

The Field Trip

The Denver County Elementary Second Grade Team has been studying Earth System Science. Students will concentrate on the Earth's weather and how changing seasons impact organisms, along with how weather patterns change throughout the year. Students also analyze the change in temperatures according to the location of the sun.

In order to compare and contrast how the Earth's temperature and weather patterns are different from other planets, students will go onto a field trip to The Denver Museum of Nature and Science: *Destination Solar System*. Students will screen an IMAX film that takes them on a journey through the Solar System.

This field trip occurs at the end of the year in May and will prepare second grade students to apply their knowledge gained as they prepare for third and fourth grade science standards. The field trip will consist of three and half hours of museum time (including lunch), one and a half hours of logistics, and two hours of classroom time.

The contact number to book field trips is **303.370.6000**. It is best to plan a field trip several months ahead to ensure the best locations and opportunities for the class.

Rationale

Students will be able to compare and contrast, in writing, Earth's weather patterns and temperatures to other planets in the solar system using content vocabulary with the help of a graphic organizer.

The IMAX film is 30 minutes in length. (one hour for logistical purposes)

After the IMAX film, the class will visit *The Discovery Zone*. This area of the museum is free of charge and students will be able to explore their many interests in science. This hands-on exhibit is described as: (one hour)

Exhibits, activities, and programs focus on the science process skills, such as observing, quantifying, inquiring, analyzing, creating, and communicating. The gallery provides experiences that expose early learners to basic science concepts in physical science, life science, earth and space sciences, math, and human culture, engaging them in open-ended play and experimentation.

Then, to end the field trip, students will have a choice on which free exhibit they'd like to visit. They may choose from Earth Science or Life Science: (one hour)

Earth Science: Prehistoric Journey
Life Science: Wildlife Exhibits

Second Grade Standards

Evaluate evidence that Earth's geosphere, atmosphere, hydrosphere, and biosphere interact as a complex system

- Use evidence to develop a scientific explanation for how the weather and changing seasons impacts the organisms such as humans, plants, and other animals - and the environment (DOK 1-3)
- Analyze and interpret data such as temperatures in different locations (Sun or shade) at different times and seasons as evidence of how organisms and the environment are influenced by the weather and changing seasons (DOK 1-3)
- Analyze ways in which severe weather contributes to catastrophic events such as floods and forest fires (DOK 1-2)

Organisms depend on their habitat's nonliving parts to satisfy their needs.

- Use evidence to develop a scientific explanation about how organisms depend on their habitat. (DOK 2-3)
- Analyze and interpret data about nonliving components of a habitat (DOK 1-2)
- Assess and provide feedback on other scientific explanations regarding why an organism can survive in its habitat (DOK 1-3)
- Use instruments to make observations about habitat components - for example, data can be collected from a fish tank to assess the environmental health (dissolved oxygen, pH, Nitrogen content). (DOK 1-2)

Each plant or animal has different structures or behaviors that serve different functions.

- Use evidence to develop an explanation as to why a habitat is or is not suitable for a specific organism (DOK 1-3)
- Analyze and interpret data about structures or behaviors of a population that help that population survive (DOK 1-2)

Cost and Notification

\$600: \$5 per student plus a packed lunch (extra money for gift shop). A field trip fund will be used and any extra money needed will be collected from the parents/family. Donations will be offered to the museum, as well.

Cafeteria staff must be notified two weeks before the field trip for students who will be given a packed lunch by the school (reduced lunch). This also ensures that the cafeteria staff will not make a hot lunch for the kids who are on the field trip on that day. Other students may bring a brown paper bag lunch of their choice. It must be in

a paper bag to reduce forgotten items during the field trip, no lunch boxes permitted.

Other school departments need to be notified as well: the specials teams, interventionists, and those involved in special testing—these teams will have to update their schedules because so many students will not be at the school.

Student Count and Bus Reservations

120, 60 kids per bus, 8 chaperones per bus. Two buses needed. 3 kids per seat, 2 adults per seat. If overcrowding occurs, some chaperones will be asked to drive their vehicles to the location. An **Excursion Form** must be filled out no later than two months prior to field trip (to ensure there are buses available). The **Excursion Form** is given to the office staff so they can reserve the appropriate transportation. It is very important to plan the field trip and person count in advance.

