

APPENDIX H

MATERIALS AND SAFETY EQUIPMENT

Elementary Lists

Kindergarten

Grade 1

Grade 2

Grade 3

Grade 4

Grade 5

Middle School Lists

Grade 6

Grade 7

Grade 8

High School Lists

Integrated Physics and Chemistry

Biology

Chemistry

Physics

Geology, Meteorology, Oceanography

KINDERGARTEN MATERIALS AND SAFETY EQUIPMENT

Laboratory and Field Materials

*Required Equipment

- Balances (1 per 2 students)
- Bowls, plastic (1 per student)
- Computers (1 per classroom)
- Cups, paper or plastic (1 per student)
- Hand lenses (1 per student)

**Recommended Equipment

Large Equipment

- Aquarium and accessories (1 per classroom)
- Clock (1 per classroom)
- Egg incubator (1 per classroom)
- Terrarium and accessories (1 per classroom)

Small Equipment

- Beakers, plastic, 250 mL (2 per student)
- Cars, toys with removable parts (1 per 2 students)
- Construction set (1 per 4 students)
- Eye droppers, plastic (1 per 2 students)
- Colored geometric shapes set (1 set per 2 students)
- Lamp or light source (1 per 4 students)
- Magnet sets (1 per 2 students)
- Thermometer with backing, non-rolling, non-mercury (1 per student)
- Various noise making devices (1 per student)

Consumables

- Aluminum foil
- Bags, plastic with zipper seals
- Crayons, wax
- Nails, small
- Paper, construction
- Paste
- Scissors, primary
- Soil samples
- Soil, potting
- Spoons, plastic
- String for measurement
- Textured materials, such as sand paper, silk, (1 set per 2 students)

Outdoor Field Area

- Natural site for observation
- Local area: native plants, including trees, shrubs, grasses, with a water source for animals

Audiovisuals

- Graph, personal growth

Safety Equipment

Required Equipment

- Eye/face wash (1 per classroom)
- Fire extinguisher (1 per classroom)
- First-aid kit (1 per classroom)
- Materials Safety Data Sheets (1 set per school)
- Safety goggle disinfecting equipment or materials: soap and water, bleach solution, hot water (1 set per classroom)
- Safety goggles (1 pair per student)

Recommended Equipment

- Transport cart (1 per classroom)
- Sink (1 per classroom)

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**Recommended lists were generated by analyzing the concept TEKS at each grade level. We encourage teams of teachers at local levels to make decisions regarding the needs of their individual science programs.

FIRST GRADE MATERIALS AND SAFETY EQUIPMENT

Laboratory and Field Materials

*Required Equipment

- Hand lenses (1 per student)
- Clock with second hand (1 per classroom)
- Computers (at least 1 per classroom)
- Balances (1 per 2 students)
- Thermometer with backing, non-rolling, non-mercury (1 per student)

**Recommended Equipment

Large Equipment

- Aquarium with accessories (1 per classroom)
- Egg incubator (1 per classroom)
- Terrarium and accessories (1 per classroom)

Small Equipment

- Beakers, plastic, 250 mL (1 per student)
- Bodkin needle and thread (1 per 2 students)
- Bowls, plastic (1 per student)
- Construction blocks (1 set per 2 students)
- Eyedroppers, plastic (1 per student)
- Geometric shapes set, colored (1 set per 2 students)
- Lamp or light source (1 per 4 students)
- Magnet set (1 set per 2 students)
- Metal samples including iron (1 set per 2 students)
- Various noise-making devices (1 per student)
- Metric rulers (1 per student)

Living/Preserved Specimens

- Animals and plants
- Seeds such as peas, corn and beans

Audiovisuals

- Graph, pictorial (1 per classroom)
- Video, Sources of Water (1 per classroom)

Outdoor Field Area

- Natural site for observation
- Local area: native plants, including trees, shrubs, grasses, with a water source for animals

Consumables

- Aluminum foil
- Bags, plastic with zipper seals
- Bowls, plastic
- Crayons, wax
- Cups, paper
- Cups, plastic
- Ice source
- Nails, small
- Measuring objects (string, paper clips, washers)
- Paper, construction
- Paste
- Rock samples (1 set per 2 students)
- Scissors, primary
- Soil, potting
- Spoons, plastic
- Soil samples: sand, silt, clay, loam (1 set per 2 students)
- Textured objects, such as sand paper, silk, wax paper (1 set per 2 students)

Safety Equipment

Required Equipment

- Eye/face wash (1 per classroom)
- Fire extinguisher (1 per classroom)
- First-aid kit (1 per classroom)
- Materials Safety Data Sheets (1 set per school)
- Safety goggle disinfecting materials or equipment, including soap and water, bleach solution, hot water (1 set per classroom)
- Safety goggles (1 pair per student)

Recommended Equipment

- Transport cart (1 per classroom)
- Sink (1 per 4 students)

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SECOND GRADE MATERIALS AND SAFETY EQUIPMENT

Laboratory and Field Materials

*Required Equipment

- Balances (1 per 2 students)
- Clock, with second hand (1 per classroom)
- Computers (at least 1 per classroom)
- Hand lenses (1 per student)
- Measuring cups (1 set per 4 students)
- Meter sticks (1 per 4 students)
- Rulers, metric (1 per student)
- Thermometer, non-mercury (1 per student)

**Recommended Equipment

Large Equipment

- Aquarium with accessories (1 per classroom)
- Egg incubator (1 per classroom)
- Terrarium and accessories (1 per classroom)

Small Equipment

- Beakers, plastic, 250 mL (2 per student)
- Cars, toy (1 set per classroom)
- Eyedroppers, plastic (1 per student)
- Fan, small (1 per classroom)
- Flashlight with batteries and bulb (1 per 2 students)
- Lamp or other light source (1 per 2 students)
- Magnet sets (1 per 2 students)
- Musical instruments, rhythm band (1 set per classroom)
- Nail and hammer (1 per classroom)
- Rock sample set: sedimentary, igneous, and metamorphic (1 per 2 students)
- Thermometer, outdoor (1 per classroom)

Audiovisuals

Charts

- Constellation, simple
- Growth
- Water cycle
- Wind speed

Graphs, pictorial

Living/Preserved Specimens

- Animals and plants
- Seeds such as peas, corn and beans

Consumables

- Aluminum foil
- Bags, plastic with zipper seals
- Crayons, wax
- Cups, paper
- Measuring objects, including paper clips, string, washers, bolts
- Nails, small
- Paper, construction
- Paste
- Scissors, primary (1 per student)
- Soil, potting
- Spoons, plastic
- Soil samples: clay, loam, silt, sand (1 set per 2 students)

Outdoor Field Area

- Natural site for observation
- Local area: native plants, including trees, shrubs, grasses, with a water source for animals

Safety Equipment

Required Equipment

- Eye/face wash (2 per classroom)
- Fire extinguisher (1 per classroom)
- First-aid kit (1 per classroom)
- Materials Safety Data Sheets (1 set per school)
- Safety goggle disinfecting materials or equipment, including soap and water, bleach solution, hot water (1 set per classroom)
- Safety goggles (1 pair per student)

Recommended Equipment

- Sink (1 per 4 students)
- Transport cart (1 per classroom)

