

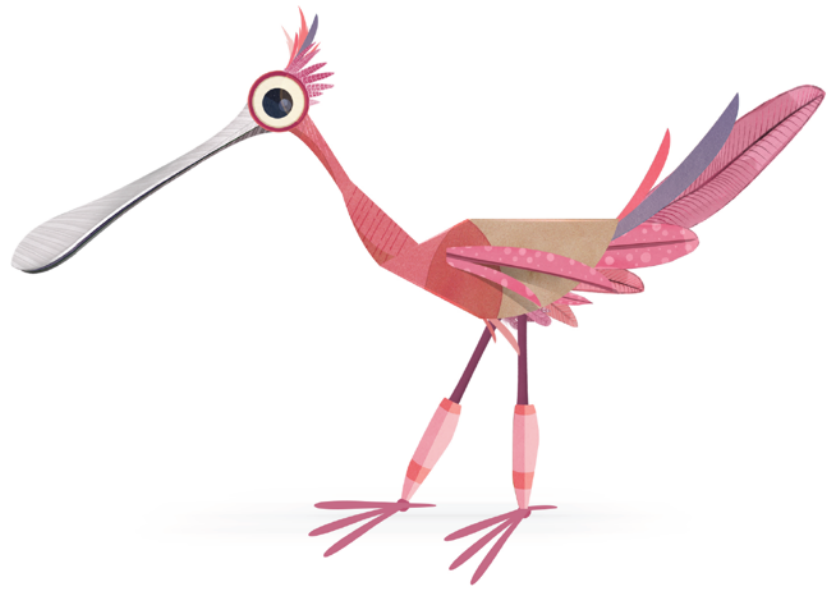


# River of Grass

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## Grades 1-2

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Questions? Ready to book your field trip? | Please visit: [www.frostscience.org/fieldtrips](http://www.frostscience.org/fieldtrips)



## Overview

Exploration and discovery are at the heart of this highly interactive and fully immersive experience of the Everglades, as children engage with and make an impact in the virtual environment filled with the animated animals that live there. They'll discover how wildlife behavior changes during the day and night. Children will learn how water moves naturally through the "River of Grass" by manipulating the Everglades landscape and controlling water levels. After playing in the digital environment, students will come outside to further explore concepts related to the physics of water and how changes in water flow can impact the Everglades. The exhibition offers foundational and environmental science content, drawing from complex interactions in the Everglades between plants, animals, habitats and water.

## Educational Standards

### 1st Grade

**Big Idea 14 – Organization and Development of Living Organisms**

- 🔹 SC.1.L.1.4.1 Make observations of living things and their environment using the five senses.

**Big Idea 17 – Interdependence**

- 🔹 Sc.1.L.17.1 Through observation, recognize that all plants and animals, including humans.

**Big Idea 12 – Motion of Objects.**

- 🔹 SC.1.P.12.1 Demonstrate and describe the various ways that objects can move, such as in a straight line, zigzag, back-and-forth, round-and-round, fast, and slow.

### 2nd Grade

**Big Idea 17 – Interdependence**

- 🔹 SC.2.L.17.2 Recognize and explain that living things are found all over Earth, but each is only able to live in habitats that meet its basic needs.

## **Background Information**

### *River of Grass, a Child's Interactive Tour of the Florida Everglades*

River of Grass is an immersive indoor and outdoor exhibit space. The content of this engaging experience revolves around ecology and hydrology. The exhibition is comprised of indoor and outdoor experiences:

- In the interactive digital tour of the Everglades, children immerse themselves in this unique habitat, interacting with active wildlife and its slowly changing water levels. Children divert, route or dam water flow, and witness how lack of water or an overabundance of water can directly affect animal population.
- At the Everglades water table, children explore changing the landscape with props such as roads, bridges, walls that inevitably change the environment by changing the natural water flow. They observe how humans can affect the environment.
- At the physics water table, children interact with water as it flows. A variety of elements encourage experimentation and observation of the fundamental properties of water.
- In the alligator hole, children explore an example of how habitats provide animals with shelter and a place to keep their young safe.

## **River of Grass Key Questions**

- What animals live in the Everglades?
- Why is water flow so important in the Everglades?
- What are some ways scientist and engineers are trying to restore the water flow in the Everglades?

## **Pre-Activity**

See pages 5 - 8 pre-activity teacher guide and presentation.

## **Field Trip Experience**

All Museum field trips are a 3-hour experience offered Monday through Friday beginning at 9:30am or 10:00am. Each field trip includes 3 experiences of the teacher's choice at Frost Science and time for lunch. Upon arrival, the teacher will be provided with a specific schedule for his/her visit based on the 3 chosen experiences. Additional information regarding field trip logistics is provided in the field trip package that each teacher will receive upon booking of a field trip.

During the field trip, students will encounter a variety of experiences. To capture these learning opportunities, facilitator cards are provided at arrival for all teachers and chaperones who would like to use them (please see pages 15 - 18 for a sample). The facilitator cards include prompting questions, additional content, and exhibition location maps which show where in the exhibit one can find content related to that card. Additionally, a student guide that corresponds to the same prompting questions of the exhibition are available in this document on pages 13 - 14. Please print a student guide for each

student in advance of your arrival to the museum. Please note that student guides and pencils will not be provided by Frost Science.

### **Post Activity**

See pages 9 - 12 post-activity teacher guide and presentation.

