

Science
Instructional Focus
Fourth Grade

Field and Laboratory Investigations: Environmentally Appropriate and Ethical (1 A, B)

- Demonstrate safe practices during field and laboratory investigations
- Use and conserve resources and dispose or recycle materials

Scientific Inquiry: Field and Laboratory (2 A-E)

- Plan and implement descriptive investigations-ask well-defined questions, formulate hypotheses, select and use equipment and technology
- Collect information-observe and measure
- Analyze and interpret information to construct explanations from direct and indirect evidence
- Communicate valid conclusions
- Construct graphs, tables, maps, charts to organize, examine, evaluate information

Critical Thinking, Problem Solving, and Decision Making (3 A - E)

- Analyze, review, critique scientific explanations, hypotheses, theories as to strengths and weaknesses
- Draw inferences on promotional materials for products and services
- Represent natural world using models, identify limitations of models
- Evaluate research on scientific thought, society, environment
- Connect science concepts with history of science and contributions of scientists

Tools (4 A, B)

- Collect and analyze information using tools
- Demonstrate repeated investigations increase reliability of results

Can Change Create Recognizable Patterns (6 A - C)

- Identify patterns of change
- Illustrate certain characteristics of objects can remain constant when rotated, translated, reflected
- Use reflection to verify symmetry

Past Events Affect Present and Future Events (10 A, B)

- Identify and observe effects of events that require time for changes to be noticeable
- Draw conclusions about "what happened before"

Physical Properties of Substances (7 A, B)

- Observe and record changes in states of matter caused by heat
- Conduct tests, compare data, draw conclusions about physical properties of matter-state, conduction, density, buoyancy

Complex Systems and Parts (5 A, B)

- Identify and describe roles of organisms in living systems and parts in nonliving objects
- Predict and draw conclusions when part of a system is removed

Likeness Between Offspring and Parents Inherited or Learned from Parents (9 A, B)

- Distinguish between inherited traits and learned characteristics
- Identify and provide examples of inherited traits and learned characteristics

Adaptations Increase Survival of Members of a Species (8 A - C)

- Identify characteristics that allow members of a species to survive and reproduce
- Compare adaptive characteristics of species
- Identify kinds of species that lived in the past, compare to existing species

Natural World: Earth Materials and Objects in the Sky (11 A - C)

- Test properties of soils
- Summarize effects of oceans on land
- Identify Sun as major energy source