing in a	
specific	
environment.	
3.1.6-8.R Gather	Disciplinary Core Ideas
and synthesize	LS4.B: Natural Selection: Investigation 3 Parts 1-3
information about	
technologies that	Science and Engineering Practices
have changed the	Obtaining, Evaluating, and Communicating Information: Investigation 1 Parts 1
way humans	and 2; Investigation 2 Parts 2-4; Investigation 3 Parts 1-3
influence the	Crossoutting Concents
inheritance of	Crosscutting Concepts Cause and Effect: Investigation 2 Parts 2 and 4; Investigation 3 Parts 1-3
desired traits in	
organisms.	
3.1.6-8.T Use	Disciplinary Core Ideas
mathematical	LS4.C: Adaptation: Investigation 3 Parts 1-3
representations to	
support	Science and Engineering Practices
explanations of	Using Mathematical and Computational Thinking: Investigation 2 Parts 3 and
how natural	4; Investigation 3 Part 2
selection may lead	Crosscutting Concepts
to increases and	Cause and Effect: Investigation 2 Parts 2 and 4; Investigation 3 Parts 1-3
decreases of	cause and Energy investigation 2 rates 2 and 4, investigation 5 rates 1-5
specific traits in	
populations over	
time.	



FOSS Next Generation MS Detail Correlation – 8th Grade Electromagnetic Force

Electromagnetic Force	
3.2.6-8.H Plan an investigation to provide evidence that the change in	Disciplinary Core Ideas PS2.A: Forces and Motion: Investigation 1 Parts 1-3; Investigation 2 Parts 1-3; Investigation 4 Parts 1-3
an object's motion depends on the sum of the forces on the object and the mass of the	Science and Engineering Practices Planning and Carrying Out Investigations: Investigation 1 Parts 1 and 2; investigation 2 Parts 1-3; investigation 3 Parts 1 and 3; investigation 4 Parts 1 and 2
object.	Crosscutting Concepts Stability and Change: Investigation 1 Part 3; Investigation 4 Parts 2 and 3
3.2.6-8.1 Ask questions about data to determine the factors that	Disciplinary Core Ideas PS2.B: Types of Interactions: Investigation 1 Parts 1-3; Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3
affect the strength of electric and magnetic forces.	Science and Engineering Practices Asking Questions and Defining Problems: Investigation 1 Part 2; Investigation 2 Part 2; Investigation 3 Parts 2 and 3; investigation 4 Part 1
	Crosscutting Concepts Cause and Effect: Investigation 1 Parts 1-3; Investigation 2 Parts 1-3; Investigation 3 Parts 1 and 3; Investigation 4 Parts 1-3
3.2.6-8.K Conduct an investigation and evaluate the experimental	Disciplinary Core Ideas PS2.B: Types of Interactions: Investigation 1 Parts 1-3; Investigation 2 Parts 1-3; Investigation 3 Parts 1-3; Investigation 4 Parts 1-3
design to provide evidence that fields exist between objects exerting	Science and Engineering Practices Planning and Carrying Out Investigations: Investigation 1 Parts 1 and 2; investigation 2 Parts 1-3; investigation 3 Parts 1 and 3; Investigation 4 Parts 1 and 2
forces on each other even though the objects are not in contact.	Crosscutting Concepts Cause and Effect: Investigation 1 Parts 1-3; Investigation 2 Parts 1-3; Investigation 3 Parts 1 and 3; Investigation 4 Parts 1-3

