

Level Five Science

Scientific Investigation

	Sample Activity No.
Identify the Problem	
Identify problems that can be solved by conducting experiments. ....	.5644, 5645
Plan the Experiment	
Create a written plan for an experiment. ....	.5646, 5647
Conduct Scientific Experiments	
Design/conduct a scientific experiment within the rules and ethics of science. ....	.5648, 5649
Collect and Organize Data	
Collect data to support the result of an experiment. ....	.5650, 5651
Record Observations	
Keep records of observations during an experiment. ....	.5652, 5653
Unexpected Findings	
Explain that scientific experiments can result in unexpected findings leading to new questions and experiments. ....	.5580, 5654, 5655
Control Groups in Experiments	
Design and conduct an experiment incorporating the use of a control group. ....	.5656, 5657
Time Line of Scientific Events	
Develop a time line of major events and people in history of science, that includes major events in other fields. ....	.5658, 5659

Changes in Matter

Structural Components of Atoms	
Identify electrons, protons, and neutrons as basic structural components of atoms. ....	.5660, 5661
Construction of Matter	
Know that matter is made of atoms that may join to form molecules and compounds, and that the state of matter is determined by the motion of molecules. ....	.5662, 5663
Elements	
Know that elements have atoms of only one kind and that elements can be organized in systematic way. ....	.5664, 5665
Periodic Table	
Understand the basics of a periodic table: elements and their symbols; atomic numbers equal number of protons in each atom; table divided into metals and nonmetals. ....	.5666, 5667
Characteristics of Electricity	
Identify electricity as the flow of electrons: positive pole (terminal) and negative pole (terminal). ....	.5668, 5669
Unit of Electrical Force	
Learn about voltage (the force that makes electrons flow), volt (the unit of electrical force, or push), alternating current (AC), direct current (DC), and alternator. ....	.5670, 5671
Electrical Measurement	
Know how electricity is measured: volts, amps (amperage), ohms, Ohm's law: volts = amps x ohms. ....	.5672, 5673
Electric Power	
Know how electric power is measured: watts (wattage), volt x amp = watt. ....	.5687, 5688
Conductors and Insulators	
Know the difference between conductors and insulators. ....	.5675, 5676
Structure of Circuits	
Know the structure of simple electrical circuits: closed circuit, open circuit, short circuit. ....	.5677, 5678
Series and Parallel Circuits	
Demonstrate principles of series and parallel electrical circuits. ....	.5679
Electrical Resistance and Ohms	
Understand electrical resistance and the use of ohms. ....	.5681
Electrical Safety	
Learn about electrical safety. ....	.5683, 5684

Level Five Science

Changes in Matter

continued

Michael Faraday

Sample Activity No.

Describe the scientific contribution of Michael Faraday.5685, 5686

Thomas Edison

Describe the scientific contribution of Thomas Edison.5674

Light

Light as Energy

Know that light is a form of energy, and that the speed of light is 186,000 miles per second.5689, 5690

Characteristics of White Light

Describe basic characteristics of white light: visible spectrum, light waves, reflection, refraction.5691, 5692

Opaque/Transparent/Translucent

Describe basic characteristics of white light: opacity, transparency, translucence.5693, 5964

Light Measurement

Know how light is measured: wavelengths, frequency, cycle.5695, 5696

Light Interaction with Matter

Show how light is reflected, refracted, or absorbed when it interacts with matter and how colors appear as a result.5697

Reflections of Light

Describe use and basic design of kaleidoscopes, flashlights, and mirrors.5699, 5540

Describe use and basic design of eyeglasses, prisms, and cameras.5541, 5542

Optics and Magnifiers of Light

Describe use and basic design of binoculars, microscopes, and telescopes.5543, 5544

Lasers and Photocopiers

Describe use and basic design of lasers, and photocopiers.5545, 5546

Organisms

The Smallest Unit of Life

Identify the cell as basic unit of life and smallest unit that can reproduce itself.5547, 5548

Characteristics of a Cell

Describe the structure and function of cell parts: cell membrane, cytoplasm, mitochondria, ribosomes.5549, 5550

Function of Cell Parts

Describe the function of cell parts: nucleus, nuclear membrane, vacuoles, endoplasmic reticulum.5551, 5552

Single and Multi-celled Organism

Give examples of single-celled and multicellular organisms.5553, 5554

Plant and Animal Cells

Identify similarities and differences between plant and animal cells.5555, 5556

Parts of a Microscope

Describe simple compound microscope: eyepiece, ocular tube, coarse adjustment knob, fine adjustment knob, arm, base, mirror, aperture or diaphragm, stage, low-power and high-power objective lenses.5557, 5558

Ernest Just

Describe the scientific contribution of Ernest Just.5559, 5560

Classifying Living Things

Five Major Kingdoms

Describe the five major kingdoms: Monera, Protista, Fungi, Plantae, Animalia.5563, 5564

Method to Classifying

Learn classifications of living things: kingdom, phylum, class, order, family, genus, species; and the work of Carolus Linnaeus.5561, 5562

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud.

2. The second part of the document outlines the various methods used to collect and analyze data. It describes the use of statistical techniques to identify trends and anomalies in the data, and the importance of using reliable sources of information.

3. The third part of the document discusses the role of the auditor in the process. It explains that the auditor's primary responsibility is to provide an independent and objective assessment of the financial statements. This involves a thorough review of the records and a comparison of the results with the applicable accounting standards.

4. The fourth part of the document discusses the importance of transparency and accountability in the financial system. It argues that the public has a right to know how their money is being spent, and that this information should be made available in a clear and accessible format.

