SCHEDULE

Monday July 8
Driving Question: What was the environment of Earth like in the past?
Learning Goals:
• Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.
• Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, vegetation.
• Model effective science, engineering, and literacy integration.
Activities:
• Welcome, introductions, background, and context
• Assessment summary 2018 and pre-workshop assessments 2019
• Earth’s Features (Amplify Science)
• Daily assessment/reflection

Tuesday July 9
Driving Question: What was the environment of this place like in the past?
Learning Goals:
• Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, vegetation.
• Analyze and interpret data from maps to describe patterns of Earth’s features
• Model effective science, engineering, and literacy integration.
• Construct an open-ended, engaging driving question that effectively drives a PBL unit.
Activities:
• Earth’s Features (Amplify Science)
• Interpreting evidence
• Daily assessment/reflection
Wednesday July 10

Driving Question: How can we, as biomedical engineers, design and build prosthetic limbs for animals and humans?

Learning Goals:

- Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.
- Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time, or cost.
- Model effective science, engineering, and literacy integration.
- Successfully complete a digital fabrication task.

Activities:

- Bionic Animals (Picture Perfect STEM Lessons)
- Visit to think[box] – tour and task
- Daily assessment/reflection

Note: CWRU will be offering an All-American BBQ for lunch with musical artist Cellocentric.

Thursday July 11

Driving Question: How can engineers create materials for wound dressing?

Learning Goal:

- Analyze data from testing different materials to determine which materials have the properties that are best suited for an intended purpose.

Activities:

- Concentrations and dilutions
- Hydrogels

Note: University Hospitals hosts the North Union Farmers Market every Thursday. Worth checking out.

Friday July 12 (We will meet at the Cleveland Museum of Natural History at 10 am)

Driving Question: How can we use fossils to uncover Earth’s changing past?

Learning Goals:

- Use fossil evidence to reconstruct the history of mammals in South America
- Connect the work of vertebrate paleontologists with researchers studying terrestrial organisms and ecosystems.
- Develop at least one grade-level specific driving question based on the resources at the Cleveland Museum of Natural History.

Activities:

- Tour of South American mammal exhibit with Darin Croft, Ph.D., Department of Anatomy, School of Medicine
- Book discussion: Horned Armadillos and Rafting Monkeys
- Tour of Fossil Hunters exhibit with Denise Su, Ph.D., Director of Partnerships and Programs; Curator of Paleobotany and Paleoecology.
- PBL²: Self-paced tour using place-based learning to develop driving questions for project-based learning
- Daily assessment/reflection
- Post-assessments 2019