### **Select Recommended Extensions:**

Grade 1: Everglades ABCs

<https://www.nps.gov/ever/learn/education/upload/everabcs1.pdf>

Grade 1: Shapes in Nature

<https://www.nps.gov/ever/learn/education/upload/naturehuntk.pdf>

Grade 2: Finding Home: Everglades Habitats

<https://www.nps.gov/ever/learn/education/upload/findinghome2.pdf>

Grade 2: Food Chain Mobiles

<https://www.nps.gov/ever/learn/education/upload/foodchainmobile2.pdf>

## Pre-Field Trip Activity: Explanation Game (A Visual Thinking Routine)

### Overview

Students will participate in an activity to prime their curiosity and imagination prior to visiting the River of Grass exhibition. In the Explanation Game, a visual thinking routine, students observe and examine an illustration related to the Everglades environment. Students make observations and formulate ideas about what the image might be about.

### Objective

Students will make observations to build an explanation and reasoning around the Everglades (River of Grass) as a habitat.

### Materials

- Computer, white board and projector
- *Optional: poster paper*
- *River of Grass Grades 1-2 Pre-Field Trip Presentation (pages 6 - 8)*

### Activity Steps

1. Draw a chart on the white board (*or poster paper*) for teacher to record student ideas.
2. Test the presentation on your computer.
3. Use the presentation to guide the activity.
4. Conclude with a class discussion about the completed chart.
5. Save the chart to use in the Post-Field Trip activity.





Frost Science | River of Grass Pre-Field Trip Activity | 1<sup>ST</sup> – 2<sup>ND</sup> Grade

# EXPLANATION GAME



**Name it.** Describe what you see in the illustration.

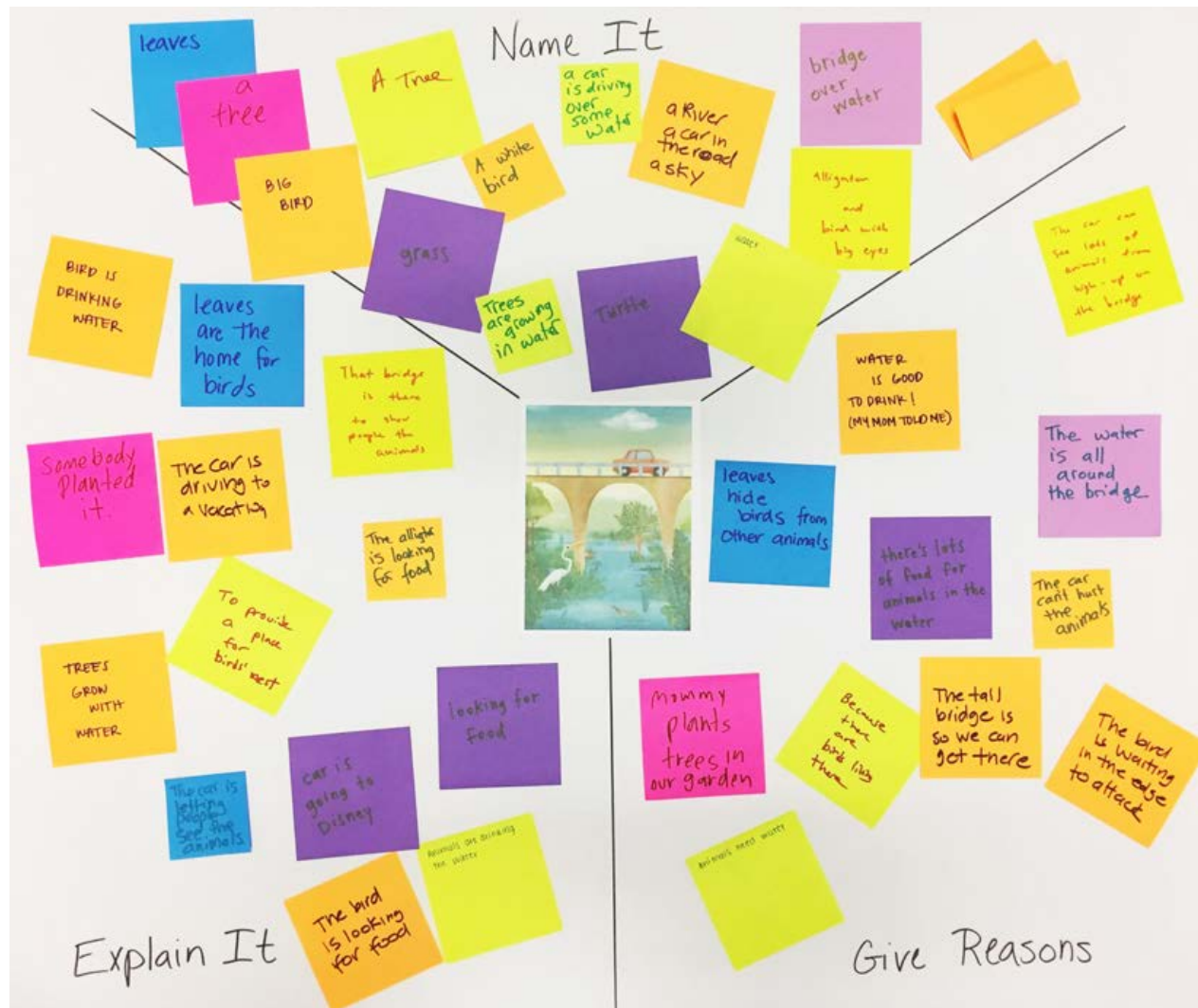
**Explain it.** Why might it be there?

