

SSD
Physical Science
Student Learning Assessments

Chapter 1 – Scientific Methods and Skills:

I will learn the definition of physical science
I will learn what science skills are
I will learn about scientific method
I will learn how to measure length, area, mass, weight, and volume
I will learn how to measure temperature

Chapter 2 - Force:

I will learn the difference between force and gravity
I will learn how to use a spring scale
I will learn the importance of air resistance
I will learn how friction is used and reduced
I will learn the importance of pressure and how to measure fluid pressure
I will learn Bernoulli's principle

Chapter 3 – Energy and Work:

I will learn the different forms of energy and how they change
I will learn how to conserve energy
I will learn the definition of work and how to measure it
I will learn the definition of power

Chapter 4 – Motion:

I will learn the definitions of speed and velocity
I will learn how to measure acceleration
I will learn the difference between balanced and unbalanced forces
I will learn Newton's first, second and third laws of motion

Chapter 5 – Machines:

I will learn to discriminate between a simple and compound machine
I will learn about efficiency
I will learn the difference between levers and pulleys and how they work
I will learn how an incline plane works

Chapter 6 – Heat:

I will learn the definition of heat and how it is measured
I will learn about temperature, and its freezing and boiling points
I will learn the difference between conduction, convection and radiation
I will learn the definition of thermal expansion and its purpose

Chapter 7 – Waves:

I will learn the difference between waves and their distinguishing features
I will learn how waves are reflected and refracted
I will learn to understand the Doppler effect

Chapter 8- Sound:

I will learn how sound travels, how fast it travels, and how echoes are created
I will learn the difference between intensity, frequency, pitch and sound quality
I will learn the definition of music
I will learn to understand how we hear

Chapter 9- Light:

I will learn how light waves travel and the sources of light
I will learn how we see and discriminate color
I will learn the importance of photosynthesis
I will learn about mirrors and lenses reflecting and refracting light
I will learn to understand the importance of the electromagnetic spectrum
I will learn the importance of lasers

Chapter 10- Electricity:

I will learn to understand electricity, insulator and conductors
I will learn the difference between the two types of electric current
I will learn what a battery is
I will learn the difference between a series and parallel circuit
I will learn to distinguish between volts, amps and ohms
I will learn how to apply Ohm's Law
I will learn how to use electricity safely

Chapter 11- Magnetism:

I will learn to analyze a magnet, a magnetic field, and an electromagnet
I will learn how electricity and magnetism are related
I will learn differentiate between a transformer, motor and generator

Chapter 12- Matter:

I will learn properties, phases of matter and elements
I will learn to compare and contrast physical and chemical changes in matter
I will learn the chemical symbols and how to find them on the period table
I will understand the differences between metals, nonmetals and inert gases

Chapter 13- Density:

I will learn how density and specific gravity are measured
I will learn to differentiate between displacement and buoyancy

Chapter 14- Atoms:

I will learn to understand atoms, their parts, atomic numbers and mass
I will learn how electrons are arranged in an atom

Chapter 15- Compounds and Mixtures:

I will learn the importance of a compound
I will learn to compare and contrast molecules and mixtures
I will learn the difference between ionic and covalent bonds
I will learn the importance of organic compounds
I will learn why compounds are needed by living things

Chapter 16- Chemical Formulas:

I will learn how chemical formulas are important and named
I will learn the importance of oxidation numbers
I will learn the difference between polyatomic ions and diatomic molecules
I will learn the importance of formula mass

Chapter 17- Chemical Reactions:

I will learn why it is important to conserve matter
I will learn how to solve chemical equations
I will learn the difference between oxidation and reduction
I will learn the difference between synthesis reaction and decomposition reaction
I will learn the difference between single and double replacement reactions

Chapter 18- Metals:

I will learn about ores and how metals are removed from them
I will learn the difference between alloys, corrosion and metal plating

Chapter 19- Solutions:

I will learn to understand the different parts of a solution
I will learn to understand why water is a good solvent
I will learn how to change the rate of dissolving
I will learn about concentrations in solutions
I will learn how solutes affect freezing and boiling points
I will learn how to separate solutions
I will learn how to form crystals

Chapter 20- Suspensions:

I will learn to understand suspensions how they can be separated
I will learn the difference between an emulsion and a colloid
I will learn to analyze air and water pollution in the environment

Chapter 21- Acids, Bases, and Salts:

I will learn the difference between an acid and base
I will learn how to make indicators
I will learn how to test the acidity of foods using the PH scale
I will learn to understand the importance of neutralization
I will learn the importance of electrolytes when classifying acids and bases