CityAdapt - Building Climate Resilience of Urban Systems Through Ecosystem-Based Adaptation (EbA) in the Latin America and Caribbean Region

CLIMATE CHANGE ADAPTATION AND NATURE- BASED SOLUTIONS TOOLKIT

JAMAICA

PRIMARY STUDENTS GRADE 1-3

December 2023

CONTENT

INTRODUCTION

Welcome to an exciting journey of discovery and learning with our "Climate Change Adaptation and Nature-Based Solutions Toolkit" designed in 2023 for primary students in Grades 1 to 3.

This toolkit is an integral part of the City Adapt project, initiated by the Global Environment Facility (GEF) and spearheaded by the United Nations Environment Programme (UNEP). It was also created in collaboration with local entities including The Forestry Department, The Nature Conservancy, and the Jamaica 4-H Clubs.

As our world continues to evolve rapidly, the Latin America and Caribbean (LAC) region, including Kingston, Jamaica, is witnessing significant urban expansion. This growth, while promising, brings challenges, particularly in adapting to climate change and preserving our precious natural resources. Understanding these challenges and learning to address them is crucial for our future, and it starts with you and our young learners.

Our toolkit is a result of extensive research and consultation, including a gap analysis that reviewed existing educational resources and practices. We've tailored this toolkit to fill these gaps, ensuring it aligns seamlessly with your current curriculum. It's specifically designed for educators, not just to help teach about climate change and Nature-based Solutions but to also inspire students to become active participants in creating a sustainable future.

Inside, you will find a range of engaging activities, interactive projects, and resources that make learning about climate change and nature-based solutions not only educational but also fun and memorable. These include hands-on projects, technology-based learning, and interactive games, all created to stimulate your curiosity and encourage critical thinking.

Our approach is holistic and multidisciplinary, aiming to integrate these crucial topics into various subjects already being taught. We believe that by understanding the interconnectedness of our environment, urban development, and climate change, kids will develop a deeper appreciation and a lifelong commitment to sustainable practices.

So, let's embark on this learning adventure together! As you work through this toolkit, remember that each child plays a vital role in shaping our world. Their ideas, actions, and voices are essential in adapting to and mitigating the impacts of climate change. We are excited to see how you, and young young environmental stewards, will use this knowledge to make a difference in your communities and beyond.

Happy Learning!

CLIMATE CHANGE ADAPTATION AND NATURE-BASED SOLUTIONS TOOLKIT OUTLINE PRIMARY STUDENTS GRADE 1-3

DEFINITION OF KEY TERMS INTRODUCTION

In this essential section, we embark on a journey to demystify some crucial concepts that form the backbone of learning about the environment.

The key terms presented are structured in a progressive hierarchy of understanding, meaning that each definition builds upon the previous one, creating a cohesive and comprehensive learning experience for the children. This approach ensures that as your students' knowledge expands through the lessons, new terms are introduced in a manner that reinforces and deepens their understanding.

We've chosen simple, accessible language for the definitions to ensure that children easily grasp the concepts. It's important to remember that not all terms will be introduced at once. Instead, you, as the educator, will have the flexibility to bring in new terms at the right moments in the learning journey, ensuring that each new concept is introduced at an appropriate stage in the students' developing comprehension.

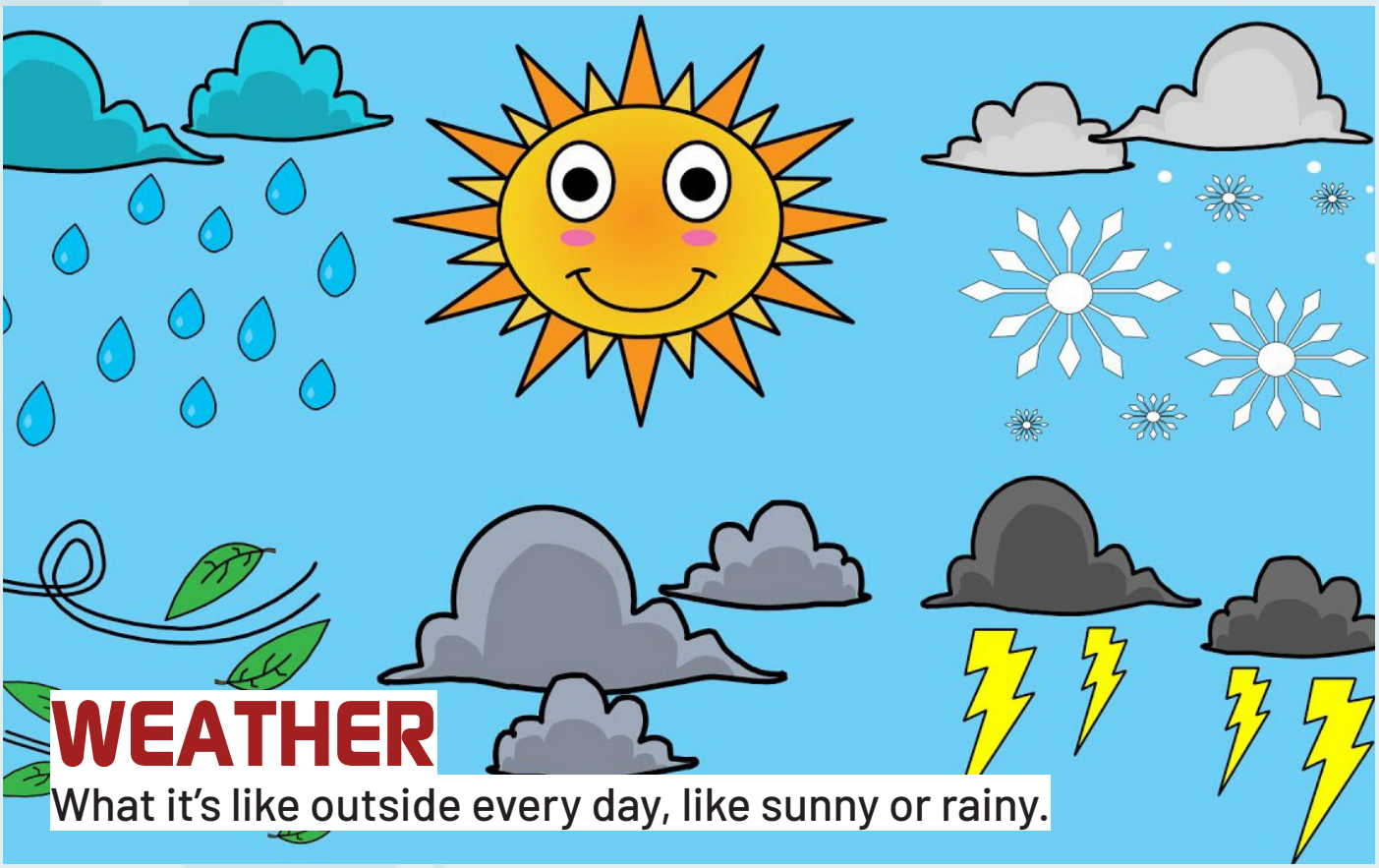
This methodical and gradual introduction of terms is designed to foster a robust and thorough understanding of climate change adaptation and nature-based solutions among your young learners.