**Give reasons.** What makes you say that?





# Sample Pre-Field Trip Chart





## Post-Field Trip Activity: Connect-Extend-Challenge (A Visual Thinking Routine)

### Overview

After the field trip, students will reflect on what they have explored and what they have learned. Students will complete the Visual Thinking routine Connect-Extend-Challenge. This activity helps students make connections between new ideas and prior knowledge. It also encourages students to reflect on ongoing questions, challenges, and difficulties as they reflect on what they can still learn about the subject.

### Objective

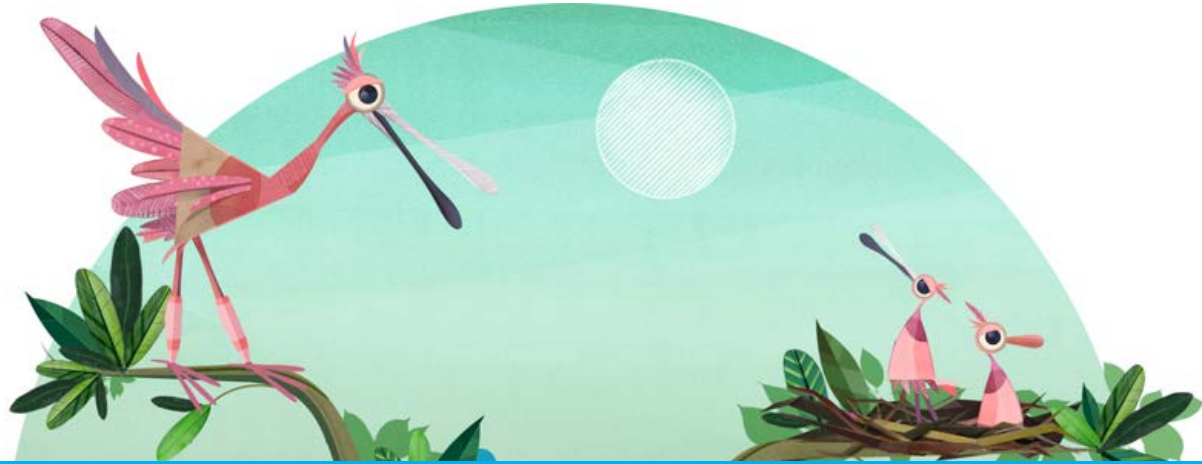
Students will reflect on their experience at Frost Science in the River of Grass exhibition and use the thinking routine to make connections between new ideas and prior knowledge. It also encourages students to direct their thinking in new directions.

### Materials

- Classroom chart developed during the Pre-Field Trip activity
- White board or poster paper
- *Optional: sticky notes (provide three different colors, if possible)*
- River of Grass Grades 1-2 Post-Field Trip Presentation (pages 10 – 12)

### Activity Steps

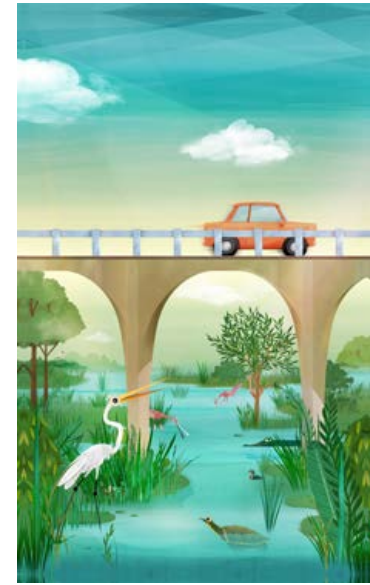
1. Test the presentation on your computer.
2. Draw a chart on the white board or poster paper for the teacher to record student ideas.  
*Optional: Use sticky notes to have students record their ideas and add to the chart.*
3. Use the presentation to guide the activity.
4. Conclude with a class discussion about the completed activity.



Frost Science | River of Grass Post-Field Trip Activity | 1<sup>ST</sup> – 2<sup>ND</sup> Grade

# CONNECT – EXTEND - CHALLENGE





## Connect

Think about something you did at Frost Science that connects with one of these images.

