STEAM Adventure Island

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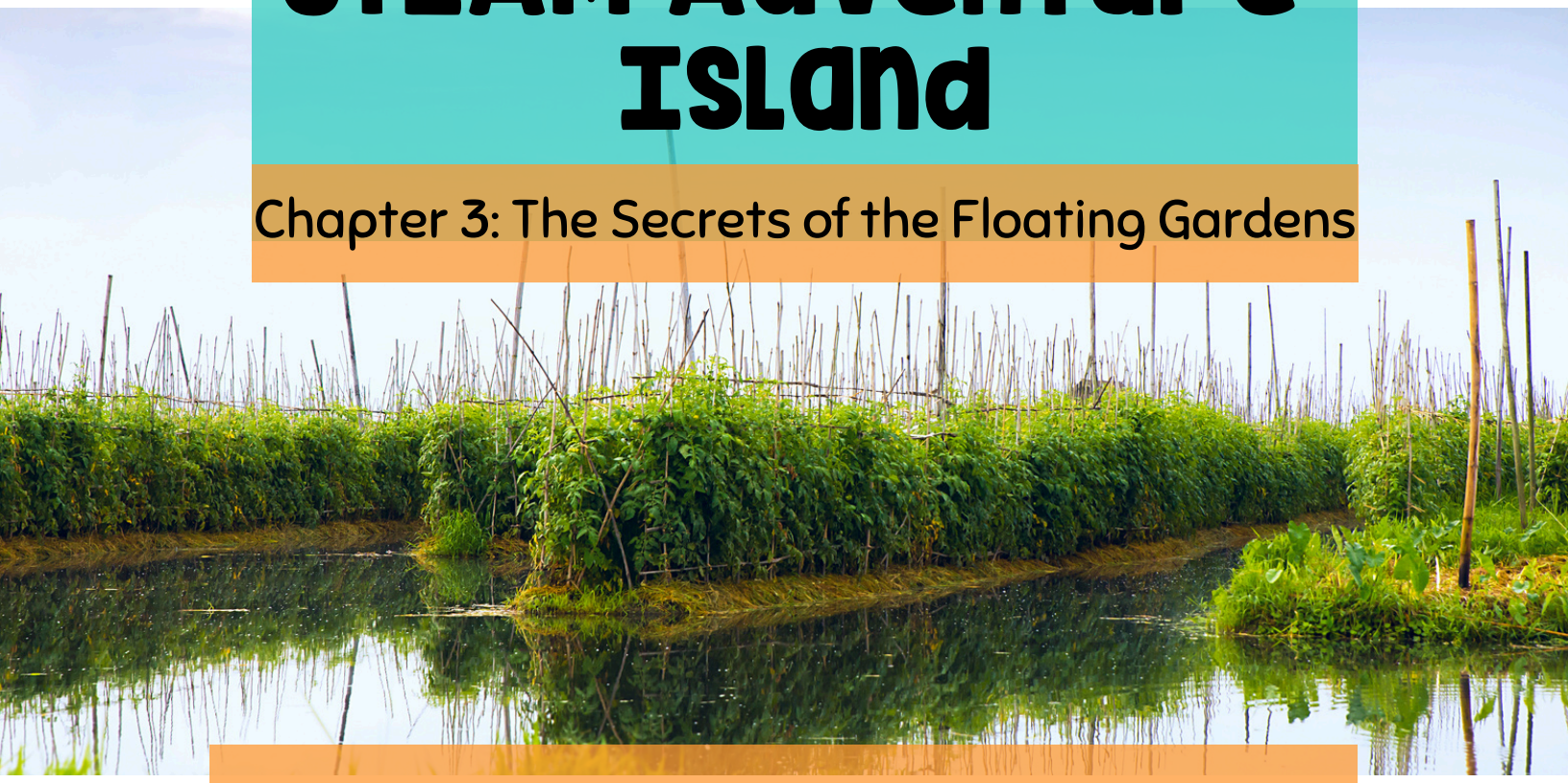
Chapter 3: The Secrets of the Floating Gardens



OBJECTIVE:

Explore the concepts of buoyancy and plant growth by creating a simple floating garden.