DEFINITIONS

1. Climate (Our Big Weather Picture): The usual weather in a place over a long time.
2. Weather (Daily Outside Feels): What it's like outside every day, like sunny or rainy.
3. Pollution (Dirtiness): When bad stuff gets into our air, water, or ground.
4. Climate Change (Weather Changes): When the Earth's weather starts changing in big ways over a long time, for instance it may start getting hotter.

Climate

The usual weather in a place over a long time.

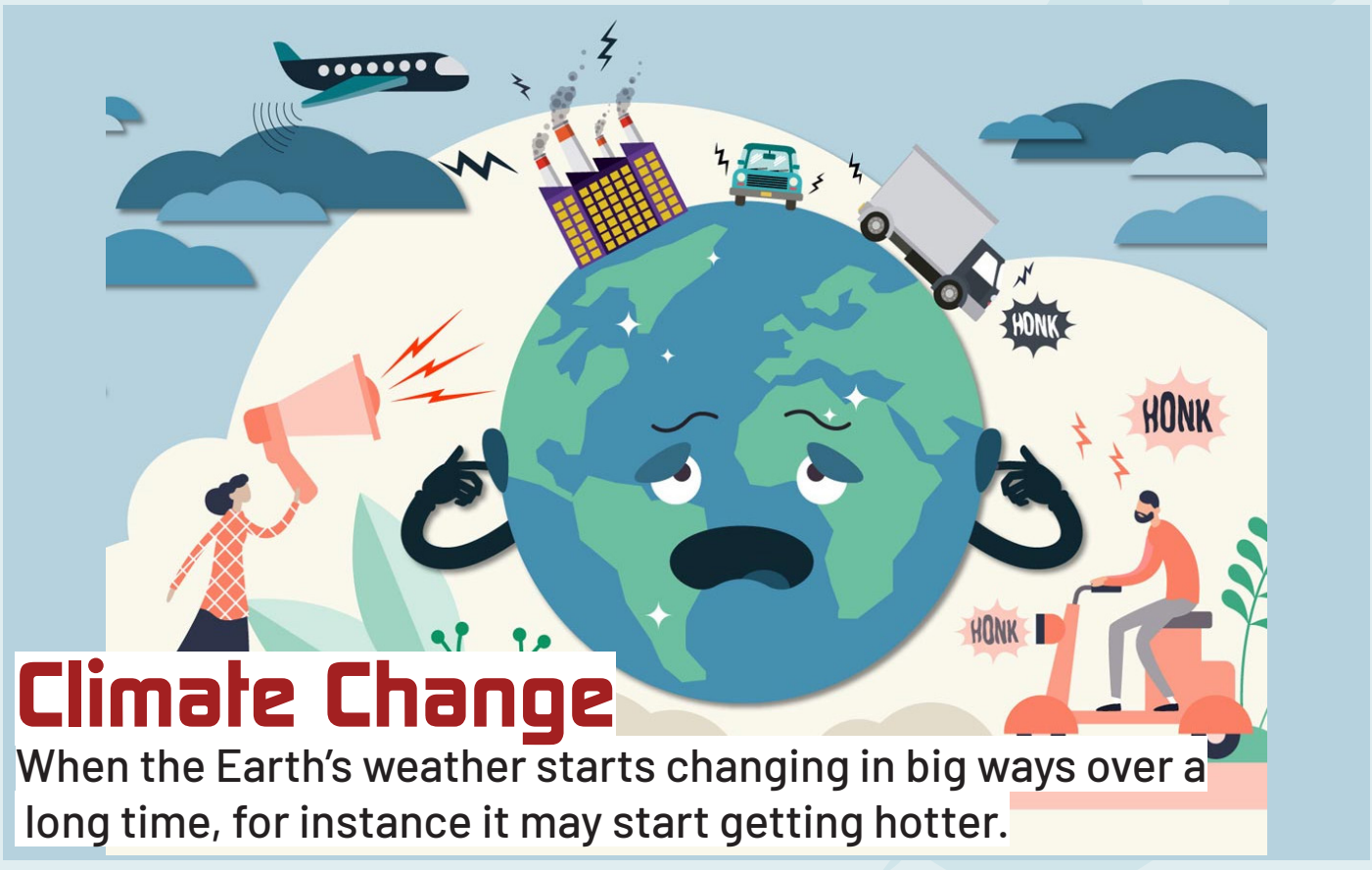


WEATHER

What it's like outside every day, like sunny or rainy.

Pollution

When bad stuff gets into our air, water, or ground..



Climate Change

When the Earth's weather starts changing in big ways over a long time, for instance it may start getting hotter.

How Humans Contribute To Climate Change

Smoke from Factories

People build factories that send a lot of smoke into the sky. This smoke has tiny parts that mix with the air and help to make our Earth feel warmer, like how a blanket keeps you warm.

Gases from Cars and Trucks

Cars and trucks puff out gases as they move. These gases go up into the sky and help make the Earth warmer.

Cutting Down Trees

Trees are like Earth's helpers; they keep our air clean. When we cut them down, there aren't as many helpers to keep the air clean, and our Earth can get warmer.

Too Much Trash

When we have too much trash, especially the kind that doesn't break down easily, it can make the Earth warmer.

DEFINITIONS

Climate Change Mitigation (Weather Change Solutions):

Doing things to make sure our weather doesn't change too much, and our earth doesn't get too hot

Examples Of Climate Change Mitigation

Recycling and Reducing Waste:

Teach them the importance of recycling things like paper, plastic, and glass. Explain how making new things from old things means we don't have to use as much energy, which can help keep the Earth from getting too hot.

Walking or Riding Bikes:

Encourage them to walk or ride bikes for short trips instead of always going by car. Explain that cars produce gases that warm up the Earth, so walking or biking is not only good for health but also for the planet.

Using Less Electricity:

Examples Of Climate Change Mitigation

Discuss simple actions like turning off lights when leaving a room or unplugging electronics when they are not in use. Explain that electricity often comes from burning fuels that can make the Earth warmer, so using less electricity helps.

Planting Trees:

Explain how planting trees in their schoolyard, community, or at home can help the Earth. Trees absorb carbon dioxide, which is a gas that makes the Earth warmer. By planting more trees, we help keep the Earth cooler.

DEFINITIONS

Climate Change Adaptation (Weather Adjustments):
Changing the way we do things so we can plan for and live with climate changes

Difference between Climate Change Mitigation and Climate Change Adaptation:
Climate Change Mitigation is about doing things to stop the Earth from getting too hot, doing things to stop the climate from changing, while Climate Change Adaptation is about helping everyone to prepare for, and still live well with changing weather conditions.

Climate Change Adaptation Examples

Climate Change Adaptation Examples(Weather Adjustments):

A. **Building Stronger Houses:** Explain how houses in Jamaica can be built stronger to withstand stronger storms and hurricanes. This can include using stronger materials or designs that are more wind-resistant.

