

4th Grade SC Ready SCIENCE ALIGNMENT

Standard: 4.E.2 – Earth materials and resources

- Geology & mining (Land of Revolutions)

Student Connections:

- Real examples of minerals and mining impact
- Connect natural materials to local economy
- Draw connection to using natural resources as energy sources

Field Trip Turn and Talk:

“How are natural resources used by people?”

Standard: 4-PS3-4. Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.

- Multiple Exhibits (STEM Lab/Kids Zone)
- Careers in STEM (STEM Lab/Kids Zone)
- Play by Play (Sports Zone/Hall of Fame)
- Football helmet designs over the years (Sports Zone/Hall of Fame)

Student Connections:

- Hands-on exploration and experimental design to problem solve
- Observations and Hypotheses

Field Trip Turn and Talk:

“What did you investigate today?”

Standard: 4-PS3-1. Use evidence to construct an explanation relating the speed of an object to the energy of that object.

Standard: 4-PS3-2. Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.

Standard: 4-PS3-3. Ask questions and predict outcomes about the changes in energy that occur when objects collide.

- Air Rockets (STEM Room)
- Air Cars (STEM Room)
- Golf, baseball, basketball (Sports Zone/Training Room)
- Gravity as a force (Sports Zone/Training Room)
- Punching Machine (Sports Zone/Training Room)
- Instruments (Arts Experience Room)

Student Connections:

- Movement, speed, physical performance
- Directly connect energy to speed and distance
- Explore collisions and energy transfers
- Transfer energy to create sound evidence
- Easy real-world connections

Field Trip Turn and Talk:

“Think about one activity you did today. How was energy transferred, and how did that energy cause motion? Did anybody observe energy transfer during a collision?”

Standard: 4-PS3-2. Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.

Standard: 4-PS3-4. Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.

- Circuit Boards (STEM Room)

Student Connections:

- Hands on application of closed circuits and energy transfer
- Real world applications
- Engineering Career applications

Field Trip Turn and Talk:

“How did energy move through the circuit board, and how did the device change that energy into something you could see, hear, or feel? What is one way the design could be improved to make it work better?”

Standard: 4-ESS1-1. Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.

- Fossil found in Gaffney (Teleporter Room)

Student Connections:

- Fossil evidence that landscape changes over time

Field Trip Turn and Talk:

“What does this example remind you of from our fossil study in class?”

Standard: 4-ESS2-2. Analyze and interpret data from maps to describe patterns of Earth’s features.

- Maps on display (Archives)

Student Connections:

- Practice reading maps

Field Trip Turn and Talk:

“What formations were you able to identify on a map?”

Standard: 4-ESS2-1. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.

Standard: 4-ESS3-2. Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.

- “Tropical Storms” Video (Immersive Theatre)
- “Deep Into the Ocean” Video (Immersive Theatre)
- Tornado Simulation (Teleporter Room)

Student Connections:

- Natural disasters and effects on the landscape
- Landscapes change over time

Field Trip Turn and Talk:

“What’s one take away for you about natural disasters after visiting this room?”

Opportunities for ELA INTEGRATION

- Sports in the 20th Century Timeline (Sports Zone: Hall of Fame)
- Revolutionary War Timeline (Land of Revolutions)
- Family Name Timeline (Land of Revolutions)
- Idioms in Colonial Times (Land of Revolutions)
- Role Play Opportunities with Costumes included (Land of Revolutions)
- Colonial Game “Rebus” (Land of Revolutions)