READ THE STORY:

Click to read the story.

MATERIALS:

- Sponges
- Small plants (like grass or small flowers)
- Water
- Shallow container

CHAPTER 3: THE SECRETS OF THE FLOATING GARDENS

A New Adventure Begins

After solving the mystery of Liam's map and discovering the ancient tablet that pointed to the legendary Floating Gardens, Mia, Liam, Sara, Zoe, and Jay set off on their next adventure. Excited and equipped with their findings, they head towards the lush, mysterious Floating Gardens of STEAM Island, hoping to uncover its secrets and the ancient wisdom it might hold.

Journey to the Floating Gardens

The Floating Gardens are known for their beauty and unusual nature, with gardens that seem to hover over the water, interconnected by a network of vines and floating platforms. Rumored to defy gravity, these gardens are a marvel of nature and engineering, floating effortlessly above a crystal-clear lake. As the children navigate through this aquatic wonderland, they are amazed by the variety of plants and flowers, each platform offering a new ecological marvel.

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Discovering the Small Rafts

As the friends explored the edge of the lake, they noticed a small boathouse partially hidden among the reeds. Curious, they approached the boathouse and found it filled with old tools, fishing nets, and, most interestingly, several small rafts made from sturdy reeds and wood.

- Mia spotted the rafts first. "Look! These rafts must have been used by the early islanders to navigate the Floating Gardens."

- Liam examined the rafts, noting their simple yet effective construction. "These are perfect for exploring the gardens up close. Let's use them to get a better look at the platforms."

- Sara inspected the boathouse, finding paddles and ropes that would help them steer the rafts. "These will be really useful for our exploration."

- Zoe sketched the boathouse and the rafts, capturing the scene in her notebook. "This place is amazing. It feels like we're stepping back in time."

- Jay noticed a small chest in the corner of the boathouse. "Look, there's something over here!"

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Exploring the Floating Gardens

With the rafts and paddles, the friends set off onto the water. They navigated the network of floating platforms, each marveling at the unique plants and flowers thriving in this aquatic environment.

- Mia identified several rare plants and explained their role in the garden's ecosystem. She noted how these plants filtered water, creating a clean and sustainable environment for themselves and the wildlife.
- Liam used his gadget to measure the pH levels of the water, recording how the garden's natural filtration system maintained the perfect balance for plant life to thrive.
- Sara was intrigued by the engineering behind the floating platforms. She discussed the principles of buoyancy and stability with her friends, showing how ancient builders might have designed these gardens not only for beauty but also for agricultural efficiency.
- Zoe captured the vibrant colors and intricate patterns of the gardens with her sketchbook, her drawings reflecting the serenity and complexity of this unique habitat.
- Jay engaged in a counting game, tallying the different types of birds and insects that called the gardens home, illustrating the biodiversity supported by this special ecosystem.

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Returning to the Boathouse

After a day of exploration, the friends returned the rafts to the boathouse. As they were putting away the paddles and ropes, Jay noticed the small chest again and decided to open it.

Discovery in the Boathouse

Inside the chest, they found a collection of ancient scrolls and gardening tools. The scrolls described how the early inhabitants of the island used these tools and the unique properties of the floating gardens to cultivate their crops.

Among the scrolls, they found a detailed drawing of a cave filled with crystals. The scroll mentioned that this cave, known as the Colorful Cave, was a place of great significance where the islanders would gather the crystals used in the gardens. It seemed the crystals played a vital role in the ecosystem of the Floating Gardens and perhaps held other secrets.

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- Mia read aloud from one of the scrolls. "These crystals were not only beautiful but also essential for the health of the plants and the water."
- Liam examined a map included in the scrolls. "This map shows the location of the Colorful Cave! We should go there next."
- Sara inspected the ancient tools, noting how they were designed for specific tasks in the gardens.
- Zoe sketched the scrolls and tools, fascinated by the islanders' ingenuity.
- Jay found another scroll that mentioned the use of the crystals in musical instruments, hinting at their acoustic properties.

A Clue to the Colorful Cave

The friends realized that the crystals described in the scrolls were not just beautiful but also had acoustic properties that made them perfect for creating music.