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THIRD GRADE MATERIALS AND SAFETY EQUIPMENT

Laboratory and Field Materials

*Required Equipment

- Balances (1 per 2 students)
- Calculators (1 per student)
- Cameras, disposable (1 per 2 students)
- Clock with second hand (1 per classroom)
- Compasses, magnetic (1 per 2 students)
- Computer (at least one per classroom)
- Hand lenses (1 per student)
- Magnet sets (1 per 2 students)
- Meter sticks (1 per 4 students)
- Microscopes (1 per 4 students)
- Rulers, metric (1 per student)
- Sound recorders (1 per classroom)
- Thermometer, non-mercury (1 per student)

**Recommended Equipment

Large Equipment

- Aquarium with accessories (1 per classroom)
- Egg incubator, egg (1 per classroom)
- Inclined plane (1 per 4 students)
- Microscopes, stereo (1 per 2 students)
- Planetarium, hand-held (1 per classroom)
- Terrarium with accessories (1 per classroom)

Small Equipment

- Beakers, graduated, plastic, 250 mL (2 per student)
- Car, wooden toy (1 per 2 students)
- Cylinders, graduated, plastic, 100 mL (1 per 2 students)
- Eye dropper (1 per student)
- Graphing boards (1 per classroom)
- Graphing mats (1 per classroom)
- Lamp, aluminum reflector and bulb (1 per 4 students)
- Rock and mineral samples (1 per 2 students)
- Hardness test, triangular file (1 per 2 students)
- Thermometers, outdoor (1 per classroom)
- Yo-yo (1 per 2 students)

**Recommended Equipment

Living/Preserved Specimens

- Animals and plants
- Seeds such as peas, corn and beans

Audio-Visuals

- Charts - Growth
- Charts - Renewable, non-renewable and inexhaustible resources
- CD-ROM, Video - earthquakes and / or glaciers

Consumables

- Aluminum foil
- Bags, plastic with zipper seal
- Balloons
- Clay, modeling
- Crayons, wax
- Cups, paper
- Glue, school
- Magazines for cutting
- Measuring objects: washers, paper clips, chalk
- Nails, small
- Paper, construction
- Paste
- Pencils, colored
- Scissors
- Soil, potting
- Soil samples (1 set per 2 students)
- Spoons, plastic

Safety Equipment

Required

- Eye / face wash (2 per classroom)
- Fire extinguisher (1 per classroom)
- First-aid kit (1 per classroom)
- Materials Safety Data Sheets (1 set per school)
- Safety goggle disinfecting materials or equipment
- Safety goggles (1 pair per student)

Recommended

- Sink (1 per 4 students)
- Transport cart (1 per classroom)

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FOURTH GRADE MATERIALS AND SAFETY EQUIPMENT

Laboratory and Field Materials

*Required Equipment

- Balances (1 per 2 students)
- Calculators (1 per student)
- Cameras, disposable (1 per 2 students)
- Clock with second hand (1 per classroom)
- Compasses, magnetic (1 per 2 students)
- Computer (at least one per classroom)
- Meter sticks (1 per 4 students)
- Microscopes, stereoscopic (1 per 4 students)
- Rulers, metric (1 per student)
- Sound recorders (1 per classroom)
- Thermometer, non-mercury (1 per student)

**Recommended Equipment

Large Equipment

- Aquarium with accessories (1 per classroom)
- Hot plate (1 per classroom)
- Incubator, egg (1 per classroom)
- Terrarium with accessories (1 per classroom)

Consumables

- Aluminum foil
- Bags, plastic with zipper seal
- Clay, modeling
- Crayons, wax
- Cups, paper
- Glue, school
- Nail, small
- Paper, construction
- Paste
- Pencil, colored
- Salt and water for concentrations
- Scissors (1 per student)
- Soil, potting
- Soil samples: clay, loam, sand, silt (1 set per student)
- Spoons, plastic
- Straws
- Sugar cubes

Small Equipment

- Electric circuit kit including knife-blade switch, lamp and base (1 per 2 students)
- Beakers, plastic, graduated:
 - 1000 mL (5 per classroom)
 - 250 mL (2 per student)
- Graphing mat (1 per classroom)

- Lamp, aluminum reflector (1 per 4 students)
- Magnet set (1 set per 2 students)
- Mirrors, plastic (1 per 2 students)
- Spinning top with pump action (1 per 4 students)
- Rocks, limestone samples (1 per student)
- Thermometers, outdoor (1 per classroom)
- Weather vane (1 per classroom)

Living/Preserved Specimens

- Animals and plants
- Seeds such as peas, corn and beans

Outdoor Field Area

- Natural site for observation
- Local area: native plants, including trees, shrubs, grasses, with a water source for animals

Audiovisuals

Charts

- Water cycle
- Clouds
- Geologic time tables
- Wind speed
- Constellations
- Life-cycle of butterfly
- Vinegar
- Dinosaurs or other animals from the past

Videos

- Streams and rivers
- Volcanoes
- Tides and / or hurricanes

Safety Equipment

Required

- Eye / face wash (2 per classroom)
- Fire blanket (1 per classroom)
- Fire extinguisher (1 per classroom)
- First-aid kit (1 per classroom)
- Materials Safety Data Sheets (1 set per school)
- Safety goggle disinfecting materials or equipment (1 set per classroom)
- Safety goggles, splash-proof (1 per student)

Recommended

- Sink (1 per 4 students)
- Transport cart (1 per classroom)

FIFTH GRADE MATERIALS AND SAFETY EQUIPMENT

Laboratory and Field Materials

*Required Equipment

- Balances (1 per 2 students)
- Calculator (1 per student)
- Cameras, disposable (1 per 2 students)
- Clock with second hand (1 per classroom)
- Collecting nets (1 per student)
- Compass, magnetic (1 per 2 students)
- Computer (1 per classroom)
- Hand lens (1 per student)
- Hot plate (1 per 4 students)
- Magnet (1 set per 2 students)
- Meter stick (1 per 4 students)
- Microscope, stereoscopic (1 per 4 students)
- Sound recorder (1 per classroom)
- Rulers, metric (1 per student)
- Thermometer, non-mercury (1 per student)

**Recommended Equipment

Large Equipment

- Aquarium with accessories (1 per classroom)
- Globe, Earth (1 per classroom)
- Globe, lunar (1 per classroom)
- Egg incubator (1 per classroom)
- Planetarium, hand-held (1 per classroom)
- Terrarium with accessories (1 per classroom)

Small Equipment

- Electric kit: knife-blade switch, lamp and base, electric bell, copper wire, nail (1 per 4 students)
- Beakers, plastic, graduated, 400 mL (1 per student)
- Beakers, Pyrex, graduated:
 - 250 mL (1 per 2 students)
 - 600 mL (1 per 4 students)
- Burner, propane or Bunsen burner (1 per classroom)
- Conductometer (1 per classroom)
- Cylinders, plastic, graduated, 100 mL (1 per 2 students)
- Battery, dry cell, 6 volt (1 per 4 students)
- Eye dropper (1 per student)
- Geologic cross-cut diagram (1 per classroom)
- Iron filings (1 package per 2 students)
- Lamp with aluminum reflector (1 per 4 students)
- Lens, 2 convex (1 set per 2 students)
- Mineral set (1 per 2 students)
- Mirrors, plastic (1 per student)
- pH paper (1 vial per classroom)