Alignment to the Pennsylvania STEELS Standards



Electromagnetic Force	
3.2.6-8.P Develop a	Disciplinary Core Ideas
model to describe that when the	PS3.A: Definitions of Energy: Investigation 2 Parts 1-3; Investigation 3 Parts 1-3;
arrangement of	Investigation 4 Parts 1-3
objects interacting	Science and Engineering Practices
at a distance	Science and Engineering Practices Developing and Using Models: Investigation 1 Part 3; Investigation 2 Parts 2
changes, different	and 3; Investigation 3 Part 2; investigation 4 Parts 1 and 2
amounts of	
potential energy	Crosscutting Concepts
are stored in the	System and System Models: Investigation 1 Parts 1 and 3; Investigation 2 Parts
system.	2 and 3; Investigation 3 Parts 1-3; Investigation 4 Parts 2 and 3
3.2.6-8.0	Disciplinary Core Ideas
Construct, use, and	PS3.B: Conservation of Energy and Energy Transfer: Investigation 4 Parts 1-3
present arguments	Science and Engineering Practices
to support the	Constructing Explanations and Designing Solutions: Investigation 1 Parts 1 and
claim that when	3; Investigation 2 Parts 1 and 3; Investigation 3 Parts 1-3; Investigation 4 Parts
the kinetic energy	1-3
of an object	
changes, energy is	Crosscutting Concepts
transferred to or	Energy and Matter: Investigation 1 Parts 1 and 3; Investigation 2 Parts 1 and 3;
from the object.	Investigation 3 Parts 1 and 3; Investigation 4 Parts 1-3

Electromagnetic Force	
3.3.6-8.N Construct an argument	Disciplinary Core Ideas ESS3.C: Human Impacts on Earth Systems: Investigation 4 Parts 1-3
supported by evidence for how increases in human population and	Science and Engineering Practices Engaging in Argument from Evidence: Investigation 1 Part 2; Investigation 2 Part 2; Investigation 4 Parts 1 and 2
per-capita consumption of natural resources impact Earth's systems.	Crosscutting Concepts Cause and Effect: Investigation 1 Parts 1-3; Investigation 2 Parts 1-3; Investigation 3 Parts 1 and 3; Investigation 4 Parts 1-3



FOSS Next Generation MS Detail Correlation – 8th Grade Gravity and Kinetic Energy

	Gravity and Kinetic Energy	
3.2.6-8.G Apply	Disciplinary Core Ideas	
Newton's Third	PS2.A: Forces and Motion: Investigation 1 Parts 1-3; Investigation 2 Parts 1 and	
Law to design a	2; investigation 3 Parts 1-3; Investigation 4 Parts 1 and 2	
solution to a		
problem involving	Science and Engineering Practices	
the motion of two	Constructing Explanations and Designing Solutions: Investigation 1 Parts 1 and	
colliding objects.	3; Investigation 2 Part 1; Investigation 3 Parts 2 and 3; Investigation 4 Parts 1 and 2	
	Crosscutting Concepts	
	System and System Models: Investigation 1 Parts 2 and 3; Investigation 2 Parts	
	1 and 2; Investigation 3 Parts 1 and 3; Investigation 4 Parts 1 and 2	
3.2.6-8.H Plan an	Disciplinary Core Ideas	
investigation to	PS2.A: Forces and Motion: Investigation 1 Parts 1-3; Investigation 2 Parts 1 and	
provide evidence	2; investigation 3 Parts 1-3; Investigation 4 Parts 1 and 2	
that the change in		
an object's motion	Science and Engineering Practices	
depends on the	Planning and Carrying Out Investigations: Investigation 1 Part 3; Investigation 2	
sum of the forces	Parts 1 and 2; investigation 3 Parts 1 and 3; Investigation 4 Parts 1 and 2	
on the object and	Crease utting Concerts	
the mass of the	Crosscutting Concepts Stability and Change: Investigation 2 Part 2; Investigation 3 Part 3; Investigation	
object.	4 Part 2	

Gravity and Kinetic Energy	
3.2.6-8.J Construct	Disciplinary Core Ideas
and present	PS2.B: Types of Interactions: Investigation 1 Parts 1-3; Investigation 2 Parts 1
arguments using	and 2; Investigation 4 Parts 1 and 2
evidence to	
support the claim	Science and Engineering Practices
that gravitational	Engaging in Argument from Evidence: Investigation 4 Part 1
interactions are	
attractive and	Crosscutting Concepts
depend on the	System and System Models: Investigation 1 Parts 2 and 3; Investigation 2 Parts
masses of	1 and 2; Investigation 3 Parts 1 and 3; Investigation 4 Parts 1 and 2
interacting objects.	

