

## *“Magic Isle”*

### **Resource Summary:**

There are many limiting factors on Catalina Island that make it hard for business owners and citizens alike. In addition, there are several objectives that business owners would like to achieve by living on the island. In this lesson, students will use critical thinking skills to identify limiting factors and objectives for the Wrigley Family in owning Catalina. This lesson will culminate in a project in which students will research and create an addition to the island that will change the limiting factors to help businesses achieve their objectives.

**Subject Areas: Language Arts, Science**

**Grade Level Range: 4<sup>th</sup> – 8<sup>th</sup> grade**

### **Standards:**

CCSS.ELA-Writing 5-7

Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.

CCSS.ELA-SLCC. 5-1

1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly.
  - a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.
  - b. Follow agreed-upon rules for discussions and carry out assigned roles.
  - c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.
  - d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.

NGSS Science and Engineering Practice 1.

For engineering, they should ask questions to define the problem to be solved and to elicit ideas that lead to the constraints and specifications for its solution. (NRC Framework 2012, p. 56).

NGSS Science and Engineering Practice 6

Constructing Explanations and Designing Solutions: In engineering, the goal is a design rather than an explanation. The process of developing a design is iterative and systematic, as is the process of developing an explanation or a theory in science. Engineers' activities, however, have elements that are distinct from those of scientists. These elements include specifying constraints and criteria for

desired qualities of the solution, developing a design plan, producing and testing models or prototypes, selecting among alternative design features to optimize the achievement of design criteria, and refining design ideas based on the performance of a prototype or simulation. (NRC Framework, 2012, p. 68-69)

### NGSS ESS3.A Natural resources

Humans depend on Earth's land, ocean, atmosphere, and biosphere for different resources, many of which are limited or not renewable. Resources are distributed unevenly around the planet as a result of past geologic processes.

### NGSS ESS3.C Human impacts on Earth systems

Human activities have altered the biosphere, sometimes damaging it, although changes to environments can have different impacts for different living things. Activities and technologies can be engineered to reduce people's impacts on Earth.

Sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources, including the development of technologies.

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#### **Resource Details:**

Five, one-hour Sessions:

(Day 1)

Anticipatory Set: Chalk Talk Thinking Routine:

What would you do if you owned a large island that happens to be located close to a large population of people? Here's a resource for this Visible Thinking Routine.

<http://www.rcsthinkfromthemiddle.com/chalk-talk.html>

Spend a minute giving students background information about Catalina Island. Display the island on Google Earth, highlighting its proximity to the greater Los Angeles area.

Watch the Tale: Magic Isle.

After viewing the Tale, have a discussion about “Limiting Factors on Catalina Island.” Be sure to identify: water, food, buildable land, food, wildlife and transportation.

Then have a discussion about Wrigley’s business ventures. Have them research alternative sources to the movie to learn more about William Wrigley. As they read, have them try to discover Wrigley’s motivation and aspirations for developing Catalina Island.

<http://www.encyclopedia.com/history/encyclopedias-almanacs-transcripts-and-maps/william-wrigley-jr>

<http://petergreenberg.com/2014/05/21/hidden-history-catalina-island/>

(Day 2)

Have students, in groups of 2 or 3 read and inspect the Wrigley family’s company, The Santa Catalina Island Company. As they inspect the website, have them look for and take notes on the following:

- Mission statement
- Business Ventures
- Ideas to circumvent Island Limitations

<http://www.visitcatalinaisland.com/island-company>

After giving them sufficient time, students will share what they’ve learned in a class directed discussion.

Introduce the culminating project. The culminating project will be a small group project that requires students to research, plan and develop an idea that would improve the Island Company’s profits. Here’s a suggested prompt for students:

(Day 3 – 4 will be used to create. Day 5 will be for presenting final projects.)

The Wrigley family has approached your engineering company. They’ve asked you to create and/or modify the island to help them increase their profits. Ensure that whatever you design and/or create will deal with the limiting factors that we’ve identified. Once you’ve decided what you want to create, write a proposal to the Wrigley Family representative (your teacher), with a detailed analysis of why your idea is good and why it makes sense. If your proposal is accepted, you then need to choose one of the following culminating activities. You will be

graded on your persuasive proposal, your teamwork, and the quality of your final project.

1. Create a brochure of the company, highlighting the new addition to the island.
2. Create a commercial that might be shown on the mainland to entice tourists to visit the island, showcasing the new addition or modification.
3. Your own idea: approved by teacher.

## **Additional Resources**

Chalk Talk Explanation: <http://www.rcsthinkfromthemiddle.com/chalk-talk.html>

History of Catalina Island and William Wrigley Jr.:

<http://www.encyclopedia.com/history/encyclopedias-almanacs-transcripts-and-maps/william-wrigley-jr>

<http://petergreenberg.com/2014/05/21/hidden-history-catalina-island/>

Santa Catalina Island Company (owned and operated by the Wrigley's):

<http://www.visitcatalinaisland.com/island-company>