MATATAG → Science → Grade 7

Topic	FILENAME	File Type	Level of Skill Progression
Q1: SCIENCE OF MATERIALS			
Use of Models: Scientists use models to explain phenomena.	**DEV_Video - Atomic Models**	video	Developing
	BEG_Video - Models	video	Beginning
The Particle Model and Changes of State: The particle model explains the properties of solids, liquids, and gases and the processes involved in changes of state.	**DEV_Video - The Particle Model and Density**	video	Developing
	PRO_Video - Properties of Matter: Pure Substances and Mixtures	video	Proficient
	PRO_Video - The Behaviors and Properties of Particles: Gases, Liquids, Solids	video	Proficient
	PRO_Video - Moving Particles and Matter	video	Proficient
	PRO_Video - Introduction to States of Matter and State Changes	video	Proficient
	PRO_Video - A Simple Model of Matter: Solids, Liquids, and Gases	video	Proficient
	HPR_Video - Changes of State	video	Highly Proficient
	HPR_Video - Particle Theory and States of Matter	video	Highly Proficient
	DEV_Discussion Presentation and Printable Worksheet - Heat and Temperature at the Molecular Level	ppt and pdf	Developing
	DEV_Discussion Presentation and Printable Worksheet - Phase Change	ppt and pdf	Developing
Planning, Following, and Recording Scientific Investigations: (a) Diagrams and flowcharts are very useful in demonstrating and explaining the motion and arrangement of particles during changes of state. (b) There are specific processes for planning, conducting, and recording scientific investigations.	**HPR_Video - The Scientific Method 2**	video	Highly Proficient
	PRO_Video - Steps in the Scientific Method	video	Proficient
	PRO_Video - Metric Magic	video	Proficient
	PRO_Video - Making Careful Observations	video	Proficient
	HPR_Video - Reviewing Lab Practices	video	Highly Proficient
	HPR_Video - Lab Safety: Basic Safety Rules	video	Highly Proficient
	BEG_Video - The Scientific Method 1	video	Beginning
	BEG_Video - The Scientific Method	video	Beginning
	BEG_Discussion Presentation and Printable Worksheet - Doing Scientific Investigations	ppt and pdf	Beginning
Solutions, Solubility, and Concentration: The properties of solutions such as solubility and reaction to litmus determine their use.	**PRO_Video - What Are Solutions?**	video	Proficient
	PRO_Video - Exploring the Solution	video	Proficient
	HPR_Video - How to Make Solutions	video	Highly Proficient
	HPR_Video - Expressing concentration of solutions	video	Highly Proficient
	PRO_Video - Introduction to Solubility	video	Proficient
	HPR_Video - Factors Affecting Dissolving Rates	video	Highly Proficient
	DEV_Video - Acid-Base Reactions in Solution	video	Developing
	DEV_Video - Here's Why You Should Never Mix Bleach and Ammonia	video	Developing
	BEG_Discussion Presentation and Printable Worksheet - Acids and Bases	ppt and pdf	Beginning
	BEG_Discussion Presentation - Homogeneous Mixtures	powerpoint	Beginning
	DEV_Printable Worksheet - Homogeneous Mixtures	PDF	Developing
	BEG_Discussion Presentation - Heterogeneous Mixtures	powerpoint	Beginning
	DEV_Printable Worksheet - Heterogeneous Mixtures	PDF	Developing
	DEV_Discussion Presentation and Printable Worksheet - Concentration of Solutions	ppt and pdf	Developing
	DEV_Discussion Presentation and Printable Worksheet - Saturated and Unsaturated Solutions	ppt and pdf	Developing
	DEV_Discussion Presentation and Printable Worksheet - Different Methods of Separating Mixtures	ppt and pdf	Developing
Elements: Metals and Nonmetals	**BEG_Discussion Presentation - Elements-Metals and Nonmetals**	powerpoint	Beginning
	DEV_Printable Worksheet - Elements-Metals and Nonmetals	PDF	Developing

Q2: LIFE SCIENCE			
Science Equipment: The Compound Microscope: Familiarity and proper use of a compound microscope are essential to observe cells.	**PRO_Discussion Presentation - The Parts of a Compound Light Microscope**	powerpoint	Proficient
	DEV_Printable Worksheet - The Parts of a Compound Light Microscope	PDF	Developing
	HPR_Discussion Presentation - Animal and Plant Cells	powerpoint	Highly Proficient
	PRO_Printable Worksheet - Animal and Plant Cells	PDF	Proficient
