



Barrier Island Breakout

2020 – Driftwood Education Center



Class Description:

In this escape room themed class, the students will discover a variety of environmental concerns along the islands of coastal Georgia. While brainstorming solutions to the specific issue, they will find clues leading them to a possible solution. The students will solve and decode many riddles and puzzles to uncover the environmental mystery. Each team/island has an hour to discover the issue and solve it to escape their island.

Best suited for 5th grade and up.

This is an evening class unless the school has 50+ students. In this case, it should be taken as a day class. Discuss your best scheduling options with the Program Director.

Driftwood Education Center
Po Box 20712 St. Simons Island, GA 31522
Phone: 912.638.3849 Fax: 912.634.0642
www.driftwoodee.org

Table of contents and outline:

I. Pre-class set-up (20 min)

1. Set up islands and locations in Brown Center
2. Plan instructor's roles

II. Introduction (15 min)

1. What is an Escape Room?
2. Environmental Concerns of Georgia
3. Rules and Logistics
4. Sort into island groups

III. Escape the Island (60 min)

1. Learn about specific issue and QR code reader
2. Solve riddles and puzzles
3. Solve bonus puzzle (if time)

IV. Conclusion and Wrap-up (15 min)

1. Complete the big picture puzzle
2. Discuss environmental problems and solutions
3. Take home message
4. Clean up supplies

V. Clean-up (15 min)

VI. Additional Information

Next Generation Science Standards met:

3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

5-ESS3-1. Obtain and combine information about ways communities use science ideas to protect the Earth's resources and environment.

MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

MS-LS2-4. Construct an argument supported by empirical evidence that changes to biological components of an ecosystem affect populations.

MS-ESS3-3 Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

HS-LS2-2. Use representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales

HS-LS2-6. Evaluate claims and evidence that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions but changing conditions may result in a new ecosystem.

HS-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity

HS-ESS3-1. Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity

HS-ESS3-4. Evaluate technological solutions that reduces impacts of human activities on natural systems.

Georgia Performance Standards met:

PE.5.R.5.1 Describe a benefit of working productively with a partner to improve performance

PE.6.R.5.5 Demonstrate appropriate etiquette, care of equipment, respect for facilities and safe behaviors while participating in a variety of physical activities.

S7L4. Obtain, evaluate, and communicate information to examine the interdependence of organisms with one another and their environments.

SEV2. Obtain, evaluate, and communicate information to construct explanations of stability and change in Earth's ecosystems.

SEV4. Obtain, evaluate, and communicate information to analyze human impact on natural resources.

SEV5. Obtain, evaluate, and communicate information about the effects of human population growth on global ecosystems

Concepts:

Focal points of this class are:

1. Learn about real world environmental concerns affecting the islands of GA
2. Use abstract thought and problem solving to "escape" the island

Outcomes:

Upon completion of this class, students will:

1. Explain possible solutions to environmental concerns regarding the GA coastline
2. Use creativity to solve unusual puzzles and riddles

S. Carolina Standards met

4.S.1A.2 Develop, use, and refine models to understand processes and communicate ideas to others.

5.S.1A.2 Develop, use, and refine models to understand processes and communicate ideas to others.

6.S.1A.7 Construct and analyze scientific arguments to support claims, explanations, or designs using evidence from observations, data, or informational texts.

8.E.5A.1 Develop and use models to explain how the processes of weathering, erosion, and deposition change surface features in the environment.

8.E.6B.2 Obtain and communicate information to support claims that human-made factors can contribute to the extinction of species.

H.B.6C.1 Construct scientific arguments to support claims that the changes in the biotic and abiotic components of various ecosystems over time affect the ability of an ecosystem to maintain homeostasis.

H.B.6D.1 Design solutions to reduce the impact of human activity on the biodiversity of an ecosystem.

H.E.1A.7 Construct and analyze scientific arguments to support claims, explanations, or designs using evidence and reasoning from observations, data, or texts.

H.E.3B.5 Define problems caused by the impacts of locally significant natural hazards and design possible devices or solutions to reduce the impacts of such natural hazards on human activities.

H.E.6A.9 Ask questions about the designs of devices used to control and prevent coastal erosion and flooding and evaluate the designs in terms of the advantages and disadvantages required for solving the problems.

Florida Standards met:

SC.4.L.17.4 Recognize ways plants and animals, including humans, can impact the environment.

SC.4.N.1.1 Raise questions about the natural world, use appropriate reference materials that support understanding to obtain information to conduct both individual and team investigations

SC.7.L.17.3 Describe and investigate various limiting factors in the local ecosystem and their impact on native populations

SC.8.N.4.1 Explain that science is one of the processes that can be used to inform decision making at the community, state, national, and international levels

SC.8.N.4.2 Explain how political, social, and economic concerns can affect science, and vice versa

SC.912.L.17.4 Describe changes in ecosystems resulting from climate change and succession

SC.912.L.17.8 Recognize the consequences of the losses of biodiversity due to climate changes and human activity

SC.912.L.17.12 Discuss the political, social, and environmental consequences of sustainable use of land

SC.912.L.17.13 Discuss the need for adequate monitoring of environmental parameters when making policy decisions.

SC.912.L.17.16 Discuss the large-scale environmental impacts resulting from human activity