- Prism (1 per 2 students)
- Rock sets: sedimentary, igneous, and metamorphic (1 per 2 students)
- Thermometer, outdoor (1 per classroom)
- Tree ring samples (1 set per 4 students)
- Tuning fork and rubber hammer (1 per 2 students)

Consumables

- Aluminum foil
- Bags, plastic with zipper seal
- Baking soda
- Beef bouillon cubes
- Coal
- Coffee can with lids
- Fertilizers
- Glue, school
- Paper, construction
- Paper, simple graphing
- Pencils, colored
- Pots, plants
- Salt
- Scissors
- Soil, potting
- Solar tinting sheets for windows
- Source of ice
- Spoons, plastic
- Sugar
- Vinegar

Living/Preserved Specimens

- Animals and plants
- Seeds such as peas, corn and beans

Audiovisuals

Charts

- Water cycle
- Carbon cycle
- Coal and oil formation
- Life cycle of tree
- Lunar phases
- Nitrogen cycle
- Tidal schedule

Videos

- Adaptive characteristics of organisms
- Rain forest
- Serengeti

Outdoor Field Area

- Natural site for observation
- Local area: native plants, including trees, shrubs, grasses, with a water source for animals

Safety Equipment**Required**

- Aprons (1 per student)
- Eye / face wash (2 per classroom)
- Fire blanket (1 per classroom)
- Fire extinguisher (1 per classroom)
- First-aid kit (1 per classroom)
- Materials Safety Data Sheets (1 set per school)
- Safety goggle disinfecting materials or equipment (1 set per classroom)
- Safety goggles, splash-proof (1 per student)

Recommended

- Sink (1 per 4 students)
- Transport cart (1 per classroom)

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SIXTH GRADE MATERIALS AND SAFETY EQUIPMENT

Laboratory and Field Materials

*Required Equipment

- Balances (1 per 2 students)
- Beakers, plastic, graduated:
 - 100 mL (1 per student)
 - 250 mL (1 per student)
 - 400 mL (1 per student)
- Calculators (1 per student)
- Compasses, magnetic (1 per 2 students)
- Computer probes (1 set per computer)
- Computers (at least 1 per classroom)
- Field equipment
- Graduated cylinders, plastic, graduated:
 - 10 mL (1 per 2 students)
 - 100 mL (1 per 2 students)
- Hot plates (1 per 4 students)
- Magnets (1 set per 2 students)
- Meter sticks (1 per 4 students)
- Microscopes (1 per 4 students)
- Petri dishes (1 set of 4 per 4 students)
- Safety goggles (1 pair per students)
- Spring scales (1 per 4 students)
- Telescope (1 per class)
- Test tubes (6 per 4 students)
- Thermometer, non-mercury (1 per student)
- Timing devices (clocks, stop watches)
- Weather instruments (outdoor thermometer, barometer, sling psychrometer)

**Recommended Equipment

Large Equipment

- Aquarium with accessories (1 per classroom)
- Computer probes (1 per classroom)
- Electric fan (1 per classroom)
- Globe, Earth (1 per classroom)
- Inclined plane with force mechanism (1 per 2 students)
- Insect collecting nets (1 per 2 students)
- Insect killing jar (1 per 2 students)
- Insect pins (2 boxes per classroom)
- Lamp, aluminum reflector (1 per 2 students)
- Model, Animal cell (1 per classroom)
- Model, Human torso (1 per classroom)
- Model, Lung (1 per classroom)
- Model, Plant cell (1 per classroom)
- Planetarium showing tilt of Earth on axis (1 per classroom)
- Planetarium, illuminated, hand-held (1 per classroom)
- Steam engine (1 per 4 students)

- Electric generator (1 per 4 students)
- Terrarium with accessories (1 per classroom)

Small Equipment

- Compasses, magnetic (1 per 2 students)
- Eye droppers (1 per 2 students)
- Games, Food web (1 per classroom)
- Herbarium paper (5 sheets per 2 students)
- Herbarium paste (2 bottles per classroom)
- Hot hands (1 per 2 students)
- Metric rulers (1 per student)
- Microscope slides, blank (2 boxes per classroom)
- Microscope slides, depression (1 per 2 students)
- Microscope cover slips, plastic (2 boxes per classroom)
- pH paper or litmus paper (2 vials per classroom)
- Plant press (1 per classroom)
- Rock samples: sedimentary, igneous, and metamorphic (1 set per 2 students)
- Rods, stirring (1 per 2 students)
- Scissors (1 per student)
- Test tube holder (1 per 2 students)
- Test tube racks (1 per 2 students)
- Thermometer, outdoor (1 per classroom)

Living/Preserved Specimens

- Meal worms, aquatic snails or earthworms
- Plants seeds
- Microscope slides, prepared:
 - muscle cells
 - blood cells
 - nerve cells
 - plant and animal
 - chromosomes stained

Consumables

- Aluminum foil
- Bags, plastic with zipper seal
- Brush, artist
- Clay, modeling
- Compost pile
- Glue, school
- Kitchen chemicals - lemon juice, vinegar, baking soda, ammonia, liquid detergent, carbonated drink, tea, coffee
- Pans, aluminum pie
- Paper, construction
- Paper, simple graphing
- Pencils, colored
- Pots, plant

- Soil, potting
- Spoons, plastic
- Water filtering kit or plastic beakers and filtering material

Audiovisuals

Videos and CD-ROMs

- Mountain Building
- Volcanic activity
- Solar system: meteorites, comets, asteroids
- Space travel

Outdoor Field Area

- Natural site for observation
- Local area: native plants, including trees, shrubs, grasses, with a water source for animals

Charts and Transparencies

- Energy pyramid
- Rock cycle
- Atmospheric composition
- Clouds
- Composing
- Food pyramid
- Human organ systems
- Production of energy for human use
- Solar system

Safety Equipment

Required

- Aprons (1 per student)
- Eye / face wash (3 per classroom)
- Fire blanket (1 per classroom)
- Fire extinguisher (1 per classroom)
- First-aid kit (1 per classroom)
- Materials Safety Data Sheets (1 set per building)
- Safety goggles, splash-proof (1 per student)
- Safety goggle disinfecting materials or equipment (1 set per classroom)

Recommended

- Sink (1 per 4 students)
- Transport cart (1 per classroom)

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SEVENTH GRADE MATERIALS AND SAFETY EQUIPMENT

Laboratory and Field Materials

*Required Equipment

- Balance (1 per 2 students)
- Beakers, plastic
 - 100 mL (1 per student)
 - 250 mL (1 per student)
 - 400 mL (1 per student)
- Calculators (1 per student)
- Compasses, magnetic (1 per 2 students)
- Computer probes (1 set per computer)
- Computers (at least 1 per classroom)
- Dissecting equipment (1 kit per 2 students)
- Field equipment
- Graduated cylinders, plastic
 - 10 mL (1 per 2 students)
 - 100 mL (1 per 2 students)
- Hot plates (1 per 4 students)
- Magnets (1 set per 2 students)
- Meter sticks (1 per 4 students)
- Microscopes, compound (1 per 4 students)
- Plant press (2 per classroom)
- Petri dishes (1 set of 4 per 4 students)
- Safety goggles (1 pair per students)
- Spring scales, 10 N (1 per 4 students)
- Telescopes (1 per class)
- Test tubes (5-6 per 4 students)
- Thermometer, non-mercury (1 per student)
- Timing devices (e.g., clocks, stop watches)
- Weather instruments (1 per classroom)
 - outdoor thermometer
 - barometer,
 - sling psychrometer
 - wind vane
 - rain gauge

