

## Overview

At this activity centre, students will learn about the important role trees have in the water cycle. They will also learn about the Carolinian forest.

## Overall Expectations

- Demonstrate an understanding of the important role trees play in the water cycle.
- Describe how the parts of a forest are like a water filter.
- Identify distinguishing features of a Carolinian forest.



## Specific Expectations

### *Understanding Basic Concepts*

- Trees are important to our environment.
- The Carolinian forest is a unique ecosystem.
- The importance of protecting our forests.

## Relating Science to the World outside the School

- Students will be able to demonstrate an understanding of the role trees play in the water cycle
- Students will be to identify ways to protect forests.
- Students will be able to describe different ways trees help the planet.

## Curriculum Links

- Grade 2 – Earth and Space Systems  
*Air and Water in the Environment*
- Grade 3 – Life Systems  
*Growth and Changes in Plants*
- Grade 4 – Life Systems  
*Habitats and Communities*

## Glossary of Terms

### **Conservation**

The act of using the resources only when needed for the purpose of protecting from waste or loss of resources.

### **Ecosystem**

An ecological community together with its physical environment considered as a unit.

### **Environment**

Environment is the sum of all external conditions and influences affecting the development and life of organisms.

### **Erosion**

Erosion is the wearing away of the earth's surface by running water, wind, and ice; processes, including weathering, abrasion, corrosion and transportation, by which material is removed from the earth's surface.

### **Filtration**

Filtration is the process of passing a liquid or gas through a porous article of mass to separate out matter in suspension.

### **Pollution**

Contaminants in the air, water, or soil that cause harm to human health or the environment.

### **Restoration**

Restoration reestablishes the character of an area such as a wetland or forest.

### **Root**

The underground portion of a plant that absorbs moisture, obtains or stores nourishment, and provides support.

### **Tree**

A perennial woody plant having usually a single self-supporting trunk, with branches and foliage growing at some distance above the ground.

## Overview

This activity is a simulation of a daily household routine. Our objective is to encourage students to evaluate what impact on the environment they make in their daily activities.

## Overall Expectations

- Demonstrate an understanding of how much water is used in their homes/schools.
- Describe how to determine the rate of flow of water in their home/school.
- Describe simple technologies that help decrease water used in routine activities.



## Specific Expectations

### *Understanding Basic Concepts*

- All of the water that we use daily must be cleaned and treated so that it can be used again.
- Reducing the amount of water used daily, helps to reduce the amount of water that needs to be treated.
- Water saving technologies can have a large impact on the environment.

### *Relating Science to the World outside the School*

- Students will be able to determine the rate of flow in their home/school.
- Students will be able to identify simple technologies that can decrease water use.
- Students will be able to describe the benefits of reducing water.

## Curriculum Links

- Grade 2 – Earth and Space Systems  
*Air and Water in the Environment*
- Grade 3 – Energy and Control  
*Forces and Movement*
- Grade 5 – Energy and Control  
*Conservation of Energy*

## Glossary of Terms

### **Aeration**

The process of exposing to circulating air.

### **Conservation**

The act of using the resources only when needed for the purpose of protecting from waste or loss of resources.

### **Environment**

The sum of all external conditions and influences affecting the development and life of organisms.

### **Rate of Flow**

The speed at which the water is moving in a certain amount of time.

# Royal Flush

# Water Conservation

## Overview

This activity is designed to show students the mechanisms in a common household fixture, the toilet. It will teach them about water conservation with a simple device (a water displacement mechanism).

## Overall Expectations

- Demonstrate an understanding of how much water is wasted in flushing a toilet.
- Describe different ways water can be conserved.
- Demonstrate an understanding of what can and cannot be flushed down the toilet.



## Specific Expectations

### *Understanding Basic Concepts*

- The basic mechanism of how a toilet works.
- The amount of water used by low-flow toilets compared to conventional toilets.
- The average amount of water a person uses in one day.

### *Relating Science to the World outside the School*

- Students will be able to describe ways we can conserve water.
- Students will be to identify what things can be flushed down a toilet.
- Students will be able to describe how the mechanism of a toilet works.

## Curriculum Links

- Grade 3 – Structures and Mechanisms  
*Stability*
- Grade 3 – Energy and Control  
*Forces and Movement*

## Glossary of Terms

### **Conservation**

The act of using the resources only when needed for the purpose of protecting from waste or loss of resources.

### **Displacement**

The volume or mass of water displaced by something floating in it.

### **Outhouse**

An outdoor toilet with no plumbing.

### **Retrofit**

To upgrade and refurbish.

### Overview

At this activity, students will simulate brushing their teeth using two methods and determine the amount of water used for each method.

### Overall Expectations

- Demonstrate an understanding of how reducing our water use helps to protect our water supply.
- Describe the two methods for brushing your teeth.
- Demonstrate an understanding that all water is re-used.



### Specific Expectations

#### *Understanding Basic Concepts*

- It is important to save water by turning off the tap while brushing your teeth.
- All water is re-used.
- The amount of water we use for a task as simple as brushing our teeth and how much that can add up over the course of one year.

#### *Relating Science to the World outside the School*

- Students will be able to describe the two methods for brushing your teeth.
- Students will be able to identify how we can conserve water.
- Students will be able to calculate how much water we use doing simple tasks.

### Curriculum Links

- Grade 2 – Healthy Living  
*Healthy Eating (importance of regular brushing and visits to the dentist)*
- Grade 3 – Measurement  
*Capacity, Volume, and Mass (estimate, measure and compare)*
- Grade 5 – Energy and Control  
*Conservation of Energy*

### Glossary of Terms

#### **Conservation**

The act of using the resources only when needed for the purpose of protecting from waste or loss of resources.

#### **Recycle**

To use something again.

#### **Reduce**

To make smaller, decrease.

# Water Jeopardy

# Water Conservation

## Overview

At this activity centre, students will play a game that will test their knowledge of water facts from categories based on water quality, water conservation and properties of water.

## Overall Expectations

- Demonstrate an understanding that water is a precious resource and that everyone has a responsibility to protect it.
- Describe how we can practice water conservation at home.
- Demonstrate an understanding of ways that water can become polluted.

## Specific Expectations

### *Understanding Basic Concepts*

- Water is the most valuable natural resource on our planet and a necessity for all living things.
- Less than 1% of world's water is available to humans for daily water supply needs.
- Water conservation can be promoted using water-efficient tools (i.e. retrofit devices) to help reduce the amount of wastewater produced.

### *Relating Science to the World outside the School*

- Students will be able to describe ways through which water can become polluted.
- Students will be to identify different ways we can conserve water.
- Students will be able to describe why water is one of the most valuable natural resources.

## Curriculum Links

- Grade 3 – Earth and Space Systems  
*Soils in the Environment*
- Grade 4 – Earth and Space Systems  
*Rocks, Minerals, and Erosion*



## Glossary of Terms

### **Conservation**

The act of using a resource only when needed for the purpose of protecting from waste or loss of resources.

### **Golden Rule of Wise Water Use**

Reduce, Re-use, repair and retrofit.

### **Natural Resource**

Something that is found in nature and is valuable to humans.

### **Pollution**

Contaminants in the air, water, or soil that cause harm to human health or the environment.