Grout Museum District

Teacher Tour Information

Before Your Visit

- Let the students know what to expect during their visit to the District and discuss with them what standards of behavior you expect from them, such as raising hands to speak, inside voices, and walking feet.
- If you are participating in a science demonstration or class, discuss some of the science concepts that will be presented.
- Please note that the information provided in District tours, demonstrations, and classes are meant to supplement prior content knowledge and provide application opportunities.

Upon Arrival

- **Arrival:** Programs begin promptly as scheduled, so please be on time. Call the District if you believe you will be arriving late.
- **Orientation:** The staff will give a brief orientation to welcome students to the District, discuss suitable behavior, and outline the tour activities.
- **Guided/Self-Guided Tours:** If needed, help students read signage and use the exhibits as they were intended. *1 adult for every 8 children is required, and **must** stay with those 8 children at all times.*
- **Planetarium, Demonstrations, and Classes:** Please encourage students to volunteer when we ask for help and facilitate proper classroom behavior.

Before You Leave

- Be sure to collect all belongings and personal items before leaving.
- Tour evaluations are available through our booking staff.

Pricing

- $4 per student, per program *(If you select "Pioneer Hall," "Wonders of the Sky," and "Victorian Life," it will be $4 per student for each of the 3 programs; $12 per student total)*.
- "Day-Aways": Buy 4 tours and get a 25% discount ($12 per child)–*4 for the price of 3!* Day-Aways are subject to scheduling availability.

Locations

- The Grout Museum of History & Science And Sullivan Brothers Iowa Veterans Museum (**SBIVM**) Share a building: 503 South St., Waterloo Iowa, 50701. The Planetarium is also located in this building.
- The Imaginarium is located at 322 Washington St, Waterloo, IA 50701, just down the street from the Grout Museum Building. The Rensselaer Russell House Museum (**RRHM**) is directly next to the Imaginarium.

(TOUR INFORMATION BEGINS ON FOLLOWING PAGE)

GROUT MUSEUM DISTRICT

Tour	Grades	Standards
Civil, Spanish American Wars & WWI Sullivan Brothers & WWII Korean & Vietnam Wars Gulf War & Modern Conflicts (SBIVM)	1 - 6+	***SS.3.11.** Provide examples of historical and contemporary ways that societies have changed. (21st century skills) ***SS.3.22.** Compare and contrast events that happened at the same time. ***SS.3.23.** Compare and contrast conflicting historical perspectives about a past event or issue **SS.3.24.** Infer the intended audience and purpose of a primary source using textual evidence. **SS.3.25.** Explain probable causes and effects of events and developments. ***SS.3.26.** Develop a claim about the past based on cited evidence. **SS-US.9-12.26** Determine multiple and complex causes and effects of historical events in American history including, but not limited to, the Civil War, World War I and II, the Korean War and the Vietnam War. **SS-US.9-12.21** Analyze change, continuity and context across eras and places of study from civil war to modern America. **SS-US.9-12.20** Analyze the growth of and challenges to U.S. involvement in the world in the post-World War II era. **SS-US.9-12.19** Examine how imperialism changed the role of the United States on the world stage prior to World War I.
Science of War (SBIVM)	4 - 6+	Newton's 3 laws of motion, projectiles, combustion, fuel, angular momentum, rifling, conservation of momentum, rocketry
Victorian Life (RRHM)	2 - 6+	Learn about the customs, styles, and classes of the Victorian Era.

