Great America Project Kit

Congratulations! You're going to Great America! Use these project ideas to enrich your educational experience in the park. Read through them before you go to make sure you understand the terms and concepts, and to help you determine if you want to expand upon any of them. You'll find fun facts and printable worksheets at the end of this packet.

a- elementary level activity b- middle school level activity c- high school level activity

Language Arts

Great America is full of fun things to do, but there is a lot that goes on behind the scenes. Informational reports are used by staff to detail the workings and conditions of the attractions in the park. Try your hand at writing a professional informational report on one of the attractions.

a. Pick an attraction to do your report on. Draw or write about three details about that attraction (height, color, etc) and whether or not you think it looks safe for guests based on the way it looks.
b. Choose one attraction to do your report on. Detail five specific details of the attraction, like estimated height, paint condition, queue condition, etc. Conclude your report with a recommendation for improvement.
c. Detail ten specific details of the attraction of your choice. Include guest experience ratings, safety ratings, queue management ratings, etc. Conclude your report with your approval and/or recommendations for improvements. Use appropriate letter format to present your report.

Materials required: Notebook, pen/pencil
Submission: A copy of your writings/drawing, and any pictures/videos

Teaching or learning notes:

Applied Math

Math is everywhere! Every single attraction at Great America was created using math. Take a look around and find examples of the math you know.

a. Identify and draw the shapes that you see and where you see them. See if you can find places where simple math equations were used. Document your findings.
b. Identify the math used to create one particular feature in the park. Outline the concepts and principles you see.
c. Identify the math used to create one particular feature in the park. Outline the concepts and principles, and use estimation to perform one of the calculations the builders would have used.

Materials required: Notebook, pen/pencil, calculator or smartphone (optional)
Submission: Your calculations, estimations, and conclusions, and any pictures/videos

Teaching or learning notes:

Science

Check out the physics of rollercoasters! All ride designs utilize the principles of Conservation of Energy, inertia, friction, potential and kinetic energy, and gravity. What makes the fast rides go fast? Why do rides slow down when they are going uphill? Why do you get flung from side to side around corners? What is inertia and what affect does it have on ride physics? How do rides use potential and kinetic energy to keep them going? How is energy “conserved” during the ride? What parts do friction and gravity play? What are Newton’s three laws of motion and can you see them working on the rides?

a. Discuss some of the simpler concepts and try feeling the forces at play on some rides. Compare rides to one another and talk about what goes into building them. Draw one of the rides.
b. Discuss the concepts and identify as many physics concepts as you can on some rides. Compare rides, and then pick one ride at the park to diagram/map and include the forces you can identify to define how that ride works.
c. Discuss the concepts, identify them on some rides, and diagram one of them including its use of physics. Design your own ride using the things you’ve learned.

Materials required: Notebook, pen/pencil
Submission: A copy of your drawings, diagrams, maps, or designs, and any pictures/videos

Teaching or learning notes:

Social Studies

There are a lot of people at Great America! How does an amusement park handle the crowds? What sorts of tools does it employ to manage people and prevent unsafe crowding conditions? What sorts of tools does the park use to limit the number of people who attend the park in a day? What types of attractions does the park utilize to help with crowd control? How do people respond to these tools? Do they notice? How many people do they need to employ to help manage their guests? What affect does the layout of the park have on the movement of people? Can you see these same principles in use in the planning of large cities or other social environments?

a. Notice how many people are in the park. Discuss some of the things Great America does to control crowding and help make each guest's experience pleasurable. Write down or draw the techniques you see and how often you see them being used.
b. Discuss crowd control pre-entrance, during guest stay, and around specific attractions. Analyze the layout of the park and if/why certain features were designed with the purpose of managing crowds.
c. Discuss crowd control and analyze the layout of the park. Discuss the things you've seen in light of larger social environments you've been in. How universal are these techniques? What are your ideas for improving guest experience at Great America?

Materials required: Notebook, pen/pencil
Submission: A copy of your writings/drawings, and any pictures/videos

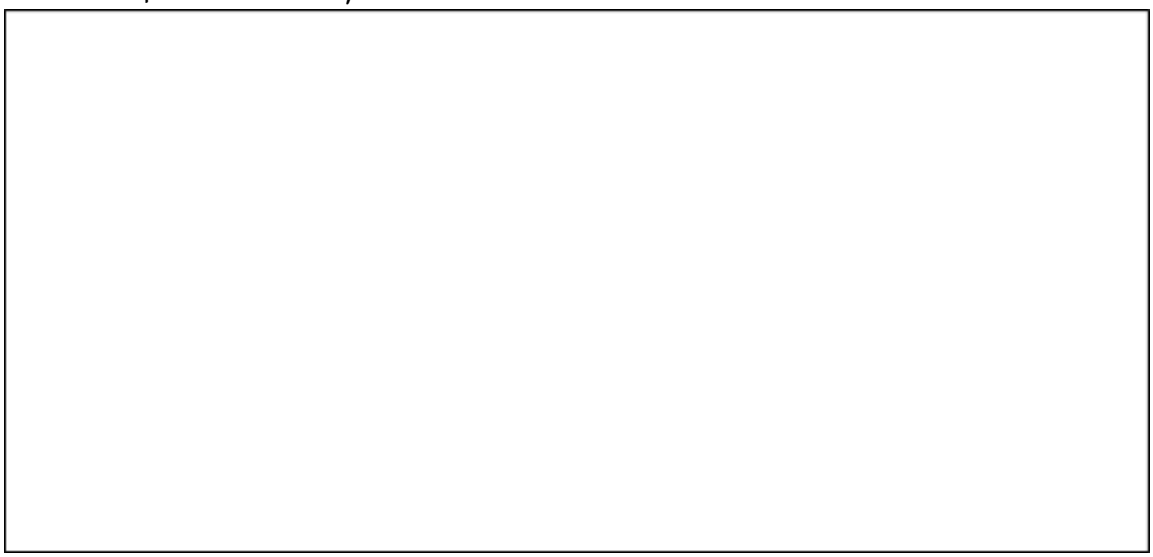
Teaching or learning notes:

Fun Facts

- Great America was built by the Marriott company in the 1970s and has a sister park which was identical when built in Illinois.
- Great America spans over a whopping 100 acres!
- Gold Striker has been featured as a top-50 wooden roller coaster in Amusement Today's annual Golden Ticket Awards publication.
- The Grizzly was modeled after the original Coney Island Wildcat.
- Carousel Columbia is a double-Decker carousel that has over 100 horses and stands an overall height of 100 feet tall, one of the largest in the nation.
- Several scenes of the 1994 movie Beverly Hills Cop III were filmed at Great America during the time it was owned by Paramount.
- Demon is a great ride for younger riders because it has loops but only a 48” height requirement.

Great America

1. Draw a picture of your favorite ride.



2. Describe your favorite ride and why you love it.

3. Which rollercoaster is the tallest? The fastest? The oldest?

4. Draw or describe one example of engineering you saw.

5. Draw a simple replica of the park map including some labels.

6. What is inertia and when do you experience it?

BONUS:

Explain how an engineer uses math to design and build a rollercoaster. What kind of math do they use? Why is it important that they are accurate?