B. **Growing Different Crops:** Discuss how farmers might start growing different types of crops that can better survive in changing weather conditions, like longer periods of no rains or heavier rains.

C. **Saving Water for Dry Periods:** Teach them about collecting and storing rainwater in barrels or cisterns, so there's enough water for plants and for use at home during longer dry spells.

D. **Emergency Preparedness:** Talk about the importance of having an emergency plan and kit ready for natural disasters like hurricanes or floods, which may happen more often because of climate change.

Wearing Appropriate Clothing: Explain how wearing the right kind of clothing for different weather conditions, like lighter clothes for hotter days and raincoats for wetter days, helps us adjust to changing weather.

F. **Learning about Weather and Climate:** Encourage them to learn more about the weather and climate, including understanding weather forecasts, so they can be better prepared for different weather conditions.

DEFINITIONS

Biodiversity Loss (Losing Nature):

Sometimes plants and animals disappear because their homes are being ruined or there's too much dirtiness (pollution).

Ecosystem Services (Nature's Gifts):

All the good things nature gives us like food, water,trees, air

Nature-Based Solutions (NBS) (Help from Nature):

Using natures gifts (trees, plants, and water etc.) to solve problems

Nature-Based Solutions

A. **Planting Trees to Cool Down Schoolyards:** Explain how planting trees around their school can help cool down the area. Trees provide shade, which makes it cooler for them to play during recess. This is a way of using nature (trees) to solve the problem of too much heat.

B. **Creating Butterfly Gardens to Help Pollination:** Discuss how making a small garden for butterflies at their school or at home can help plants grow better. Butterflies help in pollinating flowers, which is important for plants to make fruits and seeds. This is using nature (butterflies and plants) to help with growing food.

C. **Using Plants to Clean Air:** Teach them about how some plants can help clean the air. Having plants in the classroom or at home can make the air fresher and healthier to breathe. This is an example of using nature's gifts (plants) to solve the problem of dirty air.

D. **Rain Gardens to Prevent Flooding:** Explain how a rain garden, which is a garden designed to catch rainwater, can help prevent flooding. The plants and soil in the rain garden absorb water, reducing the amount that runs off into streets and causing floods. This is a way of using nature (soil and plants) to solve the problem of flooding.

E. **Mangroves to Protect Coastlines:** Share how mangrove trees along coastlines can protect beaches from erosion. Mangroves have strong roots that hold the soil, reducing the impact of waves and preventing the beach from being washed away. This is an example of using nature (mangrove trees) to protect the land.

ENGAGING ACTIVITIES AND PROJECTS

INTRODUCTION

Welcome to the vibrant and hands-on world of "Engaging Activities and Projects"! In this lively section of our toolkit, we aim to bring the concepts of climate change adaptation and nature-based solutions to life for our young learners. Our objective here is clear and purposeful: to provide a series of hands-on, interactive experiences that not only reinforce students' understanding of these crucial topics but also ignite their curiosity and enthusiasm for learning.

As educators, you know that the most impactful lessons are those where students can actively participate and apply their learning in practical ways. This section is designed to do just that, through a variety of dynamic and enjoyable activities. We've divided the section into three main categories, each offering a unique approach to engaging young minds:

Fun Research Activities: Here, students will embark on mini-explorations and investigations, turning them into young researchers. These activities are crafted to be both informative and enjoyable, encouraging students to delve deeper into the topics of climate change and nature-based solutions in a way that resonates with their natural curiosity and creativity.

Games and Interactive Learning: Learning through play is a powerful tool, and this subsection leverages that by introducing a range of games and interactive learning experiences. These activities are designed to reinforce key concepts while keeping students engaged and motivated. Whether it's a board game, a digital interactive, or a role-playing scenario, each game provides a fun and memorable way to understand and internalize important environmental lessons.

STEM Activities: Focusing on Science, Technology, Engineering, and Mathematics (STEM), this section offers activities that blend environmental education with critical thinking and problem-solving skills. From building models to conducting simple

ENGAGING ACTIVITIES AND PROJECTS

experiments, these activities help students see the practical applications of what they learn, fostering a deeper appreciation for how science and innovation can be harnessed to address environmental challenges.

Through these engaging activities and projects, we aim to foster not just knowledge, but a sense of excitement and passion for environmental stewardship among our young learners. Let's inspire the next generation of climate change adaptors and nature-based solution innovators!

FUN RESEARCH ACTIVITIES

FUN RESEARCH ACTIVITIES ACTIVITIES

INVESTIGATING LOCAL CLIMATE AND WEATHER PATTERNS

Objective:
To engage students in Grades 1-3 in understanding their local climate and weather patterns in Jamaica, encouraging observation and curiosity about the natural world around them.

Activity Design for Teachers:
Preparation:

- Collect simple, understandable weather data for your area (e.g., sunny, rainy, hot, cool) over a few weeks. This can be from a local weather service or a child-friendly weather website.
- Prepare a weather chart or calendar for students to record daily weather.
- Create a visual weather glossary with pictures representing different weather conditions (sun, clouds, rain, etc.).

Track your Monthly Weather

Month

Monday	Tuesday	Wedbesday	Thursday	Friday	Saturday	Sunday

INVESTIGATING LOCAL CLIMATE AND WEATHER PATTERNS

1. **Introduction:** Start with a fun, interactive discussion about weather. Use the weather glossary to introduce basic weather terms.

2. **Observation Phase**: Give each student a weather chart. Every day, at a set time, have students observe the weather outside and mark it on their chart.

3. **Weather Charting:** Teach students how to mark the weather on their chart. Use stickers or drawings for younger students (e.g., a sun sticker for sunny days).

4. **Weekly Discussion**: At the end of the week, have a class discussion about the weather patterns observed. Ask questions like, "What was the most common weather we saw? Did anyone notice any changes?"

Materials Needed:

- Pre-collected weather data
- Weather charts or calendars for students
- Weather glossary with pictures
- Stickers or markers for charting

Assessment Criteria:

- **Observation Skills:** Regular and accurate recording of the daily weather.
- **Participation:** Active participation in class discussions about the weather.
- **Weather Chart Completion:** Neat and complete weather charts.

Extensions:

- **Weather Storytelling:** Have students draw or write a short story about their favorite weather day.
- **Class Weather Station:** Set up a simple weather station in the classroom with a thermometer and rain gauge.

INVESTIGATING LOCAL CLIMATE AND WEATHER PATTERNS

Teaching Tips:

- Ensure the weather glossary is visual and easy to understand.
- Guide students in how to observe and describe the weather.
- Encourage sharing and discussing observations to build communication skills.
- Be adaptive to the students' responses and interests, possibly extending the observation period if they show high engagement.

This activity is designed to be simple, interactive, and age-appropriate, fostering a foundational understanding of weather and climate in young learners. Through observation, recording, and discussion, students will gain a greater appreciation of the environment and the changes in the weather around them.

