



THL-NGSS CROSSWALK

	DC	FF	VV	HH	BB	CF	SS	KM
Cross-Cutting Concepts								
Patterns	x	x				x		x
Cause and effect: Mechanism and Explanation		x	x		x		x	x
Scale, proportion, and quantity	x		x					
Systems and system models			x	x	x	x		x
Energy and matter: flows, cycles, conservation	x						x	x
Structure and function	x	x	x		x			
Stability and change		x						

Science and Engineering Practices								
Asking questions and defining problems	x	x	x	x	x	x	x	x
Developing and using models	x	x	x			x		x
Planning and carrying out investigations			x		x		x	x
Analyzing and interpreting data			x	x		x	x	
Using mathematics and computational thinking				x		x		
Constructing explanations and designing solutions	x	x	x	x		x	x	x
Engaging in arguing from evidence		x	x				x	x

Nature of Science								
Science investigations use a variety of methods	x	x			x		x	x
Scientific knowledge is based on empirical evidence	x	x	x	x	x		x	x
Scientific knowledge is open to revision in light of new evidence	x		x		x		x	
Science models, laws, mechanisms, and theories explain natural phenomena	x	x						
Science is a way of knowing, cumulative, developed by many people, generations, and ethnicities	x	x	x	x	x	x		
Science assumes order and consistency in natural systems	x	x	x					
Science addresses questions about the natural and material world	x	x	x	x	x	x	x	x

Disciplinary Core Ideas								
Earth Science Standards 1								
1a Universe and stars								
1b Earth and solar system								
1c History of planet earth		x						

	DC	FF	VV	HH	BB	CF	SS	KM
Earth Science Standards 2								
2a Earth materials and systems								
2b Plate tectonic and large-scale system interactions								
2c Roles of water in earth's surface processes		x						
2d Weather and climate								x
Earth Science Standards 3								
3a Natural resources							x	
3b Natural hazards								x
3c Human impacts on earth systems							x	
3d Global climate change								
PS1 Matter and its interactions								
1a Structure and properties of matter	x							
1b Chemical reactions								
1c Nuclear processes								
PS2 Forces and interactions								
PS3 Energy								
PS4 Waves and technologies for information transfer	x			x		x		
LS1 From molecules to organisms: structures and processes	x	x	x					
LS2 Ecosystems: interactions, energy, and dynamics		x						x
LS3 Heredity: Inheritance and variation of traits		x						
LS4 Biological evolution: unity and diversity		x						

Tumblehome Learning Book Key:

- DC** *The Desperate Case of the Diamond Chip **
- FF** *The Furious Case of the Fraudulent Fossil **
- VV** *The Vicious Case of the Viral Vaccine **
- HH** *The Harrowing Case of the Hackensack Hacker **
- BB** *The Baffling Case of the Battered Brain * [COMING SOON]*
- CF** *The Cryptic Case of the Coded Fair * [TO BE RELEASED Q1 2014]*
- SS** *Something Stinks!*
- KM** *Kelvin McCloud and the Seaside Storm*

** denotes that the book is part of THL's keynote Galactic Academy of Science (G.A.S.) Series*

Please visit our website to learn more about Tumblehome Learning's STEM education products:
www.tumblehomelearning.com