Alignment to the Pennsylvania STEELS Standards



Gravity and Kinetic Energy	
3.2.6-8.K Conduct an investigation and evaluate the experimental design to provide	Disciplinary Core Ideas PS2.B: Types of Interactions: Investigation 1 Parts 1-3; Investigation 2 Parts 1 and 2; Investigation 4 Parts 1 and 2 Science and Engineering Practices
evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.	 Planning and Carrying Out Investigations: Investigation 1 Part 3; Investigation 2 Parts 1 and 2; investigation 3 Parts 1 and 3; Investigation 4 Parts 1 and 2 Crosscutting Concepts Cause and Effect: Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Parts 1 and 2
3.2.6-8.L Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.	 Disciplinary Core Ideas PS3.A: Definitions of Energy: Investigation 3 Parts 1-3 Science and Engineering Practices Analyzing and Interpreting Data: Investigation 1 Parts 1-3; Investigation 2 parts 1 and 2; Investigation 3 Parts 1 and 2; Investigation 4 Part 1 Crosscutting Concepts Scale, Proportion, and Quantity: Investigation 1 Parts 1-3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1-3; Investigation 4 Part 2

	Gravity and Kinetic Energy	
3.2.6-8.P Develop a	Disciplinary Core Ideas	
model to describe	PS3.A: Definitions of Energy: Investigation 3 Parts 1-3	
that when the arrangement of objects interacting at a distance changes, different	Science and Engineering Practices Developing and Using Models: Investigation 1 Part 1; Investigation 2 Part 2; Investigation 3 Parts 1 and 2; Investigation 4 Part 1	
amounts of potential energy are stored in the system.	Crosscutting Concepts System and System Models: Investigation 1 Parts 2 and 3; Investigation 2 Parts 1 and 2; Investigation 3 Parts 1 and 3; Investigation 4 Parts 1 and 2	

Alignment to the Pennsylvania STEELS Standards



Gravity and Kinetic Energy	
3.2.6-8.0	Disciplinary Core Ideas
Construct, use, and	PS3.B: Conservation of Energy and Energy Transfer: Investigation 3 Parts 1-3;
present arguments to support the	Investigation 4 Parts 1 and 2
claim that when	Science and Engineering Practices
the kinetic energy	Constructing Explanations and Designing Solutions: Investigation 1 Parts 1 and
of an object	3; Investigation 2 Part 1; Investigation 3 Parts 2 and 3; Investigation 4 Parts 1
changes, energy is	and 2
transferred to or	
from the object.	Crosscutting Concepts
	Energy and Matter: Investigation 3 Parts 1-3; Investigation 4 Parts 1 and 2

	Gravity and Kinetic Energy	
3.3.6-8.B Develop	Disciplinary Core Ideas	
and use a model to	ESS1.A: The Universe and Its Stars: Investigation 2 Parts 1 and 2	
describe the role of		
gravity in the	ESS1.B: Earth and the Solar System: Investigation 2 Parts 1 and 2; Investigation	
motions within	4 Parts 1 and 2	
galaxies and the		
solar system.	Science and Engineering Practices	
	Developing and Using Models: Investigation 1 Part 1; Investigation 2 Part 2;	
	Investigation 3 Parts 1 and 2; Investigation 4 Part 1	
	Crosscutting Concepts	
	Systems and Systems Models: Investigation 1 Parts 2 and 3; Investigation 2	
	Parts 1 and 2; Investigation 3 Parts 1 and 3; Investigation 4 Parts 1 and 2	

FOSS Next Generation MS Detail Correlation – 8th Grade Waves

Waves	
3.2.6-8.Q Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave if related to	 Disciplinary Core Ideas PS4.A: Wave Properties: Investigation 1 Parts 1 and 2; Investigation 2 Parts 1-3; Investigation 3 Parts 1-4 Science and Engineering Practices Using Mathematics and Computational Thinking: Investigation 1 Parts 1 and 2; Investigation 2 Parts 2 and 3; Investigation 4 Parts 2 and 3
the energy in a wave.	Crosscutting Concepts Patterns: Investigation 1 Parts 1 and 2; Investigation 2 Parts 1 and 3; Investigation 3 Parts 2-4; Investigation 4 Parts 1-3