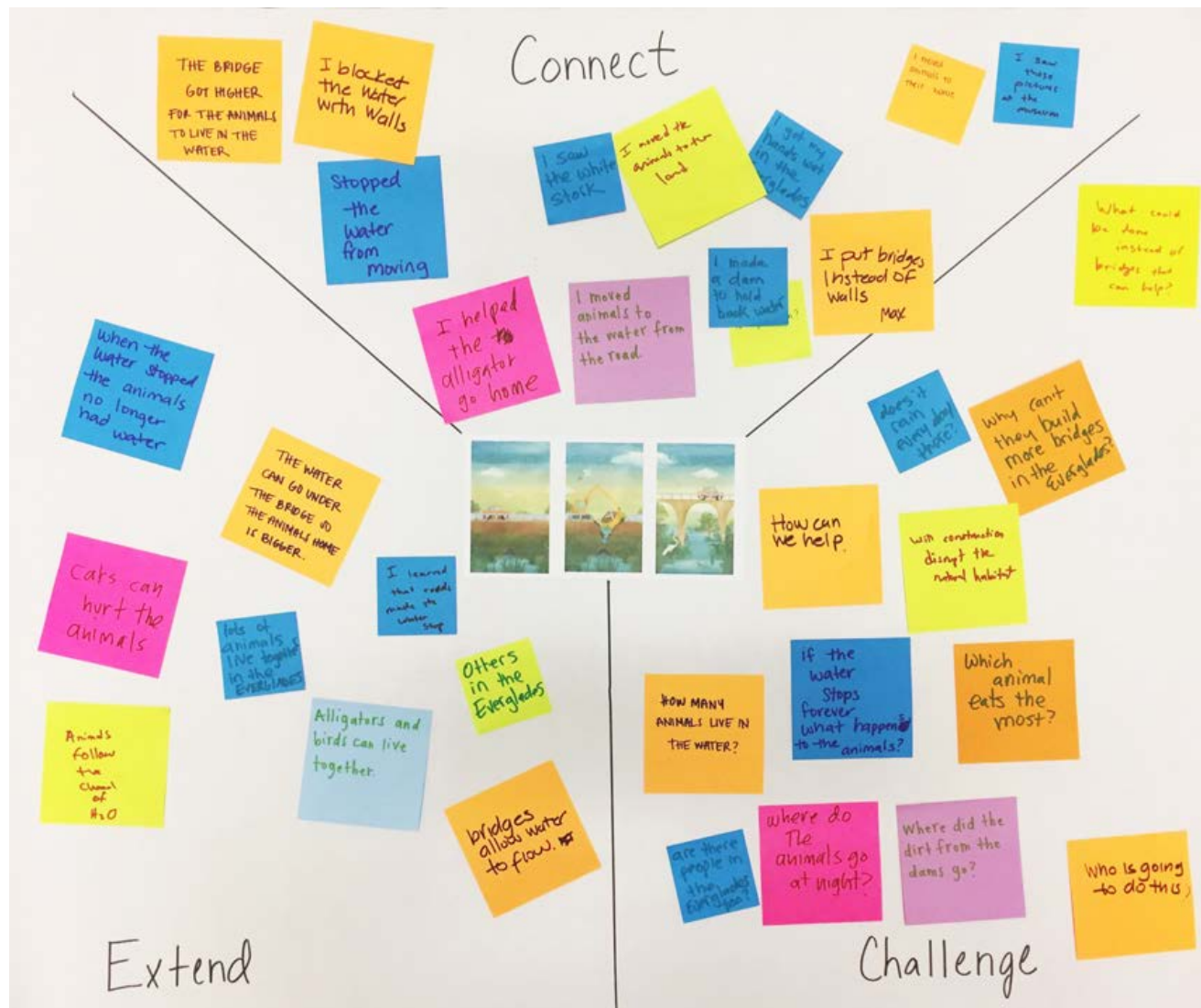
## Extend

What new thing did you learn?

## Challenge

What questions do you still have?

# Sample Post-Field Trip Chart



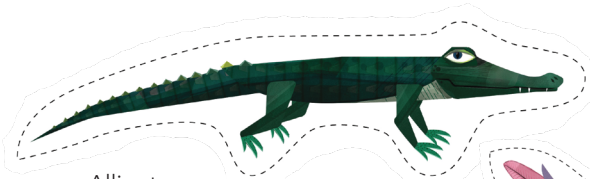


# RIVER OF GRASS

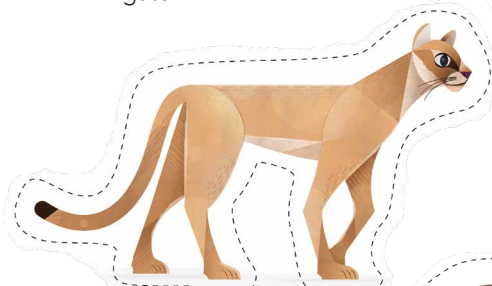
## Pre K - 2<sup>ND</sup> Student Guide

### Design-A-Collage!

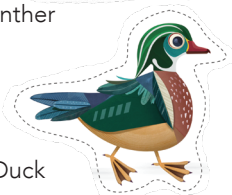
Cut out and paste your selection of animals and objects to create a healthy habitat.