Outdoor Field Area

- Natural site for observation
- Local area: native plants, including trees, shrubs, grasses, with a water source for animals

**Recommended Equipment

Large Equipment

- Aquarium with accessories (1 per classroom)
- Anemometer (1 per classroom)
- Cart, Mechanical or Dynamic (1 per 2 students)
- Computer probes (1 per classroom)
- Lever system kit (using meter sticks) (1 per 4 students)
- Model, cell (1 per classroom)

- Model, Human skeleton (1 per classroom)
- Model, Human torso (1 per classroom)
- Model, Lung demonstration (1 per classroom)
- Planetarium, hand-held (1 per classroom)
- Pulley kit with suspension system (1 per 4 students)
- Respirometer (1 per classroom)
- Stethoscope (1 per 2 students)
- Stream table kit (1 per classroom)
- Terrarium (1 per classroom)
- Tracks, potential and kinetic (1 per 4 students)

Small Equipment

- Brushes, beaker (1 per 4 students)
- Compasses, magnetic (1 per 2 students)
- Dissecting kit (1 per 2 students)
- Dropping Bottles (1 per student)
- Eye droppers (1 per student)
- Field Guides: Wildflower, Insect, etc. (1 per classroom)
- Flask, Erlenmeyer, 1000 mL (4 per classroom)
- Herbarium paper (5 sheets per 2 students)
- Herbarium paste (2 bottles per classroom)
- Hot hands (1 per 2 students)
- Insect nets (1 per 2 students)
- Insect killing jar (1 per 2 students)
- Insect pins (2 boxes per classroom)
- Lamp, aluminum reflector (1 per 4 students)
- Metric rulers (1 per student)
- Microscope cover slips, plastic (2 boxes per classroom)
- Microscope slides (2 boxes per classroom)
- Microscope slides, depression (1 per 2 students)
- Petri dishes (1 per student)
- Rods, glass, stirring (1 per 2 students)
- Test tube holder (1 per 2 students)
- Test tube racks (1 per 2 students)

Living/Preserved Specimens

- Fish and other animals
- Paramecium and other protists
- Seeds, bulbs, plant cuttings, rhizomes
- Microscope slides, prepared
 - blood cells
 - sperm cells
 - cheek cells

Consumables

- Bags, plastic with zipper seal
- Bottles, thermos (1 per classroom)
- Lamp, aluminum reflector (1 per 4 students)
- Pots
- Soil
- Steel wool (1 bundle per classroom)

- Thermometers, oral, disposable sleeve (1 per 2 students)
- Wood splints

Chemicals

- Iron filings
- Sulfur

Audiovisuals (1 per classroom)

CD-ROM or Video

- Emergence of Seeds or Flow of Blood

Charts

- Asexual and sexual reproduction
- Ecological succession
- Human body system (digestive, circulatory)
- Periodic Table of Elements
- Photosynthesis
- Renewable / non-renewable / inexhaustible Energy
- Solar system

Safety Equipment

Required

- Aprons (1 per student)
- Eye / face wash (3 per classroom)
- Fire blanket (1 per classroom)
- Fire extinguisher (1 per classroom)
- First-aid kit (1 per classroom)
- Materials Safety Data Sheets (1 set per classroom)
- Safety goggle disinfecting materials or equipment (1 set per classroom)
- Safety goggles, splash-proof (1 per student)

Recommended

- Transport cart (1 per classroom)
- Sink (1 per 4 students)

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EIGHTH GRADE MATERIALS AND SAFETY EQUIPMENT

Laboratory and Field Materials

*Required Equipment

- Balances (1 per 2 students)
- Beakers
 - 100 mL (1 per student)
 - 250 mL (1 per student)
 - 400 mL (1 per student)
- Calculators (1 per student)
- Computer probes (1 set per computer)
- Computers (at least 1 per classroom)
- Dissecting equipment (1 kit per 2 students)
- Field equipment
- Graduated cylinders, plastic
 - 10 mL (1 per 2 students)
 - 100 mL (1 per 2 students)
- Hot plates (1 per 4 students)
- Meter sticks (1 per 4 students)
- Microscopes, compound (1 per 4 students)
- Petri dishes (1 set of 4 per 4 students)
- Spring scales, 10N (1 per 4 students)
- Telescope (1 per class)
- Test tubes, 20 mL (6 per 4 students)
- Thermometer, non-mercury (1 per student)
- Timing devices (e.g., clocks, stop watches)
- Water test kits (1 per 4 students)
- Weather instruments

**Recommended Equipment

Large Equipment

- Anemometer (1 per classroom)
- Aquarium and accessories (1 per classroom)
- Astrolabes (13) (1 per 2 students)
- Globe, Earth (1 per classroom)
- Inclined plane, Hall's carriage, weight hangers and slotted weights (1 per 4 students)
- Lamp, aluminum reflector
- Map of Northern Hemisphere (1 per classroom)
- Collision Ball Demonstrator (1 per classroom)
- Rain gauge (1 per classroom)
- Sling Psychrometer (1 per classroom)
- Stream table and accessories (1 per classroom)
- Terrarium (1 per classroom)
- Thermometer, outdoor (1 per classroom)
- Wind vane (1 per classroom)

Small Equipment

- Calculators (1 per 2 students)
- Dissecting kit (1 per 2 students)
- Eye droppers (1 per student)

- Field guides (1 set per classroom)
- Flask, 1000 ml (4 per classroom)
- Herbarium paper (2 pug per classroom)
- Herbarium paste (2 per classroom)
- Hot hands (1 per 2 students)
- Insect killing jar (1 per 2 students)
- Insect nets (1 per 2 students)
- Insect pins (2 boxes per classroom)
- Metric rulers (1 per student)
- Microscope cover slips (2 boxes per classroom)
- Microscope slides (2 boxes per classroom)
- Microscope slides, depression (1 per 2 students)
- Plant press (2 per classroom)
- Rock types set (1 set per 2 students)
- Rods, stirring (1 per 2 students)
- Slinky and wave demonstration rope (1 per classroom)
- Static electricity kit (1 per 2 students)
- Test tube holder (1 per 2 students)
- Test tube racks (1 per 2 students)
- Thermometer, oral with disposable sleeves (1 per 2 students)

Living/Preserved Specimens

- Invertebrates such as brine shrimp
- Plants, variety
- Seeds with known genetic ratios

Consumables

- Bags, plastic with zipper seal
- Soil, potting
- Chemicals
 - Acid, dilute Nitric
 - Acid, dilute Sulfuric
 - Baking soda
 - Calcium Chloride
 - Phenol Red
 - Vinegar

Audiovisuals

Charts (1 per classroom)

- Earth's Climatic Zones
- Earth's Prevailing Winds
- Lunar Cycle
- Nitrogen, Carbon, and Water Cycles
- Ocean Currents
- Periodic Table of Elements
- Tides

Outdoor Field Area

- Natural site for observation
- Local area: native plants, including trees, shrubs, grasses, with a water source for animals.