Alignment to the Pennsylvania STEELS Standards



	Waves
3.2.6-8.R Develop	Disciplinary Core Ideas
and use a model to	PS4.A: Wave Properties: Investigation 1 Parts 1 and 2; Investigation 2 Parts 1-3;
describe that	Investigation 3 Parts 1-4
waves are	
reflected,	PS4.B: Electromagnetic Radiation: Investigation 3 Parts 1-4
absorbed, or	
transmitted	Science and Engineering Practices
through various	Developing and Using Models: Investigation 1 Part 2; Investigation 2 Parts 1
materials.	and 3; Investigation 3 Parts 2 and 3; Investigation 4 Part 1
	Crosscutting Concepts
	Structure and Function: Investigation 2 Part 3; Investigation 4 Part 3

	Waves
3.2.6-8.S Integrate	Disciplinary Core Ideas
qualitative	PS4.C: Information Technologies and Instrumentation: Investigation 4 Parts 1-
scientific and	3
technical	
information to	Science and Engineering Practices
support the claim	Obtaining, Evaluating, and Communicating Information: Investigation 2 Parts
that digitalized	1-3; Investigation 3 Parts 1, 2 and 4; Investigation 4 Part 3
signals are a more	
reliable way to	Crosscutting Concepts
encode and	Structure and Function: Investigation 2 Part 3; Investigation 4 Part 3
transmit	
information than	
analog signals.	

FOSS Next Generation MS Detail Correlation – 8th Grade Planetary Science

Planetary Science									
3.3.6-8.A Develop	Disciplinary Core Ideas								
and use a model of	ESS1.A: The Universe and Its Stars: Investigation 1 Part 3; Investigation 2 Parts								
the Earth-sun-	1-3; Investigation 3 Parts 1 and 2; Investigation 4 Parts 1-3; Investigation 5 Parts								
moon system to	1 and 2; Investigation 6 Parts 1 and 2; Investigation 9 Part 2								
describe the cyclic									
patterns of lunar	Science and Engineering Practices								
phases, eclipses of	Developing and Using Models: Investigation 1 Part 3; Investigation 2 Parts 1-3;								
the sun and moon,	Investigation 3 Part 1; Investigation 4 Parts 1-3; Investigation 5 Part 1;								
and the seasons.									

Alignment to the Pennsylvania STEELS Standards



	Investigation 6 Parts 1 and 2; Investigation 7 Parts 1, 2 and 4; Investigation 8 Part 1; Investigation 9 Parts 1 and 2
	Crosscutting Concepts
	Patterns: Investigation 1 Parts 1 and 3; Investigation 2 Parts 1 and 3;
	investigation 3 Parts 1 and 2; Investigation 4 Parts 1-3; Investigation 5 Parts 1
	and 2; Investigation 7 Parts 1-4; Investigation 8 Parts 1 and 2; Investigation 9 Parts 1 and 2
3.3.6-8.B Develop	Disciplinary Core Ideas
and use a model to	ESS1.A: The Universe and Its Stars: Investigation 1 Part 3; Investigation 2 Parts
describe the role of	1-3; Investigation 3 Parts 1 and 2; Investigation 4 Parts 1-3; Investigation 5 Parts
gravity in the	1 and 2; Investigation 6 Parts 1 and 2; Investigation 9 Part 2
motions within	
galaxies and the	ESS1.B: Earth and the Solar System: Investigation2 Parts 1-3; Investigation 3
solar system.	Parts 1 and 2; Investigation 5 Parts 1 and 2; investigation 6 Parts 1 and 2;
	Investigation 7 Parts 1-4; Investigation 9 Part 2
	Science and Engineering Practices
	Developing and Using Models: Investigation 1 Part 3; Investigation 2 Parts 1-3;
	Investigation 3 Part 1; Investigation 4 Parts 1-3; Investigation 5 Part 1;
	Investigation 6 Parts 1 and 2; Investigation 7 Parts 1, 2 and 4; Investigation 8
	Part 1; Investigation 9 Parts 1 and 2
	Crosscutting Concepts
	Systems and Systems Models: Investigation 1 Parts 1-3; Investigation 3 Part 2;
	Investigation 4 Parts 1-3; Investigation 5 Part 1; Investigation 6 Parts 1 and 2;
	Investigation 7 Parts 1 and 4; Investigation 9 Parts 1-3