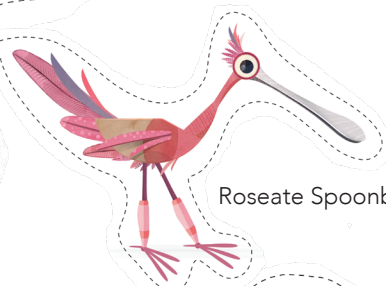
Alligator



Florida Panther



Wood Duck



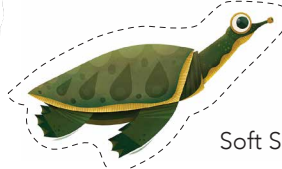
Roseate Spoonbill



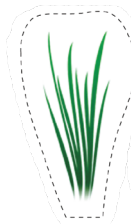
Otter



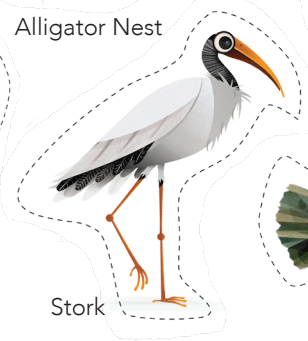
White Tail Deer



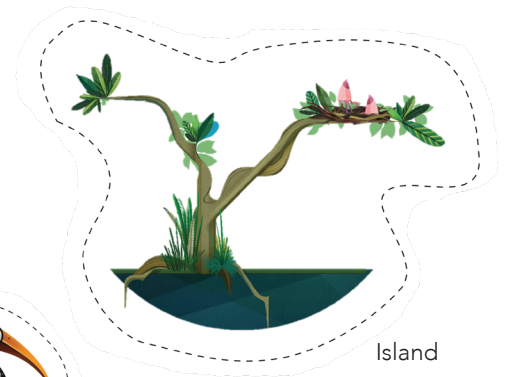
Soft Shell Turtle



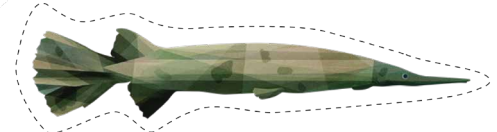
Alligator Nest



Stork



Island

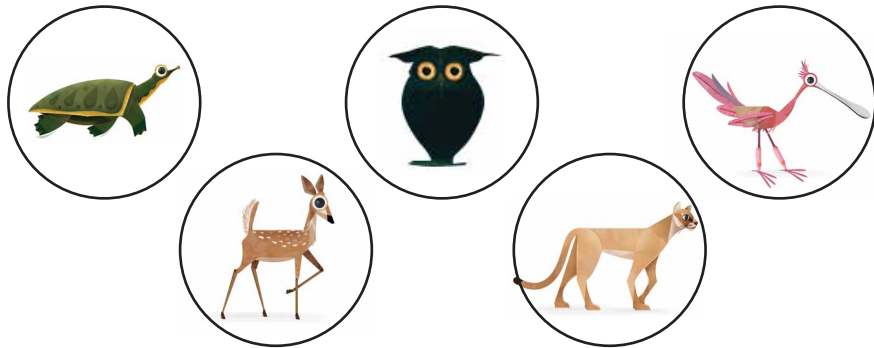


Gar



A

In the Everglades some animals are more active during the day and some are more active at night. Use **blue** to color the circles with night animals. Use **yellow** for day animals.



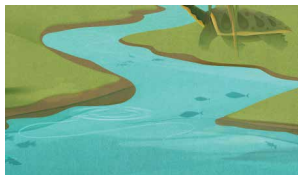
C

Draw a happy face on the picture that shows humans respecting this habitat. Draw a sad face on the picture that shows one way humans hurt this habitat.



B

Can you help the animal go to the habitat where it lives? Draw a line.



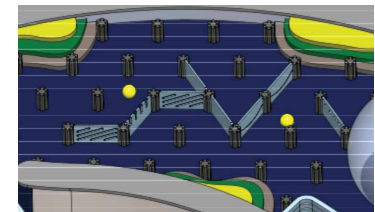
Wet Land



Dry Land

D

Color the square next to the item that can be moved by water **Green** ■. Color the square next to the item that can stop the water from moving **Red** ■.



CHECK IN

# Virtual Environment

## Say:

"We are about to enter the River of Grass and interact with some of the animals that live there. We will discover how these animals act and react when we are in their home, the Everglades. We will need to be quiet to be able to find the animals. If we are really quiet the animals may find us!"

## Explore and use the Student Guide

Identify some animals that you find in the Everglades.

## Discuss:

Which animals do you think might be playful or curious?