FUN RESEARCH ACTIVITIES

Exploring The Impact of Climate Change On Animals And Plants In Jamaica

Objective:
To engage Grade 1-3 students in understanding how climate change affects the local wildlife and plant life in Jamaica, promoting awareness and empathy towards the environment.

Activity Design for Teachers:

Preparation:

- Compile a list of common animals and plants found in Jamaica that are affected by climate change (e.g., sea turtles, coral reefs, mangroves).
- Gather simple, age-appropriate resources or create brief info sheets about how these species are impacted by climate change (e.g., warmer temperatures, rising sea levels).

Exploring The Impact of Climate Change On Animals And Plants In Jamaica

1. **Introduction to Local Wildlife and Plants**: Start with an interactive discussion about the animals and plants in Jamaica. Introduce the concept of how the environment and living things can be affected by changes in weather and climate.
2. **Research Activity:** Divide the class into small groups and assign each group an animal or plant to research. Provide the info sheets and guide them in understanding how climate change affects their assigned species.
3. **Drawing and Storytelling:** Have each group draw pictures of their animal or plant and create a short story or description of how they think climate change impacts it.
4. **Sharing and Discussion**: Each group presents their drawings and stories to the class. Facilitate a discussion on what students can do to help these animals and plants.

Materials Needed:

- List of local animals and plants affected by climate change
- Information sheets on how these species are impacted
- Drawing and art supplies

Assessment Criteria:

- **Understanding of Impact:** Ability to grasp how climate change affects their assigned species.
- **Creativity in Drawing and Storytelling:** Quality and creativity of their drawings and stories.
- **Group Participation:** Active participation in research, discussion, and presentation.

Extensions:

- **Create a Classroom Mural:** Combine all drawings to create a mural depicting the local ecosystem and how it's affected by climate change.
- **Plant a Tree or Garden:** As a practical action, plant a tree or garden at school to help local wildlife.

Exploring The Impact of Climate Change On Animals And Plants In Jamaica

Teaching Tips:

- Ensure information sheets are simple and have pictures for better understanding.
- Guide the research process with questions to stimulate thinking.
- Encourage students to express their ideas and thoughts creatively.
- Use the activity to foster a sense of responsibility towards the environment.

This activity is tailored to be age-appropriate and engaging, helping young learners connect with their local environment and understand the broader implications of climate change. Through research, creativity, and discussion, students will develop a deeper awareness and empathy for the natural world around them.

ANIMALS AND PLANTS AFFECTED BY CLIMATE CHANGE IN JAMAICA

1. **Sea Turtles:** Climate change affects nesting sites and temperatures, which can alter the sex ratio of hatchings. Warmer sands tend to produce more female hatchlings, potentially disrupting future breeding populations and loss of beaches used for nesting.
2. **Coral Reefs:** Increased sea surface temperatures can cause coral bleaching, where cor-als lose the algae they rely on for food. This leads to weakened coral structures and ecosystems, affecting the marine life that depends on them.
3. **Mangroves**: Rising sea levels and changing salinity due to climate change can harm mangrove forests, which are crucial for coastal protection and as nursery grounds for many marine species.
4. **Jamaican Iguana:** As a species highly dependent on specific habitat conditions, climate change poses a threat to its survival by altering its habitat and food availability.
5. **Jamaican Fruit Bat:** Changes in flowering and fruiting patterns of plants due to climate change can affect the food sources of these bats, impacting their population and distribution.
6. **Ackee Trees:** Altered rainfall patterns and increased temperatures can affect the growth and fruit production of ackee trees, an essential part of Jamaica's natural and cultural heritage.
7. **Coffee Plants:** Climate change can lead to increased incidence of pests and diseases and affect the quality and quantity of coffee bean production, impacting this vital agricultural sector.
8. **Red Mangroves:** These mangroves are particularly susceptible to changes in sea level and storm patterns, which can erode the coastline and threaten the habitats they stabilize.
9. **Hellshire Hills Cactus:** Increased temperatures and changing rainfall patterns can stress these cacti, potentially leading to reduced populations in their natural habitats.
10. **Jamaican Boa (Yellow Snake):** Climate change can alter the boa's habitat, affecting its prey availability and increasing vulnerability to predators and human conflict.

FUN RESEARCH ACTIVITIES

NATURE-BASED SOLUTIONS IN JAMAICA

Objective:
To engage young students (Grades 1-3) in exploring a real-world implementation of a Nature-based Solution (NbS) to climate change in Jamaica, fostering understanding and appreciation of environmental conservation.

Activity Design for Teachers:

Preparation:
- Select a few examples of Nature-based Solutions to climate change implemented in Jamaica (e.g., mangrove restoration, community tree planting initiatives, coral reef conservation).
- Prepare simple, illustrated information sheets on each NbS, highlighting how they help combat climate change.
- Organize materials for students to create a project based on their research (e.g., poster boards, markers, glue, scissors).

Nature Based Solutions in Jamaica

Instructions for Students:

1. **Introduction to Nature-based Solutions:** Begin with a child-friendly explanation of what NbS are and how they help our environment, particularly in combating climate change.
2. **Group Assignment:** Divide the class into small groups and assign each group one NbS to investigate. Distribute the prepared information sheets to each group.
3. **Research and Project Creation:** Guide the students to use the information to create a poster or collage that illustrates their assigned NbS. Encourage them to draw and write about how these solutions help the environment.
4. **Presentation and Sharing:** Allow each group to present their project to the class, discussing what they learned about their NbS and its importance.

Materials Needed:

- Information sheets on selected NbS examples
- Project creation materials (poster boards, art supplies)

Assessment Criteria:

- **Research Understanding:** Clarity in understanding and explaining the NbS.
- **Creativity in Project:** Creativeness in the poster or collage creation.
- **Presentation Skills:** Ability to present their findings in a clear and engaging manner.
- **Teamwork:** Cooperation and collaboration within the group.

Extensions:

- **NbS Model Creation:** Have students create small models of their NbS using recycled materials.
- **Nature Walk:** Organize a nature walk to observe local examples of NbS.

Nature Based Solutions in Jamaica

Teaching Tips:

- Choose NbS examples that are tangible and relatable for young students.
- Use lots of visuals in the information sheets to aid understanding.
- Assist and guide the students in the creation and presentation process.
- Encourage questions and discussions to deepen their comprehension.

This activity is designed to be interactive and educational, allowing students to explore and understand the practical applications of NbS in their own community. It aims to promote awareness and appreciation for environmental conservation efforts at a young age.

GAMES AND INTERACTIVE LEARNING

GAMES AND INTERACTIVE LEARNING

CLIMATE CHANGE BINGO

Introduction to Climate Change Bingo

Welcome to Climate Change Bingo, an engaging and interactive game designed for students in Grades 1-3 to enhance their understanding of environmental concepts in a fun and exciting way. This game is an excellent tool for young learners to revisit and deepen their knowledge about the causes of climate change, climate change mitigation, and climate change adaptation.