	Planetary Science									
3.3.6-8.C Analyze	Disciplinary Core Ideas									
and interpret data	ESS1.B: Earth and the Solar System: Investigation2 Parts 1-3; Investigation 3									
to determine scale	Parts 1 and 2; Investigation 5 Parts 1 and 2; investigation 6 Parts 1 and 2;									
properties of	Investigation 7 Parts 1-4; Investigation 9 Part 2									
objects in the solar										
system.	Science and Engineering Practices									
	Analyzing and Interpreting Data: Investigation 1 Part 1; Investigation 2 Parts 1- 3; Investigation 4 Part 2; Investigation 5 Parts 1 and 2; Investigation 6 Parts 1 and 2; Investigation 7 Parts 2-4; Investigation 8 Part 1; Investigation 9 Parts 1 and 2									
	Crosscutting Concepts									
	Scale, Proportion, and Quantity: Investigation 1 Parts 1 and 2; Investigation 2									
	Parts 1-3; Investigations 3 Part 2; Investigation 5 Parts 1 and 2; Investigation 6									
	Parts 1 and 2; Investigation 7 Parts 1-4; Investigation 8 Parts 1 and 2; Investigation 9 Part 2									



	Planetary Science									
3.3.6-8.E Construct	Disciplinary Core Ideas									
an explanation	ESS2.A: Earth's Materials and Systems: Investigation 5 Parts 1 and 2;									
based on evidence	Investigation 7 Parts 1-4									
for how geoscience										
processes have	ESS2.C: The Roles of Water in earth's Surface Processes: Investigation 7 Parts									
changed Earth's	1-4									
surface at varying										
time and spatial	Science and Engineering Practices									
scales.	Constructing Explanations and Designing Solutions: Investigation 2 Parts 1-3;									
	Investigation 4 Parts 1-3; Investigation 5 Part 1; Investigation 6 Part 2;									
	Investigation 7 Part 4; Investigation 8 Part 2; Investigation 9 Part 3									
	Crosscutting Concepts									
	Scale, Proportion, and Quantity: Investigation 1 Parts 1 and 2; Investigation 2									
	Parts 1-3; Investigations 3 Part 2; Investigation 5 Parts 1 and 2; Investigation 6									
	Parts 1 and 2; Investigation 7 Parts 1-4; Investigation 8 Parts 1 and 2;									
	Investigation 9 Part 2									
3.3.6-8.M Apply	Disciplinary Core Ideas									
scientific principles	ESS3.C: Human Impacts on Earth Systems: Investigation 1 Parts 1 and 2;									
to design a method	Investigation 7 Parts 1-4									
for monitoring and										
minimizing a	Science and Engineering Practices									
human impact on	Constructing Explanations and Designing Solutions: Investigation 2 Parts 1-3;									
the environment.	Investigation 4 Parts 1-3; Investigation 5 Part 1; Investigation 6 Part 2;									
	Investigation 7 Part 4; Investigation 8 Part 2; Investigation 9 Part 3									
	Crosscutting Concepts									
	Cause and Effect: Investigation 2 Parts 1-3; Investigation 4 Parts 1 and 3;									
	Investigation 5 Parts 1 and 2; Investigation 6 Part 2; Investigation 7 Part 2 and 4;									
3.3.6-8.N Construct	Investigation 9 Part 2 Disciplinary Core Ideas									
an argument	ESS3.C: Human Impacts on Earth Systems: Investigation 1 Parts 1 and 2;									
•	Investigation 7 Parts 1-4									
supported by evidence for how										
	Science and Engineering Practices									
increases in human	Science and Engineering Practices Engaging in Argument from Evidence: Investigation 2 Part 1; Investigation 5									
population and	Part 1; Investigation 6 Part 2; Investigation 7 Parts 2-4; Investigation 9 Part 2									
per-capita	rait 1, myesugation of art 2, myesugation / raits 2-4, myesugation 9 Part 2									
consumption of	Crosscutting Concepts									
natural resources	Cause and Effect: Investigation 2 Parts 1-3; Investigation 4 Parts 1 and 3;									
impact Earth's	Investigation 5 Parts 1 and 2; Investigation 6 Part 2; Investigation 7 Part 2 and 4;									
systems.	Investigation 9 Part 2									