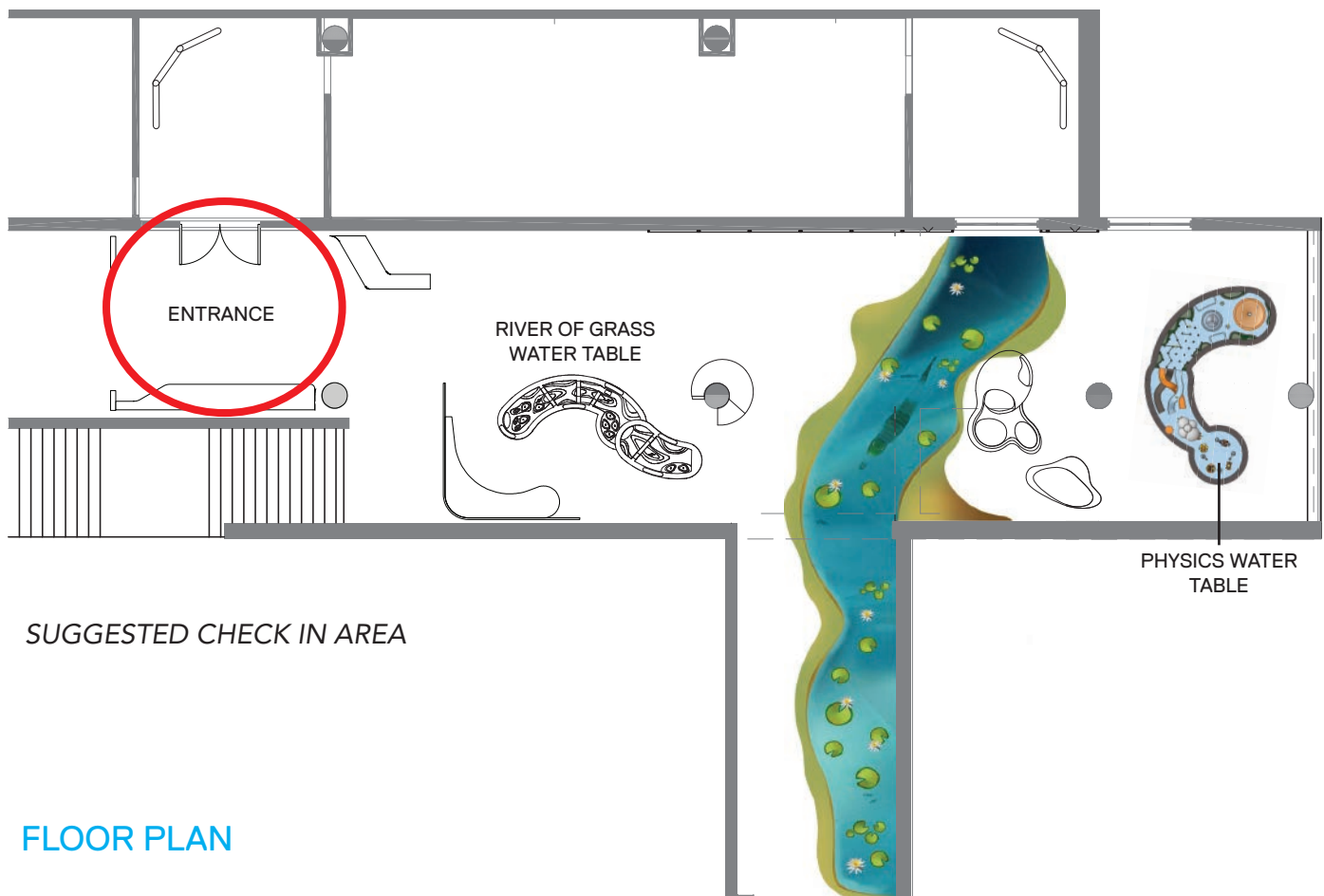
Which animals are shy? Which animals prefer to come out at night?

Some possible answers include...

- Owls will come out at night.
- Otters like to play.
- Ducks are curious.



## FROST SCIENCE | River of Grass



FLOOR PLAN

CHECK IN

# Habitats

## Say:

"The Everglades is home to many animals. This special habitat has the components that animals need to survive."

*Habitat Definition: The place or environment where a plant or animal naturally or normally lives and grows.*

## Explore and use the Student Guide

*Discover the basic components that both humans and animals need.*

## Discuss:

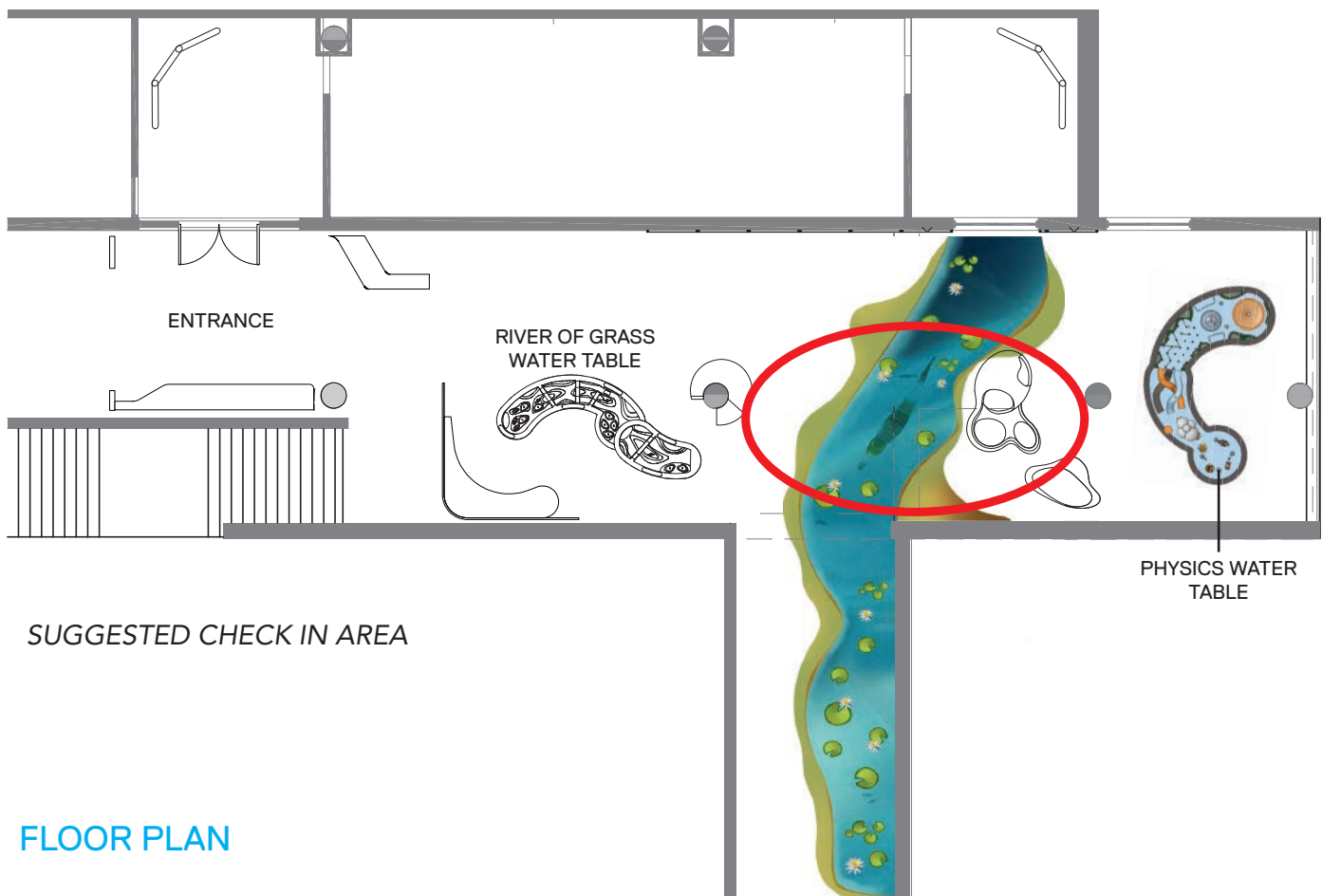
**What makes a habitat good for an animal? What kinds of things do animals need to survive in their habitat?**