	DEV_Video - Parts of the Compound Microscope	video	Developing
	PRO_Video - Using the Microscope	video	Proficient
	PRO_Video - Prepare and Observe a Microscope Slide	video	Proficient
Cell Structure and Function: Plant and Animal Cells: The organelles of plant and animal cells can be identified using a compound microscope.	**PRO_Video - Introduction to Cells: The Grand Cell**	video	Proficient
	PRO_Video - About Plant and Animal Cells	video	Proficient
	PRO_Video - Plant and Animal Cells	video	Proficient
Cellular Reproduction: Cells are the basic unit of life and mitosis, and meiosis are the basic forms of cell division. (a) Fertilization occurs when a male reproductive cell fuses with a female reproductive cell. (b) Sexual reproduction is the basis of heredity.	**DEV_Discussion Presentation and Printable Worksheet - Asexual Reproduction**	ppt and pdf	Developing
	PRO_Discussion Presentation - Sexual Reproduction	powerpoint	Proficient
	DEV_Printable Worksheet - Sexual Reproduction	PDF	Developing
	PRO_Discussion Presentation - Sexual Reproduction in Plants	powerpoint	Proficient
	DEV_Printable Worksheet - Sexual Reproduction in Plants	PDF	Developing
	PRO_Discussion Presentation and Printable Worksheet - Asexual Reproduction in Plants	ppt and pdf	Proficient
	HPR_Discussion Presentation and Printable Worksheet - Asexual and Sexual Reproduction	ppt and pdf	Highly Proficient
	DEV_Video - Understanding Cell Division	video	Developing
	HPR_Discussion Presentation - Cell Cycle and Mitosis	powerpoint	Highly Proficient
	PRO_Printable Worksheet - Cell Cycle and Mitosis	PDF	Proficient
	HPR_Discussion Presentation - Meiosis	powerpoint	Highly Proficient
	PRO_Printable Worksheet - Meiosis	PDF	Proficient
	HPR_Video - Exploring Cell Division	video	Highly Proficient
	PRO_Video - Asexual and Sexual Reproduction	video	Proficient
	DEV_eContent - Cells	html	Developing
	BEG_eContent - Stages of Mitosis	html	Beginning
	BEG_eContent - Stages of Meiosis	html	Beginning
	DEV_eContent - Sexual and Asexual Reproduction	html	Developing
	DEV_eContent - Fertilization	html	Developing
Levels of Biological Organization: The level of biological organization provides a simple way of connecting the simplest part of the living world to the most complex.	**DEV_Video - Biological Levels in Biology**	video	Developing
Trophic Levels and the Transfer of Energy: Identifying trophic levels helps understand the transfer of energy from one organism to another as shown in a	**PRO_Video - Energy in an Ecosystem**	video	Proficient
	HPR_Video - Food Webs, and Energy Pyramids, and Intro to Biodiversity	video	Highly Proficient
	HPR_Video - Energy Transfer	video	Highly Proficient

Q3			
Balance and unbalanced forces: Scientists and engineers analyze forces to predict their effects on movement.	**DEV_Video - Balanced Force**	video	Developing
	DEV_Video - Unbalanced Force	video	Developing
	PRO_Video - Free Body Diagram	video	Proficient
Investigating Motion: Displacement and Velocity, Distance Time Graphs, and Identifying and Controlling Variables	**PRO_Video - Balanced and Unbalanced Forces**	video	Proficient
	PRO_Discussion Presentation - Describing Motion	powerpoint	Proficient
	DEV_Printable Worksheet - Describing Motion	PDF	Developing
	PRO_Discussion Presentation - Representing and Interpreting Motion	powerpoint	Proficient
	HPR_Printable Worksheet - Representing and Interpreting Motion	PDF	Highly Proficient
	PRO_Video - Distance and Displacement 1	video	Proficient
	HPR_Video - Distance and Displacement 2	video	Highly Proficient
	PRO_Video - Distance Vs. Placement	video	Proficient
	DEV_Video - Speed, Velocity, and Acceleration	video	Developing
	DEV_Video - Free Body Diagram	video	Developing
	PRO_Video - Speed and Velocity	video	Proficient
	DEV_Video - Motion and Reference Points	video	Developing
	HPR_Video - The Difference Between Speed and Velocity	video	Highly Proficient
	HPR_Video - Distance-Time and Velocity-Time Graphs	video	Highly Proficient
	HPR_Video - Velocity-Time Graphs	video	Proficient