FOSS 8th Grade Assessment Opportunities

Disciplinary Core Ideas Assessment Opportunities – 8th Grade

Course	Inv.			Disciplinary Core Ideas																				
		PS2.A	PS2.B	PS3.A	PS3.B	PS4.A	PS4.B	PS4.C	LS3.A	LS3.B	LS4.A	LS4.B	LS4.C	ESS1. A	ESS1. B	ESS1. C	ESS2. A	ESS2. C	ESS3. A	ESS3. B	ESS3. C	ETS1. A	ETS1. B	ETS1. C
Heredity and	1										х													
Adaptation 2	2								х	x	x													
	3								x	x	x	х	х											1
Electromag-	1	х	х																					
netic Force 2	2	х	x	x																				
	3		х	х																		х	х	х
	4	х	x	x	х																х	х	х	x
Gravity and	1	х	х																					1
Kinetic	2	х	х											х	х									1
Energy	3	х		х	х																			
	4	х	x		х										х							х	х	х
Waves	1					х																		
	2					x																х	x	x
	3					x	x																	
	4							x																<u> </u>
Planetary	1													х							x			
Science	2													x	x									
	3													x	x									
4														X										
	5													x	x	х	x			x		x		
	6		x				x							х	х									
	7					ļ			ļ						x	ļ	х	х	x		x		ļ	
	8						x									-		-				х		
	9		x											x	x									



Science and Engineering Practices Assessment Opportunities – 8th Grade

Course	Inv.				Science and Eng	gineering Practices			
		Asking Questions and	Developing and	Planning and	Analyzing and	Using Mathematics	Constructing	Engaging in Argument from	Obtaining,
		Defining Problems	Using Models	Carrying Out Investigations	Interpreting Data	and Computational Thinking	Explanations and Designing Solutions	Evidence	Evaluating, and Communicating Information
Heredity and	1				x	-	x		x
Adaptation	2		х		x	x	x		x
	3		x			x	x		x
Electro- magnetic Force	1	x	x	x	x		x	x	
	2	x	x	х	x		х	x	
	3	x	x	Х	x		x		
	4	x	х	х	x		x	x	
Gravity and Kinetic	1	x	х	х	x		x		
	2	x	x	х	x		x		
Energy	3	x	х	х	x		x		
	4	x	х	х	x		x	x	
Waves	1	x	x		x	x			
	2	x	x		x	x		x	x
	3	x	x		x				x
	4	x	x		x	x			x
Planetary	1	x	x		x				
Science	2	x	x		x		x	x	
	3	x	х						
	4	x	х		x		x		
	5	x	х		x		х	x	
	6	x	х		x		x	x	
	7	x	х		х		х	x	
	8	x	x		x		x		
	9	x	х		х		х	x	



Crosscutting Concepts Assessment Opportunities – 8th Grade

Course	Inv.				Crosscutting Concepts			
		Patterns	Cause and Effect	Scale, Proportion, and Quantity	Systems and System Models	Energy and Matter in Systems	Structure and Function	Stability and Change of Systems
Heredity and	1	x		X		-	x	-
Adaptation	2	х	x					
	3	x	x				x	
	4							
Electro- magnetic Force	1		x		x	х		х
	2		x		x	x		
	3		x		x	x		
	4		x		x	x		х
Gravity and	1			х	x			
Kinetic	2		х	х	x			х
Energy	3		x	х	x	х		х
	4		x	х	x	х		х
Waves	1	х						
	2	х					x	
	3	х						
	4	х					x	
Planetary	1	х		х	x			
Science	2	x	x	х		x	x	
	3	х		х	x			
	4	х	x		x			
	5	x	х	х	x			
	6		x	х	x			
	7	х	x	х	x			
	8	x		х		x		
	9	х	x	x	x			