Safety Equipment

Required

- Aprons (1 per student)
- Eye / face wash (3 per classroom)
- Fire blanket (1 per classroom)
- Fire extinguisher (1 per classroom)
- First-aid kit (1 per classroom)
- Safety goggles, splash-proof (1 per student)
- Safety goggle disinfecting materials or equipment (1 per classroom)
- Materials Safety Data Sheets (1 set per school)

Recommended

- Transport cart (1 per classroom)
- Sink (1 per classroom)

*Required lists are specified by TEKS at this grade level.

**Recommended lists were generated by analyzing the concept TEKS at each grade level. We encourage teams of teachers at local levels to make decisions regarding the needs of their individual science programs.

INTEGRATED PHYSICS AND CHEMISTRY

MATERIALS AND SAFETY EQUIPMENT

Laboratory and Field Materials

*Recommended Equipment

Large Equipment

- Ammeter (1 per 2 students)
- Balance (1 per 2 students)
- Ball and ring (1 per classroom)
- Bimetallic strip (1 per classroom)
- Bunsen burners (1 per 2 students)
- Calculator, graphing (1 per 2 students)
- Clock with second hand (1 per classroom)
- Computer, resident (1 or more per classroom)
- Computer probes, light, sound, temperature, magnetic, photogate (1 of each per classroom)
- Conductivity tester (1 per 2 students)
- Conductometers (1 per 2 students)
- Density block sets (1 per 2 students)
- Dynamic carts (1 per 2 students)
- Friction blocks (1 per 2 students)
- Hall's Carriage (1 per 2 students)
- Hammer, rubber (1 per 2 students)
- Hot plate (1 per 4 students)
- Inclined planes with pulley attachment (1 per 2 students)
- Interference tubes (1 per 2 students)
- Lamp, aluminum reflector (1 per 2 students)
- Lever system kit (using meter sticks) (1 per 2 students)
- Magnets, pair of bar (1 per 2 students)
- Mass sets, hooked (1 per 2 students)
- Optics kit (1 per 2 students)
- Optics bench kit (1 per 4 students)
- Overflow cans (1 per 2 students)
- Power supply (or dry cell) (1 per 4 students)
- Prism (1 per 2 students)
- Pulley kit with suspension system (1 per 4 students)
- Resonance apparatus (1 per 4 students)
- Ring stand with 4" ring (1 per 2 students)
- Ripple tank generator for overhead (1 per classroom)
- Slinky spring (1 per classroom)
- Stop watch (1 per 2 students)
- Tuning fork set, various frequencies (1 per classroom)
- Tuning forks, same frequency (1 per 2 students)

Small Equipment

- Scale, spring, 10 N capacity (1 per 2 students)
- Scale, spring, 2.5 N capacity (1 per 2 students)

- Beakers
 - 100 mL (1 per student)
 - 250 mL (1 per student)
 - 600 mL (1 per 4 students)
 - 1000 mL (4 per classroom)
 - 2000 mL (4 per classroom)
- Bottles, plastic wash (1 per 2 students)
- Bunsen burners, wing tips (1 per 2 students)
- Copper insulated wire (1 roll per classroom)
- Alligator clips for electric circuit (1 per 2 students)
- Cork borer set and sharpener (1 per classroom)
- Cylinder, graduated
 - 10 mL (1 per 2 students)
 - 100 mL (1 per 2 students)
 - 1000 mL (2 per classroom)
- Dropping bottles (2 per student)
- Eye droppers (2 per student)
- Flask, Erlenmeyer
 - 250 mL (1 per student)
 - 1000 mL (4 per classroom)
 - 2000 mL (2 per classroom)
- Friction pad, fur (1 per 2 students)
- Friction pad, silk (1 per 2 students)
- Friction pad, wool (1 per 2 students)
- Funnels, short stem (1 per 2 students)
- Iron filings (1 can per classroom)
- Knife blade switch (1 per 2 students)
- Lamp base and bulb for circuit (1 per student)
- Litmus paper (1 vial per 2 students)
- Meter sticks (1 per 2 students)
- Metric rulers (1 per student)
- Mortar and pestle (1 per 2 students)
- pH paper (1 vial per 2 students)
- Pith balls, pair coated in graphite and metal (1 per 2 students)
- Polarized lens set (1 per 2 students)
- Prism (1 per 2 students)
- Projector (1 per 2 students)
- Voltmeter (1 per 2 students)
- Wave demonstration spring (1 per classroom)
- Samples: elements, compounds, and mixtures (1 per 2 students)
- Sets of substances of varying densities (1 per 2 students)
- Solar cell (1 per classroom)
- Spatulas (1 per 2 students)
- Spectroscopes, quantitative analysis (1 per 2 students)
- Steel spheres (1 per 2 students)
- Stirring rods (1 per 2 students)
- Stop watches (1 per 4 students)

- Stoppers, rubber and cork (assorted) to fit flasks and test tubes (1 per 2 students)
- Test tube holder (1 per 2 students)
- Test tube rack (1 per 2 students)
- Test tubes, 15 X 125 (5 per student)
- Test tubes, 20 X 150 (5 per student)
- Thermometer, metal back, alcohol, calibrated (1 per student)
- Tongs, beaker (1 per 2 students)
- Triangular file (2 per classroom)
- Watch glasses (1 per 2 students)
- Wire screen, ceramic centered (1 per 2 students)

Living/Preserved Specimens

- Microorganisms for acid rain investigation

Audiovisuals

Chart

- Periodic Table of Elements (1 per classroom)

Consumables

- Salt for density solutions

Outdoor Field Area

- Natural site for observation
- Local area: native plants, including trees, shrubs, grasses, with a water source for animals
- Rod, glass (1 per 2 students)
- Rod, rubber (1 per 2 students)

Safety Equipment

Required

- Aprons (1 per student)
- Eye / face wash (2 per laboratory)
- Fire blanket (1 per laboratory)
- Fire extinguisher (1 per laboratory)
- First-aid kit (1 per laboratory)
- Materials Safety Data Sheets (1 set per building)
- Safety goggles, splash-proof (1 per student)
- Safety goggle disinfecting materials or equipment (1 per laboratory)

Recommended

- Transport cart (1 per laboratory)
- Sink (1 per 4 students)

*Required lists are specified by TEKS at this grade level.

**Recommended lists were generated by analyzing the concept TEKS at each grade level. We encourage teams of teachers at local levels to make decisions regarding the needs of their individual science programs.