How to Play Climate Change Bingo:

- Each student is given a unique Bingo card containing various terms related to climate change. These terms cover four categories: causes of climate change, climate change mitigation, climate change adaptation, and other general concepts.
- The teacher, serving as the game host, prepares the game by writing each term from the master list on small pieces of paper. These papers are then folded and placed in a container.
- During the game, the teacher randomly picks a piece of paper from the container and calls out the term written on it.
- Students listen attentively and place a marker on their card if the called term matches one on their Bingo card.
- The goal is to complete a row or column (horizontally, vertically, or diagonally) and shout "Bingo!" The first student to do so wins that round.
- For added educational value, the students who find the term on their cards can be asked to explain some of the terms, or the teacher can comment on the terms called, encouraging discussion and ensuring they understand the concepts.

Climate Change Bingo is more than just a game; it's a learning experience that brings environmental terms to life. As students match terms with their cards, they engage in meaningful discussions, ask questions, and connect with important environmental issues. Let's play and learn together with Climate Change

Bingo Card Master Sheet

Cause of Climate Change (10 Terms/Activities)

1. Factory Smoke
2. Car Exhaust
3. Cutting Trees
4. Burning Oil
5. Coal Mining
6. Throwing Away Lots of Trash
7. Too Many Cars on the Road
8. Using Lots of Electricity
9. Airplanes in the Sky
10. Big Machines

Climate Change Mitigation (10 Terms/Activities)

1. Planting Trees
2. Using Solar Panels
3. Recycling
4. Saving Water
5. Growing Food Locally
6. Riding Bikes Instead of Cars
7. Using Less Plastic
8. Turning Off Lights When Not in Use
9. Carpooling
10. Keeping Oceans Clean

Climate Change Adaptation (10 Terms/Activities)

1. Building Strong Houses
2. Growing Plants that Don't Need Much Water
3. Making Bigger Drains for Rain
4. Checking Weather Reports
5. Wearing Sunscreen and Hats
6. Having Emergency Kits
7. Raising Houses in Flood Areas
8. Protecting Beaches from Erosion
9. Saving Rainwater
10. Learning to Stay Safe in Storms

Others (10 Terms)

1. Friendship
2. Kindness
3. Reading
4. Music
5. Sports
6. Art
7. Animals
8. Stars and Planets
9. Healthy Eating
10. Playgrounds

BINGO CARDS

BINGO CARD 1

Cause of Climate Change	Climate Change Mitigation	Climate Change Adaptation	Others
Using Lots of Electricity	Using Solar Panels	Protecting Beaches from Erosion	Friendship
Factory Smoke	Carpooling	Checking Weather Reports	Music
Coal Mining	Riding Bikes Instead of Cars	Making Bigger Drains for Rain	Kindness
Burning Oil	Growing Food Locally	Building Strong Houses	Stars and Planets
Cutting Trees	Saving Water	Learning to Stay Safe in Storms	Playgrounds

BINGO CARD 2

Cause of Climate Change	Climate Change Mitigation	Climate Change Adaptation	Others
Big Machines	Riding Bikes Instead of Cars	Raising Houses in Flood Areas	Music
Car Exhaust	Carpooling	Wearing Sunscreen and Hats	Stars and Planets
Too Many Cars on the Road	Growing Food Locally	Growing Plants that Don't Need Much Water	Friendship
Coal Mining	Saving Water	Having Emergency Kits	Animals
Factory Smoke	Recycling	Making Bigger Drains for Rain	Sports

BINGO CARDS

BINGO CARD 3

Cause of Climate Change	Climate Change Mitigation	Climate Change Adaptation	Others
Airplanes in the Sky	Carpooling	Checking Weather Reports	Stars and Planets
Coal Mining	Using Solar Panels	Learning to Stay Safe in Storms	Sports
Car Exhaust	Saving Water	Wearing Sunscreen and Hats	Reading
Using Lots of Electricity	Riding Bikes Instead of Cars	Saving Rainwater	Music
Factory Smoke	Turning Off Lights When Not in Use	Growing Plants that Don't Need Much Water	Kindness

BINGO CARD 4

Cause of Climate Change	Climate Change Mitigation	Climate Change Adaptation	Others
Factory Smoke	Carpooling	Having Emergency Kits	Playgrounds
Car Exhaust	Using Less Plastic	Saving Rainwater	Music
Throwing Away Lots of Trash	Recycling	Checking Weather Reports	Stars and Planets
Using Lots of Electricity	Keeping Oceans Clean	Learning to Stay Safe in Storms	Reading
Burning Oil	Riding Bikes Instead of Cars	Making Bigger Drains for Rain	Art

BINGO CARDS

BINGO CARD 5

Cause of Climate Change	Climate Change Mitigation	Climate Change Adaptation	Others
Factory Smoke	Carpooling	Having Emergency Kits	Playgrounds
Car Exhaust	Using Less Plastic	Saving Rainwater	Music
Throwing Away Lots of Trash	Recycling	Checking Weather Reports	Stars and Planets
Using Lots of Electricity	Keeping Oceans Clean	Learning to Stay Safe in Storms	Reading
Burning Oil	Riding Bikes Instead of Cars	Making Bigger Drains for Rain	Art

BINGO CARD 6

Cause of Climate Change	Climate Change Mitigation	Climate Change Adaptation	Others
Big Machines	Saving Water	Having Emergency Kits	Music
Cutting Trees	Riding Bikes Instead of Cars	Growing Plants that Don't Need Much Water	Kindness
Burning Oil	Carpooling	Checking Weather Reports	Friendship
Car Exhaust	Planting Trees	Wearing Sunscreen and Hats	Stars and Planets
Airplanes in the Sky	Using Less Plastic	Protecting Beaches from Erosion	Playgrounds

BINGO CARDS

BINGO CARD 7

Cause of Climate Change	Climate Change Mitigation	Climate Change Adaptation	Others
Burning Oil	Using Less Plastic	Saving Rainwater	Reading
Cutting Trees	Turning Off Lights When Not in Use	Having Emergency Kits	Kindness
Coal Mining	Growing Food Locally	Wearing Sunscreen and Hats	Playgrounds
Factory Smoke	Recycling	Learning to Stay Safe in Storms	Sports
Using Lots of Electricity	Carpooling	Making Bigger Drains for Rain	Friendship

BINGO CARD 8

Cause of Climate Change	Climate Change Mitigation	Climate Change Adaptation	Others
Big Machines	Planting Trees	Saving Rainwater	Healthy Eating
Factory Smoke	Using Solar Panels	Building Strong Houses	Art
Too Many Cars on the Road	Using Less Plastic	Protecting Beaches from Erosion	Music
Using Lots of Electricity	Saving Water	Checking Weather Reports	Sports
Airplanes in the Sky	Keeping Oceans Clean	Raising Houses in Flood Areas	Animals