Chaperones

15-20 (6-8 students per chaperone), no more than 10 students per chaperone is desired. This would average to be 5 parent volunteers per classroom.

Parent volunteers, the principal or assistant principal (if available), paraprofessionals, and teachers account for the chaperone team. Parents and family members are emailed asking for volunteers and chaperones for the field trip. It is always a good idea to begin this task as soon as possible to ensure the appropriate amount of volunteers.

Student Groups

Student groups will be formed primarily on their interest in Earth Science or Life Science—then friendships, leadership, and parent volunteers. Some children may want their parent to be their chaperone, however, other children may not. It is important to consult the child and parent to come to a solution on student grouping as well as teacher input. Teachers must make this the best experience possible for students.

There is a Chaperone sheet with school contact information, teacher contact information, and a list of students. Each chaperone will be given this sheet to know their assigned student group, along with contact information in case of an emergency.

Pre-activity Engagement

Students will fill out their Earth portion of their Venn Diagram on weather conditions the day before the field trip. Teacher will give precise direction: Students must choose a planet from the film, *Destination Solar System*, and write down the

weather conditions from their chosen planet after the film when we return to school.

Students will be given a review on content vocabulary: geosphere, atmosphere, hydrosphere, and biosphere.

Students will also be asked if they'd like to attend the Prehistoric Journey or the Wildlife exhibit. Students will be given an information sheet to make their choice, along with a sheet of fun facts once their choice is made.

Activity Engagement

Students will choose one planet from the film, *Destination Solar System*, to fill out their chosen planet side of the Venn Diagram. Students will mentally make note of the planet they want to research facts about for the post-activity engagement.

Students will have a fun fact sheet based on their student choice of exhibit: Prehistoric Journey or Wildlife exhibit. Students will choose one activity and real life connection to research from the fun fact sheet. Chaperones will have a bag of pencils for students who wish to take notes on their fun fact sheet.

Post-activity Engagement

Following a 20-minute class discussion about the many things a museum offers a community and a share-out of the class' favorite moments at the museum:

Students will compare and contrast the two planets to complete the Venn Diagram.

Students will label and color a solar system sheet with the help of a teacher model, this will prepare them for future upper-level content for science.

Students will write a short essay about the Prehistoric Journey or Wildlife exhibit. Students will be given a scenario and they must explain, using three sentences why they think that way. Students will answer a real-life question using three sentences, including observational support from the field trip.

The Denver Museum of Nature and science has an activity guide for each exhibit, students will work of the activity guides with the help of a teacher example.

One example question set is from the Wildlife Activity Guide:

Imagine a blizzard just blasted through this region of the wildlife hall, dumping caribou belly-deep snow. Pick a mammal adaptation for surviving the storm. Would you hibernate underground, power your way through drifts on long legs, snowshoe

across the top of the snow, grow a warm coat of white Arctic fox fur, or invent a new adaptation? Explain your choice.

How do you prepare for changes in the seasons?

Content Support: Literacy Connections

The Solar System and Extreme Weather:

You Wouldn't Want to Live Without Extreme Weather by Roger Canavan

Extreme Weather by Leanne Annett

Space Encyclopedia by National Geographic

Prehistoric Life:

What was the Age of the Dinosaurs? by Megan Stine

Paleontology: The Study of Prehistoric Life by Susan Grey

DK Eyewitness Books: Prehistoric Life by William Lindsay

Wildlife:

National Geographic Kids, Animal Records by Sarah Wassner and Kathy Furgang

Wildlife Hidden Pictures by Cheryl Nathan

All Aboard! National Parks: A Wildlife Primer by Haily Meyers and Kevin Meyers

Content Support: Technology and Websites

The Denver Museum of Nature and Science: <http://www.dmns.org/>

NASA Space Place, Planet Extreme Weather: <https://spaceplace.nasa.gov/planet-weather/en/>

Planets for Kids: <http://www.planetsforkids.org/>

National Geographic for Kids: <http://kids.nationalgeographic.com/>

PBS for KIDS Solar System:

http://pbskids.org/designsquad/parentseducators/guides/mission_solar_system.html

PBS for KIDS Wild Life: <http://pbskids.org/wildkratts/games/>

PBS for KIDS Prehistoric Journey: <http://pbskids.org/games/dinosaur/>