BIOLOGY

MATERIALS AND SAFETY EQUIPMENT

Laboratory and Field Materials

*Recommended Equipment

Large Equipment

- Aquarium with accessories (1 per classroom)
- Autoclave (1 per classroom)
- Balance, triple beam (1 per 4 students)
- Bird feeder (1 per classroom)
- Bunsen burners (1 per 2 students)
- Calculator, graphing (1 per 2 students)
- Clock with second hand (1 per classroom)
- Computer probes (1 per classroom)
- Computer, resident (1 or more per classroom)
- Corkborer set and sharpener (1 per classroom)
- Dissecting kit (1 per 2 students)
- Dissecting pan (1 per 2 students)
- Hot plate (1 per 4 students)
- Incubator for eggs (1 per classroom)
- Incubator oven (1 per classroom)
- Microscope, compound (1 per 2 students)
- Microscope, stereo (1 per 2 students)
- Mobile, plant (1 per classroom)
- Model, Human Torso (1 per classroom)
- Model, Meiosis (1 per classroom)
- Model, Mitosis (1 per classroom)
- Plant press (2 per classroom)
- Ring stand (1 per 2 students)
- Ring stands, 3" ring (1 per 2 students)
- Ring stand clamp (1 per 2 students)
- Stirrer, magnetic (1 per classroom)
- Survey collection, animals (1 per classroom)
- Survey collection, plants (1 per classroom)
- Terrarium with accessories (1 per classroom)
- Test tube basket (1 per 6 students)
- Test tube racks (1 per 2 students)

Small Equipment

- Agar plates, starch
- Beakers, Pyrex
 - 100 mL (2 per student)
 - 250 mL (2 per student)
 - 400 mL (1 per student)
 - 600 mL (1 per student)
 - 1000 mL (1 per 4 students)
 - 2000 mL (1 per 4 students)
- Brush, flask (1 per 4 students)
- Brushes, beaker (1 per 4 students)
- Clamps, pinch (1 per student)
- Cylinder, graduated
 - 10 mL (1 per 2 students)
 - 100 mL (1 per 2 students)
 - 500 mL (1 per 4 students)

- Dichotomous keys (1 per 2 students)
- Dishes, culture (1 per student)
- DNA structure and protein synthesis activity kit (1 per 2 students)
- Dropping bottles, 10 ml (4 per student)
- Eye droppers (2 per student)
- File, triangular (2 per classroom)
- Flask, Erlenmeyer
 - 125 mL (1 per student)
 - 250 mL (1 per student)
 - 500 mL (1 per 2 students)
 - 1000 mL (1 per 4 students)
 - 2000 mL (1 per 4 students)
- Funnels, short stem (1 per 2 students)
- Herbarium labels (1 package per 4 students)
- Herbarium paper (2 package per classroom)
- Herbarium paste (2 jars per classroom)
- Inoculating loops (1 per 2 students)
- Insect killing jar (1 per 2 students)
- Insect nets (1 per 2 students)
- Insect pins (2 boxes per classroom)
- Lens, hand (1 per student)
- Meter sticks (1 per 2 students)
- Metric rulers (1 per student)
- Microscope cover slips, plastic (2 boxes per classroom)
- Microscope slides (2 boxes per classroom)
- Microscope slides, depression (1 per student)
- Mortar and pestle (1 per 2 students)
- Nets, insect collecting (1 per 2 students)
- Pens, wax marking (1 per 2 students)
- Petri dishes (1 per student)
- Pipet, 1 mL graduated (1 per 2 students)
- Pipet, 10 mL graduated (1 per 2 students)
- Pipet, 5 mL graduated (1 per 2 students)
- Pots, planting, plastic (2 per student)
- Rods, glass stirring (1 per 2 students)
- Spatulas, 4" stainless (1 per student)
- Sphygmomanometer (1 per 2 students)
- Stethoscope (1 per 2 students)
- Stopper, rubber, assorted to fit flasks and test tubes
- Test tube brushes, regular (1 per 4 students)
- Test tube brushes, small (1 per 4 students)
- Test tube holders (1 per 2 students)
- Test tubes, Pyrex 20 X 150 mm (3 per student)
- Test tubes, Pyrex 10 X 75 mm (3 per student)
- Thermometer, oral with disposable sleeve (1 per 2 students)
- Thermometers, alcohol 10 - 110° C (1 per 2 students)
- Tongs, beaker (1 per 2 students)

- Trays, dissecting (1 per 2 students)
- Tubing, dialysis (1 roll per classroom)
- Variation and evolution kit (2 per classroom)

Living/Preserved Specimens

- Aquatic plants, Elodea
- Brine shrimp
- Cultures
 - Bacillus cereus
 - Bacillus subtilis
 - Escherichia coli
- Living plant and animal specimens
- Protist cultures
- Seeds for DNA studies
- Slides, prepared
 - animal cells and tissues
 - plant cells and tissues
- Yeast suspension

Audiovisuals (1 per classroom)

CD ROMs and Videos

- Cell structure and function
- Classification
- Evolution processes
- Location and function of body systems
- Meiosis
- Mitosis
- Plant anatomy and physiology
- Photosynthesis, respiration and cellular energy
- Planting flats, plastic (1 per 2 students)

Charts

- Bacteria
- Human body systems
- Prokaryotic and eukaryotic cells
- Viruses
- Carbon, oxygen, nitrogen and water cycles

Consumables

- Cotton swabs
- Food coloring
- Food products for testing
- Kidney from meat market
- Lamp, aluminum reflector (1 per 4 students)

- Milk
- Nitrogen fertilizer
- Scissors
- Starch

Outdoor Field Area

- Natural site for observation
- Local area: native plants, including trees, shrubs, grasses, with a water source for animals
- Greenhouse

Safety Equipment

Required

- Aprons (1 per student)
- Eye / face wash (1 per laboratory)
- Fire blanket (1 per laboratory)
- Fire extinguisher (1 per laboratory)
- First-aid kit (1 per laboratory)
- Materials Safety Data Sheets (1 set per school)
- Safety goggles, splash-proof (1 per student)
- Safety goggle disinfecting materials or equipment (1 per laboratory)

Recommended

- Transport cart (1 per laboratory)
- Sink (1 per 4 students)

*Required lists are specified by TEKS at this grade level.

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CHEMISTRY

MATERIALS AND SAFETY EQUIPMENT

Laboratory and Field Materials

Recommended Equipment

Large equipment

- Balance, electronic (1 per 4 students)
- Barometer (1 per classroom)
- Burner, Bunsen or Tirrill (1 per 2 students)
- Calculators, graphing (1 per 2 students)
- Calorimeter (1 per 2 students)
- Centrifuge (1 per classroom)
- Clock, with second hand (1 per classroom)
- Computer (1 or more per classroom)
- Computer probes (1 per classroom)
 - temperature
 - pH
 - barometric pressure
 - Geiger-Müller tube
- Condensers (1 per 2 students)
- Conductivity apparatus (1 per classroom)
- DC source, 0-12 v. 5 amp with leads (1 per classroom)
- Desiccator (1 per classroom)
- Drying oven (1 per classroom)
- Electrolysis apparatus (1 per classroom)
- Geiger counter (1 per classroom)
- Hot plate (1 per 4 students)
- Magnetic stirrer (1 per 4 students)
- pH meter, hand (1 per 4 students)
- Spectrophotometer (1 per classroom)
- Spectroscope (1 per student)
- Spectrum tubes (1 of each element per classroom)
- Spectrum tube power supply (1 per classroom)