As the sun began to set over the Floating Gardens, the friends gathered to discuss their findings. They were excited about sharing the ancient agricultural wisdom with the island, hoping to inspire current residents to think about sustainability.

Intrigued by the drawing of the Colorful Cave and the possibility of more undiscovered secrets, the children planned their next adventure—to find the Colorful Cave and uncover the mysteries of the crystals. They hoped that exploring this new site would shed light on the ancient civilization's technological advancements and perhaps reveal why the society vanished.

Activity Guide: Create Your Own Floating Garden

TEACHING STRATEGY:

1. Poke small holes in the sponges using a pencil or small stick.
2. Place the sponges in the shallow container and fill it with water.
3. Show the children how to gently insert the small plants into the sponge holes.
4. Watch how the sponges float on the water, supporting the plants. Discuss how some plants can grow in water and the importance of clean water for plant life.

STEAM Extensions:

SCIENCE

- Plant Growth Experiment: Set up a few floating gardens with different types of plants. Observe which plants grow best in the floating garden and discuss why that might be.
- Track the growth of the plants over time. Take daily or weekly measurements and record observations in a journal. Discuss how different plants grow in water and what nutrients they need.

TECH

- Use a tablet or smartphone to create a digital diary of the floating garden. Take photos, record observations, and create time-lapse videos to document the growth process.
- Research other types of hydroponic systems used in agriculture. Discuss how technology is used to grow plants without soil and how it benefits food production.

ENGINEER

- Challenge children to design their own floating garden structures using different materials (cork, foam, plastic). Test the buoyancy and stability of each design and discuss which materials work best and why.
- Create a simple irrigation system using straws or tubes to channel water to the floating gardens. Discuss how engineers design irrigation systems to ensure plants receive enough water.

ART

- Encourage children to draw or paint pictures of their floating gardens. Use different art supplies to create vibrant, detailed representations of the plants and the floating structures.
- Create decorative labels for each plant in the floating garden. Include the plant's name and a fun fact about it. Use waterproof materials to ensure the labels last.

MATH

- Measure the dimensions of the sponges and the growth of the plants. Create charts or graphs to visualize the growth over time. Practice counting, measuring, and comparing data.
- Discuss the concept of buoyancy and how the volume of the sponges affects their ability to float. Experiment with adding different weights to the sponges and observe how it affects their buoyancy.

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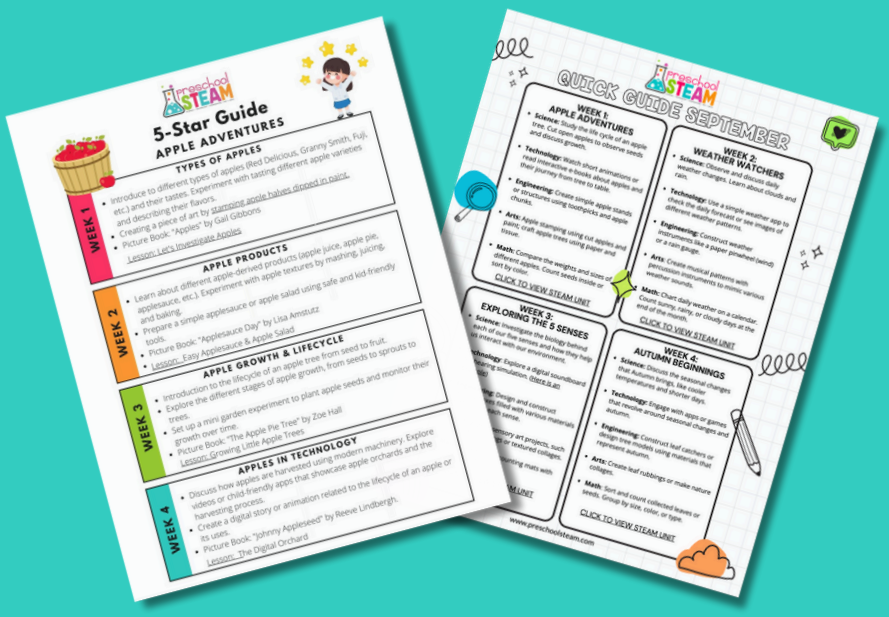

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