BINGO CARDS

BINGO CARD 9

Cause of Climate Change	Climate Change Mitigation	Climate Change Adaptation	Others
Using Lots of Electricity	Growing Food Locally	Wearing Sunscreen and Hats	Animals
Throwing Away Lots of Trash	Carpooling	Making Bigger Drains for Rain	Kindness
Coal Mining	Using Less Plastic	Growing Plants that Don't Need Much Water	Art
Airplanes in the Sky	Saving Water	Checking Weather Reports	Music
Big Machines	Riding Bikes Instead of Cars	Saving Rainwater	Playgrounds

BINGO CARD 10

Cause of Climate Change	Climate Change Mitigation	Climate Change Adaptation	Others
Coal Mining	Carpooling	Saving Rainwater	Music
Airplanes in the Sky	Keeping Oceans Clean	Wearing Sunscreen and Hats	Stars and Planets
Big Machines	Planting Trees	Growing Plants that Don't Need Much Water	Art
Factory Smoke	Using Solar Panels	Checking Weather Reports	Reading
Cutting Trees	Recycling	Making Bigger Drains for Rain	Playgrounds

GAMES AND INTERACTIVE LEARNING

NATURE PHOTOGRAPHY EXPEDITION

Objective:
To engage students in Grades 1-3 in a fun and educational exploration of their local environment through photography. This activity aims to capture images that showcase various elements of the curriculum, such as the causes and consequences of climate change and examples of nature-based solutions.

Activity Design for Teachers:

Preparation:

- Plan for this activity to be conducted as homework with parents or as part of a school field trip to ensure adequate supervision and safety.
- If possible, arrange digital cameras or disposable cameras. Alternatively, use smartphones under strict supervision.
- Develop a simple, age-appropriate checklist of subjects or themes related to the curriculum for students to photograph (e.g., plants, animals, improper disposal of garbage and other human activities impacting the environment).

NATURE PHOTOGRAPHY EXPEDITION

Instructions for Students:

1. **Introduction and Safety Briefing:** Explain the basics of photography, focusing on how to respectfully interact with nature. Emphasize safety and responsible behavior, especially if the activity is done outside of school.
2. **Photography Checklist:** Provide students with a list of photography subjects/themes. These should be relevant to their studies on climate change and nature-based solutions.
3. **With Parents or On a Field Trip:** If done as homework, students should go on a 'nature photography expedition' with their parents. If part of a field trip, organize a supervised excursion to a suitable location.
4. **Photo Sharing and Discussion:** Following the expedition, organize a session in class where students can share their photos. Each student should present their best photographs and explain how they relate to the environmental concepts learned.

Materials Needed:

- Cameras or smartphones
- Photography checklist
- Plan for parental involvement or field trip supervision

Assessment Criteria:

- **Participation:** Active involvement in taking photographs and sharing them.
- **Creativity and Observation:** Quality and creativity of the photographs, and the ability to observe environmental details.
- **Understanding of Concepts:** Ability to relate photographs to the concepts of climate change and nature-based solutions.

Extensions:

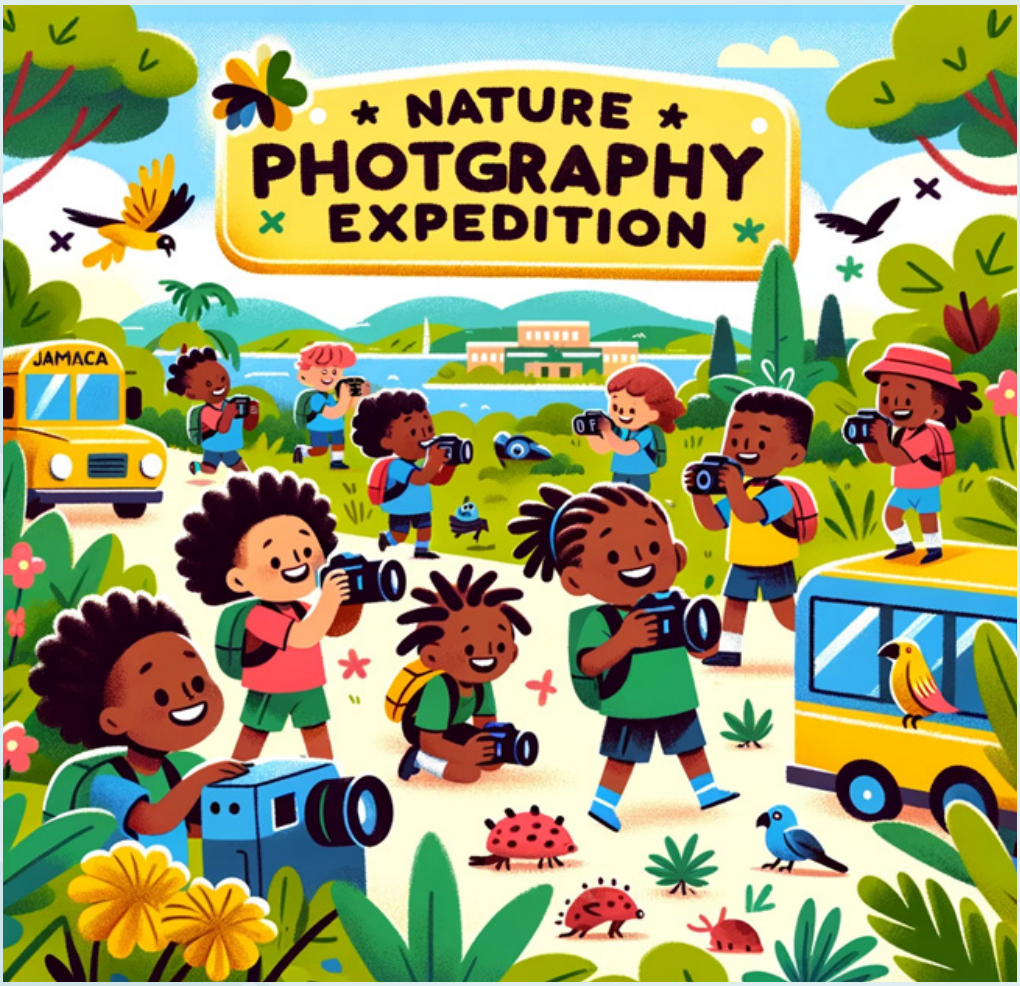
- **Class Project**: Compile the photographs into a class album or a digital slideshow.
- **Exhibition:** Host a photo exhibition for the school or parents, showcasing the students' work and their learning about the environment.

NATURE PHOTOGRAPHY EXPEDITION

Teaching Tips:

- Ensure the checklist items are easily accessible and safe for students to photograph.
- Provide clear guidelines to parents for the homework expedition, emphasizing the educational objectives.
- During the photo sharing session, encourage students to articulate their thoughts and observations, fostering a deeper understanding of the curriculum.

This activity, done with parents as homework or as part of a school field trip, offers a unique opportunity for students to connect with their environment, apply their learning in a real-world context, and share their insights through the art of photograph



GAMES AND INTERACTIVE LEARNING

Climate Change Story Book

Objective:
Encourage students in Grades 1-3 to creatively express their understanding of Climate Change Adaptation and Nature-based Solutions by writing and illustrating their own storybooks, either digitally or written format.