Small Equipment

- Beakers
 - 100 mL (2 per student)
 - 250 mL (1 per student)
 - 400 mL (1 per student)
 - 600 mL (1 per student)
 - 1000 mL (1 per 2 students)
- Bottles, dropper, 10 mL (3 per student)
- Bottles, dropper, 30 mL (3 per student)
- Burets, 50 mL (1 per student)
- Ceramic square (1 per 2 students)
- Clamps (1 per 2 students)
 - test tube
 - 3 prong jaw
 - buret, double
 - pinch
 - utility

- Cobalt-blue glass (1 per 2 students)
- Condenser (1 per 4 students)
- Cork borer (1 set per classroom)
- Crucible (1 per 2 students)
- Crucible cover (1 per 2 students)
- Cup, plastic foam, 16 oz (1 per student)
- Cylinder, graduated (1 per 2 students)
 - 10 mL
 - 50 mL
 - 100 mL
 - 1000 mL
- Cutter, metal (1 per classroom)
- Droppers, medicine (3 per student)
- Droppers, pipet (1 per student)
- Evaporating dish (1 per student)
- File, triangular (2 per classroom)
- Flask, distilling, 250 mL (1 per 2 students)
- Flask, filter, 500 mL (1 per 2 students)
- Flask, volumetric
 - 100 mL (1 per 4 students)
 - 1000 mL (1 per classroom)
 - 250 mL (1 per 4 students)
 - 500 mL (1 per 8 students)
- Flasks, Erlenmeyer
 - 100 mL (1 per 2 students)
 - 1000 mL (1 per 4 students)
 - 250 mL (1 per 2 students)
 - 500 mL (1 per 2 students)
- Funnels, long stem (1 per student)
- Funnels, short stem (1 per student)
- Lighter, burner (1 per 4 students)
- Litmus, red & blue (6 boxes per classroom)
- Meter stick (1 per 2 students)
- Molecular model set (1 per 4 students)
- Mortar and pestle (1 per 4 students)
- Paper, chromatography (1 box per classroom)
- Paper, filter, assorted sizes (1 box each per classroom)
- Paper, pH (6 boxes per classroom)
- Parafilm (1 roll per classroom)
- Pencils, glass marking (1 per 2 students)
- Pipets, glass, 1 mL, graduated (1 per 2 students)
- Pipets, glass, 10 mL, graduated (1 per 2 students)
- Pipets, glass, 5 mL, graduated (1 per 2 students)
- Ring support with clamp -2" & 4" (1 per 2 students)
- Ring stand, 20" (1 per 2 students)
- Ring stand screen (1 per 2 students)
- Rubber policeman (1 per student)
- Rubber suction bulb (1 per 2 students)
- Ruler, metric (1 per student)

- Small rubber bands (1 box per classroom)
- Spatula / scoopula (1 per student)
- Spot plate (1 per 2 students)
- Stirring rod, glass (1 per student)
- Stoppers, cork, assorted
- Stoppers, rubber, 1 hole and 2 hole, assorted
- Stoppers, rubber, solid, assorted
- Test tube holder (1 per student)
- Test tube rack (1 per 2 students)
- Test tubes, large (5 per student)
- Test tubes, medium (5 per student)
- Test tubes, small (5 per student)
- Thermometers, -20°C to 150 (1 per student)
- Thermometers, electronic (1 per 4 students)
- Tong, crucible (1 per 2 students)
- Tongs, beaker (1 per 2 students)
- Triangle, 1 1/2", clay-covered (1 per 2 students)
- Tubing, plastic connecting (50' per classroom)
- Tubing, rubber connecting (50' per classroom)
- Tubing, capillary, glass, melting point (1 vial per classroom)
- Tubing, glass, assorted
- Tubing, rubber, 1/4" ID (100' per classroom)
- Tweezers or forceps (1 per 2 students)
- Wash bottles, plastic (1 per 2 students)
- Watch glass (1 per 2 students)
- Weighing bottle (1 per 2 students)
- Wire gauze, ceramic center, 5" x 5" (1 per 2 students)
- Wire, nichrome or platinum (1 per 2 students)

Charts (1 per classroom)

- Common ions
- Oxidation-reduction potential
- Periodic Table of Elements
- Spectrum

Safety Equipment

Required

- Aprons (1 per student)
- Eye / face wash (2 per laboratory)
- Fire blanket (1 per laboratory)
- Fire extinguisher (1 per laboratory)
- First-aid kit (1 per laboratory)
- Materials Safety Data Sheets (1 set per school)
- Safety goggles, splash-proof (1 per student)
- Safety goggle disinfecting materials or equipment (1 set per laboratory)

Recommended

- Transport cart (1 per classroom)
- Sink (1 per 4 students)

*Required lists are specified by TEKS at this grade level.

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PHYSICS

MATERIALS AND SAFETY EQUIPMENT

Laboratory and Field Materials

Recommended Equipment

Large Equipment

- Ammeter triple range: 0 - 1.5, 3 (1 per 2 students)
- Balance, triple beam (1 per 2 students)
- Bunsen Burner (1 per 2 students)
- Clamps 4" (1 per 2 students)
- Calculator, graphing (1 per 2 students)
- Caliper, micrometer (1 per 2 students)
- Caliper, vernier (1 per 2 students)
- Calorimeter (1 per 2 students)
- Cart, dynamics set (1 per 2 students)
- Cathode ray tube, sealed with screen (1 per classroom)
- Clock with second hand (1 per classroom)
- Cloud chamber (1 per 2 students)
- Collision Apparatus-two dimensions (1 per 2 students)
- Computer probes tube (1 per classroom)
 - sound • magnetic
 - light • photogate
 - temperature • pendulum
 - Geiger Miller
- Computer (1 or more per classroom)
- Conservation of Momentum Apparatus (1 per classroom)
- Coulomb's Law Apparatus (1 per 2 students)
- Discharge tubes, vacuum (1 per classroom)
- Electroscope, measuring (1 per 2 students)
- Galvanometer, center zero (1 per 2 students)
- Hall's carriage (1 per 2 students)
- Hammer, rubber (1 per 2 students)
- Hot plate (1 per 2 students)
- Inclined plane (1 per 2 students)
- Induction coil (1 per classroom)
- Lab masses set, brass (1 per 2 students)
- Lab masses set, hooked (1 per 2 students)
- Lamps, aluminum reflector (1 per 2 students)
- Light source, intense for ripple tank (1 per classroom)
- Magnets, strong, bar, pair (1 per classroom)
- Magnets, strong, horseshoe (1 per classroom)
- Optical bench set (1 per 2 students)
- Optics kit (1 per 2 students)
- Pendulum support (1 per 2 students)
- Power supply: AC, DC (1 per 2 students)
- Pulley with clamp for table edge (1 per 2 students)
- Resonance tube, 50 cm (1 per 2 students)

- Ring clamp (1 per 2 students)
- Ring stand (1 per 2 students)
- Ring stand screen (1 per 2 students)
- Ring, 4" (1 per 2 students)
- Ripple tank assembly, complete (1 per classroom)
- Ripple tank wave generator (1 per classroom)
- Slotted weights set (1 per 2 students)
- Stop watch (1 per 2 students)
- Stroboscope (1 per classroom)
- Trajectory apparatus (1 per 2 students)
- Tuning fork set, 256 Hertz and above (1 per 2 students)
- Voltmeter triple range: 0-1.5, 3, 30A (1 per 2 students)
- Weight hangers (1 per 2 students)