5. The fifth part of the document discusses the role of the government in the financial system. It explains that the government has a responsibility to ensure that the financial system is fair and equitable, and that it is able to provide the services that are needed by the public.

6. The sixth part of the document discusses the importance of education and training in the financial system. It argues that the public needs to be educated about the risks of fraud and the importance of using their money wisely. This can be done through a variety of means, including public information campaigns and the development of educational materials.

7. The seventh part of the document discusses the importance of international cooperation in the financial system. It explains that the financial system is a global one, and that it is essential for countries to work together to address the challenges that it presents. This includes the need to share information and to coordinate efforts to prevent and detect fraud.

8. The eighth part of the document discusses the importance of innovation in the financial system. It argues that the financial system needs to be able to adapt to changing circumstances and to provide new services that meet the needs of the public. This can be done through the development of new technologies and the creation of new financial products.

9. The ninth part of the document discusses the importance of the legal system in the financial system. It explains that the legal system provides the framework within which the financial system operates, and that it is essential for the system to be able to enforce the rules that govern it. This includes the need for a strong and independent judiciary and for the development of clear and enforceable laws.

10. The tenth part of the document discusses the importance of the financial system in the overall economy. It explains that the financial system is a key component of the economy, and that it plays a vital role in the allocation of resources and the creation of jobs. It is essential for the financial system to be able to function effectively and to provide the services that are needed by the public.

Level Five Science

Life Cycle and Reproduction

	Sample Activity No.
Life Cycle of a Plant	
Identify the life cycle of covered-seed (flowering) plants: fertilization, embryo, endosperm, seed coat, germination, plant growth, flowers, new seeds. ....	.5567, 5568
Reproduction of a Plant	
Investigate reproduction of covered-seed (flowering) plants: petals, stamen, anther, pistil, ovule, ovum, pollen, pollination, pollen tube, ovary, embryo, germination, fruit. ....	.5565, 5566
Life Cycle of Naked-Seed Plant	
Identify the life cycle of naked-seed (conifer) plants: pollen, seed, male and female cones. ....	.5569, 5570
Common Pollen Carriers	
Identify common pollen carriers: insects, birds, wind. ....	.5571, 5572
Reproduction of Non-seed Plant	
Investigate reproduction of non-seed (moss, fern) plants (spores). ....	.5573, 5574

Weather

Weather and Climate	
Differentiate between weather and climate. ....	.5611, 5620
The Water Cycle	
Describe hydrologic cycle and role of evaporation, precipitation, and condensation of water in atmosphere. ....	.5615, 5601
Layers of the Atmosphere	
Know that the Sun and Earth heat the atmosphere and that atmosphere has layers: troposphere, stratosphere, mesosphere, ionosphere, and exosphere. ....	.5616, 5617
Classification of Clouds	
Classify clouds (cirrus, stratus, cumulus, cumulonimbus) by composition, height, and type of precipitation. ....	.5636, 5637
Instruments to Collect Data	
Use weather instruments to collect data and measure air temperature (thermometer), precipitation (rain gauge), and wind speed (anemometer). ....	.5613, 5638
Air Pressure and Humidity	
Use weather instruments to collect data and measure air pressure (barometer) and humidity (hygrometer). ....	.5629, 5639
Identify Pressure Systems	
Identify pressure systems, fronts, and other features on weather maps and charts. ....	.5618, 5640
Develop Forecasts	
Develop forecasts using pressure systems, fronts, and other features on weather maps. ....	.5641, 5642
The Earth's Climate Zone	
Describe Earth's climate zones and what causes each. ....	.5612, 5634
Meteorology	
Describe meteorology as a field of study. ....	.5635, 5614

Forever Changing Earth

Earth's Interior	
Study basic structure of Earth's interior: crust, mantle, outer core, inner core. ....	.5619, 5602
Plate Tectonics	
Explain that some changes in Earth's surface are due to plate tectonics. ....	.5633
Measuring an Earthquake	
Define: tsunamis, seismograph, and the Richter scale. ....	.5606, 5607
Results of an Earthquake	
Identify what happens in an earthquake, major faults, fault zones, Mid-Atlantic Ridge. ....	.5621, 5603
Changes of Earth's Surface	
Learn that changes on Earth's surface are from forces acting upon it. Explain volcano's structure: magma, lava, active, dormant, extinct. Locate the Ring of Fire. ....	.5622, 5610

Level Five Science

Forever Changing Earth

continued

Continental Drift and Pangaea

Sample Activity No.

Learn how heat flow and movement within Earth move the continents. Describe continental drift and Pangaea.5604, 5623, 5605

Volcanoes and Folded Mountains

Understand how volcanic mountains and folded mountains are formed.5609

Mountains and Ocean Basins

Learn how plate movement creates mountains and ocean basins, and how fault-block mountains and dome-shaped mountains are formed, and about the Mariana Trench.5625, 5632

Rocks and Fossils Tell a Story

Learn how rocks and fossils record events of Earth's history, documenting plate movements, volcanic eruptions, erosion and deposition.5643, 5626

Ice Cores and Tree Rings

Learn how ice cores and tree rings record events of Earth's history, documenting plate movements, volcanic eruptions, erosion, and deposition.5630, 5627

Geology

Describe geology as a field of study.5628, 5631

Human Body

Body and Mind

Identify personal interests, capabilities, values, personal strengths, weaknesses, and ways to maximize strengths. Describe conditions that contribute to disease: contaminated food or water, lack of immunization, poor nutrition, improper hygiene, lack of sleep and rest.56021, 56022, 56023, 56025, 56027, 56028, 56029, 56030, 56031, 56032, 56033, 56034, 56035