Activity Design for Teachers:

Preparation:

- Introduce the concept of storytelling, focusing on how it can be used to convey important messages about climate change.
- Provide options for creating the storybook: using a free digital storybook platform or creating a traditional storybook with paper, pencils, and art supplies.
- Prepare simple storyboard templates or guidelines to help structure their stories.

Climate Change Story Book

Instructions for Students:

1. **Story Concept Development:** Start with a brainstorming session. Encourage students to think of characters, settings, and a plot that revolves around Climate Change Adaptation and Nature-based Solutions.
2. **Writing the Story:** Students can write their stories in a notebook or on paper, or type them using a digital storybook platform. For those who prefer speaking to writing, consider allowing them to dictate their stories.
3. **Illustration:** Students illustrate their stories, either by hand-drawing in their notebooks or using digital tools provided by the storybook platform.
4. **Compiling the Storybook:** Assist students in putting together their written stories and illustrations, whether in a physical notebook or as a digital book.
5. **Story Sharing Session:** Have a class session where students present their storybooks. This can be a reading session for physical books or a digital showcase for those who created online.

Materials Needed:

- Computers and internet access for digital storybook creation.
- Notebooks, paper, pencils, crayons, and other art supplies for hand-made storybooks.
- Storyboard templates or story guidelines.

Assessment Criteria:

- Creativity in Storytelling: Originality and creativity in the story concept and illustrations.
- Understanding of Key Themes: How well the story relates to Climate Change Adaptation and Nature-based Solutions.
- Structure and Coherence: Logical structure and clear narrative flow.
- Effort and Presentation: The overall effort put into creating and presenting the storybook.

Climate Change Story Book

Extensions:

- Class Storybook Library: Create a collection of all the students' storybooks for classroom reading.
- Storybook Exhibition: Host an exhibition for parents and other classes to view and appreciate the students' work.

Teaching Tips:

- Offer varied examples and ideas to inspire students' stories.
- Provide step-by-step support, especially for younger or less experienced students.
- Encourage peer discussions to help refine and develop story ideas.
- Be flexible with the medium of storytelling, allowing students to choose what they are most comfortable with.

This activity promotes creativity and personal expression, enabling students to understand and articulate complex concepts of climate change in an engaging and accessible manner. By creating their own storybooks, students explore and express these important environmental themes through their unique perspectives.

TEACHER SAMPLE STORY

Title: "Shelly and the Magic Mango Tree"

Once upon a time in a beautiful Jamaican village, there was a little girl named Shelly. Shelly loved playing outside, especially near the tall mango trees. One day, she noticed that her favorite mango tree wasn't looking very happy. Its leaves were turning brown, and it didn't have as many mangoes as before.

Shelly was worried, so she asked her grandmother, "Granny, why is the mango tree looking so sad?"

Granny replied, "Well, Shelly, it's because of the climate change. The weather is getting hotter, and there isn't enough rain for the tree."

Shelly felt sad for the tree. She wondered, "What can I do to help?"

That night, Shelly had a dream. A talking parrot came to her and said, "Shelly, you have the power to help the mango tree. Remember, every small action counts."

The next morning, Shelly woke up with a big idea. She went around her village and talked to her friends and neighbors about planting more trees and taking care of the environment. She even started a little group of young gardeners.

Together, they planted more trees, and took care of them by watering and ensuring they were healthy. Shelly also encouraged everyone to use less water and recycle more.

Time passed, and the village transformed. More trees meant more shade and cooler air. The mango tree that Shelly loved began to look happier. It grew greener leaves, and soon, it was full of sweet, juicy mangoes.

The talking parrot from Shelly's dream visited the village and saw all the new trees. "Well done, Shelly, you and your friends have made a big difference. You've shown that even little hands can make our world a better place."

Shelly smiled, feeling proud. She realized that even as a young girl, she could help fight climate change and protect nature. From that day on, Shelly and her friends continued to take care of their environment, making their village a greener and happier place.
And the magic mango tree? It stood tall and strong, a symbol of what children can do to help the Earth.

The End.

STEM ACTIVITIES

STEM ACTIVITIES
MINI GREENHOUSE EFFECT EXPERIMENT

Objective:

To help students in Grades 1-3 understand the greenhouse effect by conducting a simple, hands-on experiment. This activity demonstrates how greenhouse gases contribute to climate change.

How This Experiment Demonstrates the Greenhouse Effect:

- In this experiment, the bottle covered with plastic wrap represents Earth's atmosphere with lots of greenhouse gases.
- The lamp acts as the sun, providing heat.
- The plastic wrap allows light to enter but traps some of the heat inside the bottle, similar to how greenhouse gases trap heat in the Earth's atmosphere.
- The other bottle, without plastic wrap, demonstrates how temperatures might be without a lot of greenhouse gaes trapping the heat on the earths suface.
- By comparing the temperatures in the two bottles, students can observe how greenhouse gases contribute to warming the Earth, thereby understanding a key aspect of climate change.
- The teacher will also reinforce that when humans continue to create greenhouse gases that traps heat on the earth, then the climate will change and and earth will get hotter.

Activity Design for Teachers:

Preparation:

- Gather materials: two clear plastic bottles, two thermometers, a lamp (to serve as a heat source), and plastic wrap.
- Prepare a safe space in the classroom where the experiment can be conducted without disturbance.
- Create a simple worksheet for students to record their observations and temperatures.

MINI GREENHOUSE EFFECT EXPERIMENT

Instructions for Students:

1. **Introduction to the Greenhouse Effect:** Begin with a basic explanation of the greenhouse effect and its role in climate change.
2. **Setting Up the Experiment:**
   a. Help students cut the bottom off both plastic bottles.
   b. Place a thermometer inside each bottle.
   c. Cover the opening of one bottle with plastic wrap (to represent greenhouse gases).
   d. Place both bottles under the lamp (but not too close to avoid any hazard).
3. **Observation Phase:** Instruct students to observe and record the temperature in both bottles at regular intervals (e.g., every 5 minutes) for a set period (e.g., 30 minutes).
4. **Discussion and Conclusion:** After the observation period, discuss the results. The bottle with the plastic wrap should show a higher temperature, simulating the greenhouse effect. Explain how this relates to real-world climate change.

Materials Needed:

- Two clear plastic bottles
- Two thermometers
- A lamp (heat source)
- Plastic wrap
- Observation worksheets

Assessment Criteria:

- Participation: Active involvement in setting up and conducting the experiment.
- Observation Skills: Accuracy and consistency in recording temperature changes.
- Understanding of Concept: Ability to explain the greenhouse effect based on the experiment.

Extensions:

- Research Assignment: Students can research and present on real-world examples of the greenhouse effect.

MINI GREENHOUSE EFFECT EXPERIMENT

- Art Project: Create posters illustrating the greenhouse effect and ways to reduce greenhouse gas emissions.