Small Equipment

- Ball and ring (1 per classroom)
- Beakers, Pyrex, 400 mL (1 per 2 students)
- Beakers, Pyrex, 600 mL (1 per 2 students)
- Bimetallic strip (1 per classroom)
- Carbon paper (2 packages per classroom)
- Compasses, magnetic (2 per student)
- Cylinder, graduated, 10 mL (1 per 2 students)
- Cylinder, graduated, 50 mL (1 per 2 students)
- Cylinder, graduated, 500 mL (1 per 6 students)
- Cylinder, graduated, 1000 mL (1 per 6 students)
- Eye dropper (1 per student)
- Friction block with hook (1 per 2 students)
- Friction pads, fur (1 per 2 students)
- Friction pads, silk (1 per 2 students)
- Friction pads, wool (1 per 2 students)
- Handbook of Physical Constants (1 per classroom)
- Iron filings (1 box per classroom)
- Magnet, horseshoe (1 per classroom)
- Magnets, bar (1 per student)
- Magnets, bar, pair (1 per classroom)
- Mass, known specific heat, metal, small (1 per 2 students)
- Mass, unknown specific heat, metal, small (1 per 2 students)
- Nail, large iron (1 per 2 students)
- Nylon thread (1 spool per classroom)
- Paper clips (10 per student)
- Paper, white craft (1 roll per classroom)
- Pendulum bob (1 per 2 students)
- Pith ball pair, graphite or metal coated (1 per 2 students)
- Polarized lens (1 per classroom)
- Prism (1 per classroom)

- Pr otractor (1 per 2 students)
- Recor der timer (1 per 2 students)
- Recor der timer carbon discs (1 package per 2 students)
- Recor der timer tape (1 per 2 students)
- Resistors 2 @ 5 ohms power rating, 5 - 10 watts (1 per 2 students)
- Resistors 2 @ 10 ohms power rating, 5 - 10 watts (1 per 2 students)
- Resistors 2 @ 15 ohms power rating, 5 - 10 watts (1 per 2 students)
- Resistors 2 @ 30 ohms power rating, 5 - 10 watts (1 per 2 students)
- Rods, r ubber (1 per 2 students)
- Rods, glass (1 per 2 students)
- Ruler , metric (1 per 2 students)
- Scale, spring 2.5N (1 per 2 students)
- Scale, spring 10N (1 per 2 students)
- Scale, spring, 20N (1 per 2 students)
- Scr ew driver (1 per 2 students)
- Slinky (1 per 2 students)
- Switch, knife blade (1 per 2 students)
- Tag board (1 per 2 students)
- Thermometers, Celsius, -2 - 110 degrees, alcohol (1 per 2 students)
- T racing paper (1 per 2 students)
- T wine, heavy cotton (1 ball per classroom)
- Wave motion rope (1 per 2 students)
- Wire, Copper, insulated, 18 gauge (100 m per classroom)

Audiovisuals

CD ROMs (1 set per classroom)

- Illustrations of Laws of Thermodynamics
- Photo Electric Effect
- Role of electromagnetic spectrum

Charts (1 per classroom)

- Electromagnetic spectrum
- Periodic Table of Elements
- Meter stick (1 per 2 students)

Consumables

- Dry ice
- Sheets of cardboard
- W ax

Outdoor Field Area

- Natural site for observation
- Local area: native plants, including trees, shrubs, grasses, with a water source for animals.

Safety Equipment

Required

- Apr ons (1 per student)
- Eye / face wash (2 per laboratory)
- Fire blanket (1 per classroom)
- Fire extinguisher (1 per laboratory)
- First-aid kit (1 per laboratory)
- Materials Safety Data Sheets (1 per school)
- Safety goggles, splash-proof (1 per student)
- Safetygoggle disinfecting materials or equipment (1 set per laboratory)

Recommended

- Transport cart (1 per laboratory)
- Sink (1 per 4 students)

*Required lists are specified by TEKS at this grade level.

**Recommended lists were generated by analyzing the concept TEKS at each grade level. We encourage teams of teachers at local levels to make decisions regarding the needs of their individual science programs.

GEOLOGY, METEOROLOGY, OCEANOGRAPHY

MATERIALS AND SAFETY EQUIPMENT

Laboratory and Field Materials

Recommended Equipment

Large Equipment

- Balances, triple beam (1 per 2 students)
- Calculators, and software (1 per student)
- Clock with second hand (1 per classroom)
- Computer probes (1 per 2 students)
 - temperature
 - light
 - magnetic
- Computer (1 or more per classroom)
- Containers for hot water baths (3 per classroom)
- Hot plate (1 per classroom)
- Stream table kit (1 per classroom)

Small Equipment

- Air pollution kit (1 per 2 students)
- Beakers, 250 mL Pyrex (1 per student)
- Beakers, 400 mL Pyrex (1 per student)
- Eye dropper (1 per student)
- Cylinder, graduated, 100 mL (1 per 2 students)
- Lamps, aluminum reflector (1 per 2 students)
- Mineral cleavage kit (1 per 2 students)
- Mineral samples (1 set per 2 students)
- Moh's hardness sample kit (1 per 2 students)
- Overflow can (1 per 2 students)
- Rock Type Sets: sedimentary, igneous, and metamorphic (1 set per 2 students)
- Rock samples: dolomite, limestone (1 per 2 students)
- Rulers, metric (1 per student)
- Streak plates (1 per student)
- Syracuse staining dish, 64 mm (1 per 2 students)
- Thermometers, alcohol (2 per student)
- Tongs, beaker (1 per 2 students)

Living and Preserved Specimens

- Aquatic and terrestrial plants

Software and CD-ROMs (1 per 4 students)

- Historical development of Earth's formation
- Historical development of plate tectonics and methods of verification
- Origin of fossil fuels and their environment and economic impact

- Space Age discoveries about planets
- Tides, bores and tsunamis

Audio-Visuals

- Charts, Ocean Floor (1 per classroom)
- Earthquake Epicenter Bulletin, U.S. Government Printing Office (1 subscription per classroom)

Maps, wall (1 per classroom)

- Earthquake watch kit, Pacific-centered,
- Climatic data from cities in each climatic zone (1 per student)
- Local water resources, average annual rainfall, etc.
- World, relief
- Earth's climatic zones

Consumables

- Clay, modeling
- Containers, plastic or glass, circular
- Cups, Styrofoam
- Food coloring
- Phenyl Salicylate, (100 grams per classroom)
- Salt
- Soil, potting
- Straws, clear

Outdoor Field Area

- Natural site for observation
- Local area: native plants, including trees, shrubs, grasses, with a water source for animals

Safety Equipment

Required

- Aprons (1 per student)
- Eye/face wash (3 per laboratory)
- Fire blanket (1 per laboratory)
- Fire extinguisher (1 per laboratory)
- Materials Safety Data Sheets (1 set per laboratory)
- First-aid kit (1 per laboratory)
- Safety goggles, splash-proof (1 per student)
- Safety goggle disinfecting materials or equipment (1 set per laboratory)

Recommended

- Transport cart (1 per laboratory)
- Sink (1 per 4 students)