Heat transfer: Scientists and engineers conduct innovative research to find solutions to the current global energy crisis by seeking renewable energy solutions.	**DEV_Discussion Presentation and Printable Worksheet - Describing How Heat Travels**	ppt and pdf	Developing
	DEV_Discussion Presentation and Printable Worksheet - Characteristics of Heat and Modes of Heat Transfer	ppt and pdf	Developing
	DEV_Discussion Presentation and Printable Worksheet - Changing One Form of Energy to Another	ppt and pdf	Developing
	DEV_Discussion Presentation and Printable Worksheet - Conduction, Convection, and Radiation	ppt and pdf	Developing
	PRO_Video - Heat and Temperature	video	Proficient
	DEV_Video - Temperature and Heat	video	Developing
	PRO_Video - Conduction and Convection	video	Proficient
	PRO_Video - Weather: Conduction, Convection, and Radiation	video	Proficient
	PRO_Video - Heat Transfer: Conduction and Convection	video	Proficient
	PRO_Video - Thermal Conduction	video	Proficient
	HPR_Video - Why Don't We Cover the Desert with Solar Panels?	video	Highly Proficient
	DEV_eContent - Heat Transfer	html	Developing

Q4: EARTH AND SPACE SCIENCE			
System Models: The revolution, rotation, and the tilt of the Earth explain the patterns of day and night and the seasons.	**DEV_Video - Earthquakes**	video	Developing
	DEV_Video - Faults and Earthquakes	video	Developing
	PRO_Video - Forces Shaping the Earth: Faulting	video	Proficient
	PRO_Video - Ring of Fire: Earthquakes and Volcanic Eruptions Around the Pacific Explained	video	Proficient
	PRO_Video - Tsunamis	video	Proficient
	PRO_Video - Solstice	video	Proficient
	PRO_Video - Day and Night	video	Proficient
Earthquakes: (a) Rapid movements along normal, reverse or strike-slip faults cause earthquakes. (b) The damage or effects on communities depend on the magnitude of and distance from an earthquake.	**PRO_Discussion Presentation and Printable Worksheet - Earthquakes 1**	ppt and pdf	Proficient
	PRO_Discussion Presentation - Keeping Safe Before, During, and After an Earthquake	powerpoint	Proficient
	DEV_Printable Worksheet - Keeping Safe Before, During, and After an Earthquake	PDF	Developing
	PRO_Discussion Presentation - Earthquakes 2	powerpoint	Proficient
	PRO_Printable Worksheet - Earthquakes 2	PDF	Proficient
	PRO_Discussion Presentation and Printable Worksheet - Fault Systems	ppt and pdf	Proficient
	PRO_Discussion Presentation and Printable Worksheet - Disaster Risks: Earthquakes, Tsunamis, and Volcanic Eruptions	ppt and pdf	Proficient
	PRO_Discussion Presentation and Printable Worksheet - Disaster Preparedness: Earthquakes, Tsunamis, and Volcanic Eruptions	ppt and pdf	Proficient
	HPR_Video - Forces Shaping the Earth: Faulting	video	Highly Proficient
	PRO_Video - Preparations for Tsunami Drill in the Philippines	video	Proficient
	PRO_Video - Earthquake	video	Proficient
	HPR_Video - Earthquake Explained Using 3D Simulator	video	Highly Proficient
	PRO_Video - Family Preparedness Plan	video	Proficient
	PRO_Video - Earthquake Preparedness	video	Proficient
	PRO_Video - Anatomy of a Tsunami	video	Proficient
	PRO_Video - Tsunamis	video	Proficient
	PRO_Video - 8.2-Magnitude Earthquake Strikes Near Chile	video	Proficient
	PRO_Video - Engineering Earthquake Resilience in Downtown Skyscrapers	video	Proficient
	PRO_Video - When Nature Strikes: Tsunamis	video	Proficient
	PRO_Video - Earthquake Preparedness: Steps to Enhance Safety and Resilience	video	Proficient
	DEV_eContent - Earthquakes and Faults	html	Developing
	DEV_eContent - Tsunamis	html	Developing
The Sun's Influence on Earth: (a) Sunlight is the Earth's external source of energy. (b) Solar energy influences the atmosphere and weather patterns.	**PRO_Discussion Presentation - The Sun**	powerpoint	Proficient
	DEV_Printable Worksheet - The Sun	PDF	Developing
	PRO_Video - Why Is the Sky Blue and the Sun Yellow?	video	Proficient
	PRO_Video - What Is the Actual Color of the Sun?	video	Proficient
	PRO_Video - The Nature of Weather: Local Winds	video	Proficient
	PRO_Video - The Characteristic of the Sun	video	Proficient
	PRO_Video - Solstice	video	Proficient
	DEV_Video - Day and Night	video	Developing
	DEV_Video - Rotation	video	Developing