*Some possible answers include...*

- ✓ There is plenty of **food** for the animal.
- ✓ Animals can **camouflage** in the habitat.
- ✓ There is **shelter** to take care of its babies.
- ✓ There is plenty of **water** for the animal to swim and drink.

**Optional Extension: What human needs are similar to animal needs? What are the differences?**

## FROST SCIENCE | River of Grass



## FLOOR PLAN

CHECK IN

# Everglades Water Table

## Say:

*"Many animals live in the Everglades habitat. Some like dry land. Some thrive in wetland."*

## Explore

Explore the River of Grass water table. Try to use dams, bridges and walls to explore how you can change the water flow in this environment.

## Discuss:

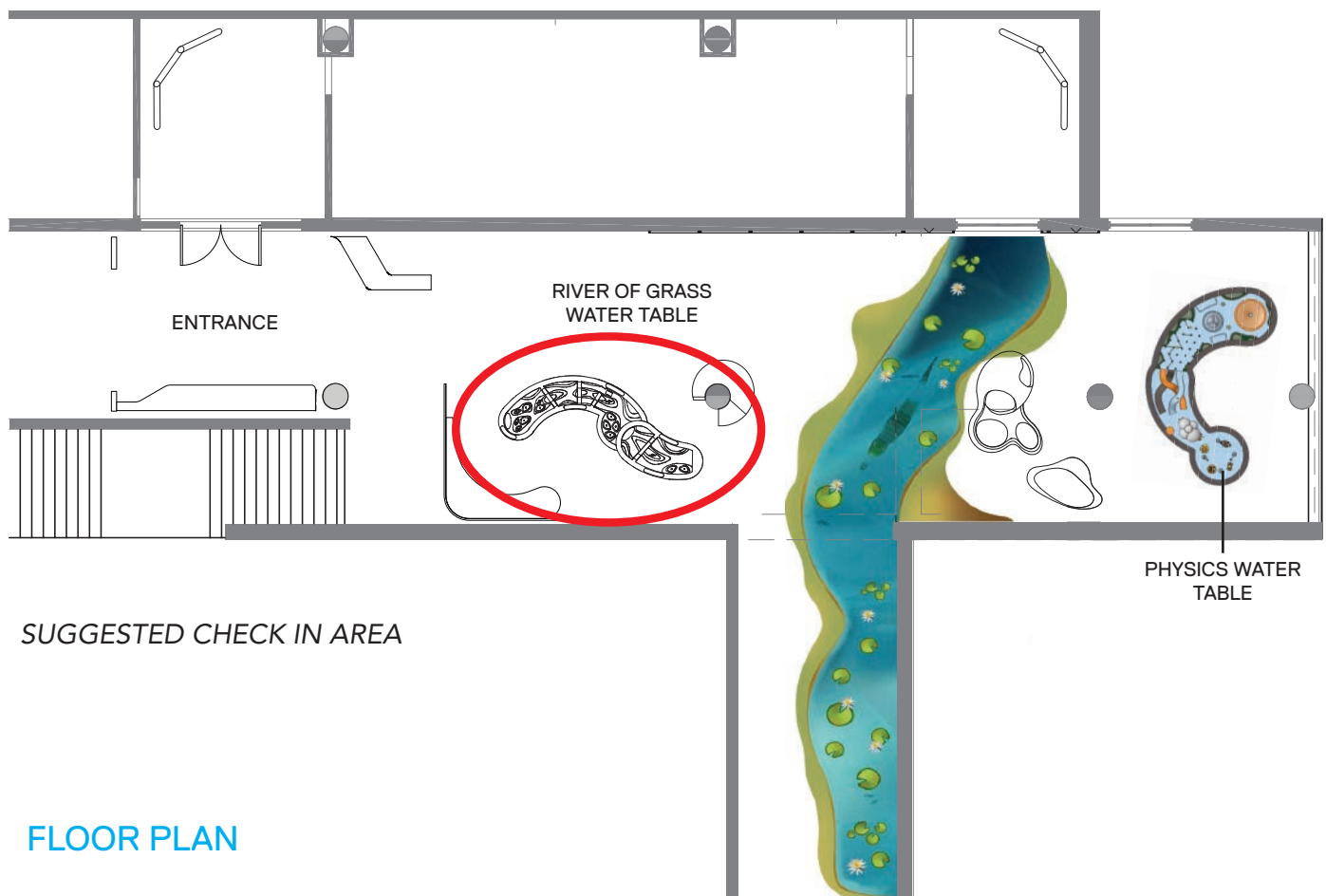
**How do different amounts of water affect how animals thrive and do well in their habitat?**

**What will happen if there is too much water in the animals' habitat? Too little water?**

*Some possible answers include...*

- ✓ Yes because ... Or no ...
- ✓ Birds eat fish. Fish die if there is not enough water.
- ✓ Alligators cool off in the water.
- ✓ Too much water will destroy animal homes.