Dinosaurs and Fossils (GROUT MUSEUM)	2 - 5	**3–LS4–1** Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago **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.
Pioneer Hall (GROUT MUSEUM)	K - 6+	**SS.3.27.** Analyze the movement of different groups in and out of Iowa, including the removal and return of indigenous people. **SS.3.12.** Use historical examples to describe how scarcity requires a person to make choices. **SS.3.11.** Provide examples of historical and contemporary ways that societies have changed. (21st century skills) **SS.3.16.** Describe how people take risks to improve their family income through education, career changes and moving to new places.
Native Americans (GROUT MUSEUM)	K - 6+	**SS.3.11.** Provide examples of historical and contemporary ways that societies have changed. **SS.3.12.** Use historical examples to describe how scarcity requires a person to make choices. **SS.3.19.** Create a geographic representation to explain how the unique characteristics of a place affect migration. **SS.3.27.** Analyze the movement of different groups in and out of Iowa, including the removal and return of indigenous people.

Immigration (GROUT MUSEUM)	2 - 6+	**SS.3.8.** Describe the effects, opportunities, and conflicts that happened when people from different social groups came into contact with each other. **SS.3.11.** Provide examples of historical and contemporary ways that societies have changed. (21st century skills) **SS.3.12.** Use historical examples to describe how scarcity requires a person to make choices. **SS.3.13.** Identify how people use natural resources, human resources, and physical capital to produce goods and services **SS.3.16.** Describe how people take risks to improve their family income through education, career changes and moving to new places. **SS.3.22.** Compare and contrast events that happened at the same time. **SS.3.27.** Analyze the movement of different groups in and out of Iowa, including the removal and return of indigenous people.
Greek Mythology (GROUT MUSEUM-PLANETARIUM)	K - 6+	**SS.3-5.G.2** Understand language, stories, folktales, music and artistic creations serve as expressions of culture and influence behavior of people. **S.3-5.ES.5** Understand and apply knowledge of the properties, movements, and locations of objects in our solar system.
Native American Mythology (GROUT MUSEUM-PLANETARIUM)	K - 6+	**SS.3-5.G.2** Understand language, stories, folktales, music and artistic creations serve as expressions of culture and influence behavior of people. **S.3-5.ES.5** Understand and apply knowledge of the properties, movements, and locations of objects in our solar system.
Wonders of the Sky (GROUT MUSEUM-PLANETARIUM)	K - 6+	**SS.3-5.G.2** Understand language, stories, folktales, music and artistic creations serve as expressions of culture and influence behavior of people. **S.3-5.ES.5** Understand and apply knowledge of the properties, movements, and locations of objects in our solar system.

Wild Weather (IMAGINARIUM)	K - 6	**K-ESS3-2** Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.* **MS-ESS2-5** Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions.
Under Pressure (IMAGINARIUM)	K - 6	**HS-ESS2-3** Develop a model based on evidence of Earth's interior to describe the cycling of matter by thermal convection.
Marvelous Minerals (IMAGINARIUM)	3 - 6	Objects have observable properties that can be measured, objects can be sorted by materials that make them up, states of matter, changes in states of matter as a result of heating or cooling
K'Nex (IMAGINARIUM)	3 - 6	Simple and compound machines, fair tests, scientific inquiry, engineering design and application
Chemical Clock Reaction (IMAGINARIUM)	3 - 6	Characteristic substance properties including density, boiling point, solubility; substance mixture; chemical reactions; compounds; total mass; periodic table of elements; reaction time; concentration
"Bubbles" Demonstration (IMAGINARIUM)	K - 3	Surface tension, friction
"Kitchen Science" Demonstration (IMAGINARIUM)	K - 6	Fire, air pressure, acid/base reactions, chemical reactions
"Combustion" Demonstration (IMAGINARIUM)	K - 6	Fire, oxygen, temperature, fuel, explosions/ concussions
"Newton's Playground" Demonstration (IMAGINARIUM)	K - 6	**MS-PS2-2** Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object. **MS-PS2-1** Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects.*

“Charge It Up” Demonstration (IMAGINARIUM)	K - 6	Positive and negative charges, generating electricity, Tesla coil and Van de Graff generator
“Super Cold” Demonstration (IMAGINARIUM)	K - 6	Liquid Nitrogen Experiments: Phase changes, temperature, contraction/expansion