## FROST SCIENCE | River of Grass



FLOOR PLAN

CHECK IN

# Physics Water Table

## Say:

*"It's time for water play exploration and to investigate how water moves. Dive in!"*

## Explore

Investigate the properties of water by using a variety of different fun objects and tools such as pipes, pumps, and water wheels to move and direct water flow.

## Discuss:

**How does the use of different tools affect water flow?**

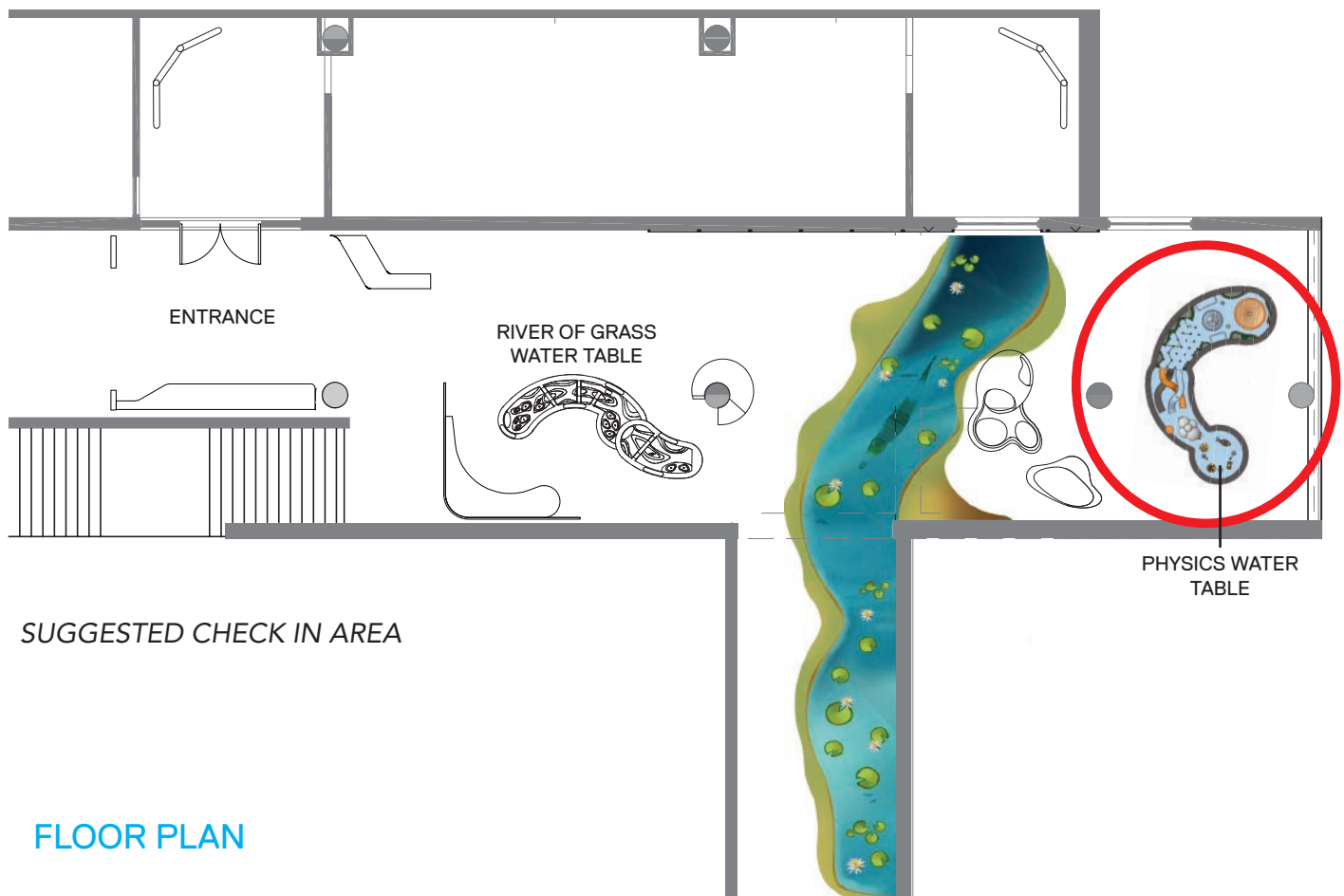
**How fast is the water moving? Can you make it go faster or slower? Can you stop the water?**

**How strong is water? Can the water make things move?**

*Some possible answers include...*

- The water wheel is making the water flow faster.
- I can block the water and make it go another direction.
- I can see the ball at the top of the water spout.

## FROST SCIENCE | River of Grass



FLOOR PLAN