Teaching Tips:

- Ensure the experiment is conducted safely, particularly with regard to the use of the lamp.
- Provide clear, step-by-step instructions and supervise the experiment closely.
- Use the discussion phase to connect the experiment with broader climate change topics.
- Encourage students to ask questions and express their thoughts on the experiment's findings.

This experiment provides a tangible way for young students to understand the concept of the greenhouse effect and its role in climate change, and most importantly why humans should try to limit the amount of greenhouse gases they create.

STEM ACTIVITIES

SPONGE CITY EXPERIMENT

Objective:

To help students in Grades 1-3 understand how urban green spaces, like parks and gardens, can absorb rainwater and reduce flooding, demonstrating a Nature-based Solution to some climate change impacts.

Explanation of Experiment

- In the Sponge City Experiment, we create a small model of a city to show how green spaces like parks can help absorb rainwater.
- When it rains in a city, the water usually flows over hard surfaces like roads and buildings. This can cause flooding, especially if there's a lot of rain.
- However, in cities with green spaces, like parks or gardens, the soil and plants act like a sponge. They absorb a lot of this rainwater, which helps to reduce flooding.
- In our experiment, the clay or playdough landscape represents the city with buildings and roads, and the sponge represents a green space.
- When we pour water over the model city, we can see how the tray with a sponge (green space) absorbs more water than the tray without a sponge.
- This shows us how important parks and gardens are in our cities, especially when we think about climate change and the increase in heavy rainfalls

Activity Design for Teachers:

Preparation:

- Gather materials: foil trays (one per group), large sponges, clay or playdough, water, small jugs or cups, and measuring tapes or rulers.
- Prepare a simple explanation of "Sponge Cities" and the role of green spaces in urban areas.
- Create a worksheet for students to record their observations.

SPONGE CITY EXPERIMENT

Instructions for Students:

1. **Group Formation:** Divide the class into groups of five.
2. **City Landscape Creation**: Guide each group to use clay/playdough to create a miniature city landscape in their foil tray, including buildings, roads, etc.
3. **Adding Green Spaces:** Assign some groups to place a sponge (representing a green space or park) in the center of their tray. Other groups should leave their trays without a sponge.
4. **Simulating Rainfall:** Each group pours the same amount of water into their tray, imitating rainfall.
5. **Observation Phase:** Instruct students to observe how the water behaves in each tray. The trays with a sponge should absorb water, while those without will show runoff.
6. **Discussion:** Lead a class discussion on the observations and the role of green spaces in managing rainwater and preventing flooding.

Materials Needed:

- Foil trays (one per group)
- Large sponges
- Clay or playdough
- Water in small jugs or cups
- Measuring tapes or rulers
- Observation worksheets

Assessment Criteria:

- **Participation and Teamwork:** Active participation in creating the cityscape and conducting the experiment.
- **Observational Skills:** Accuracy in observing and noting how water behaves in the trays.
- **Understanding of Concepts:** Ability to discuss and understand the importance of green spaces in urban areas for water absorption and flood mitigation.

SPONGE CITY EXPERIMENT

Extensions:

- **Creative Enhancement:** Encourage students to add additional elements to their cityscapes, such as trees, gardens, or small parks.
- **Real-World Application:** Discuss real examples of Sponge Cities or green urban spaces.

Teaching Tips:

- Use clear and simple language to explain the concept of Sponge Cities and the experiment's purpose.
- Provide hands-on assistance and supervision during the experiment setup.
- Encourage students to share their thoughts and observations during the discussion phase.
- Emphasize the importance of green spaces in urban areas for environmental health and climate change mitigation.

Through this hands-on and visually demonstrative experiment, students will gain an appreciation for nature-based solutions in urban planning and the essential role of green spaces in managing environmental challenges.

STEM ACTIVITIES

MANGROVES: OUR NATURAL SHIELD

Objective:

To help students in Grades 1-3 understand the crucial role of mangroves in protecting shorelines from erosion and their importance in coastal ecosystems. This activity is designed to visually demonstrate how mangroves act as natural barriers against the sea's waves.

Explanation of the Experiment:

- The experiment uses simple materials to create a model that shows how mangroves protect beaches and shorelines.
- By setting up two beach-like areas in tubs and simulating waves with water, students can observe the difference between a shoreline with mangroves and one without.
- The twigs with leaves in one tub represent mangroves, which are known for their dense roots and ability to reduce wave energy.
- As the water is poured in, students will see how the 'mangrove' tub experiences less erosion and better protects the toy houses.
- This visual demonstration helps students understand that mangroves are not just plants, but vital parts of the coastal ecosystem that guard against erosion and provide habitat for many species.

Activity Design for Teachers:

Preparation:

- Gather materials: two clear tubs, sand, water, toy houses or small structures to represent buildings, and twigs with leaves to represent mangroves.
- Prepare a discussion guide with simple questions to facilitate observation and learning.
- Arrange the classroom for the experiment, ensuring each group has enough space to work.

MANGROVES: OUR NATURAL SHIELD

Instructions for Students:

1. **Building the Model Beach:** Guide students to create a beach-like area in both tubs using sand, and place toy houses at one end of each tub.
2. **Setting Up Mangroves:** In one tub, insert twigs with leaves at the opposite end from the houses, to represent mangroves. Leave the other tub without twigs.
3. **Simulating Waves:** Gently pour water into each tub towards the end without houses, simulating waves approaching the shore.
4. **Observation and Discussion:** Lead the students in observing how the sand and houses are affected in each tub. Ask questions like, "Which beach area stays more intact? Why do you think that is?"
5. **Concluding the Experiment:** Discuss the role of mangroves in protecting the shore and the importance of conserving these ecosystems.

Materials Needed:

- Two clear tubs
- Sand
- Water
- Toy houses or small structures
- Twigs with leaves

Assessment Criteria:

- **Participation:** Active involvement in setting up and conducting the experiment.
- **Observation Skills:** Accuracy in observing the effects of waves on the model beaches.
- **Understanding of Concepts:** Ability to articulate the role of mangroves in coastal protection based on the experiment.

Suggested Follow-Up Activities:

- **Artistic Representation:** Encourage students to draw or paint a coastline with and without mangroves, highlighting the differences.
- **Reflection Writing:** Ask students to write a short reflection or story about the role of mangroves in protecting wildlife and communities.

MANGROVES: OUR NATURAL SHIELD

Teaching Tips:

- Use clear and simple language to explain the function of mangroves in natural ecosystems.
- Ensure that all students have a clear view and access to participate in the experiment.
- Facilitate the discussion in a way that allows students to share their observations and thoughts.
- Highlight the relevance of mangroves, especially in the Jamaican context, where coastal protection is vital.

This activity aims to instill in young learners an appreciation for mangroves and an understanding of their essential role in environmental conservation, particularly in coastal areas like those found in Jamaica.

LOCAL CASE STUDIES/ STORY TELLING

LOCAL CASE STUDIES/STORY TELLING

EROSION AT HELLSHIRE BEACH

Objective:

To help students in Grades 1-3 understand coastal erosion through the case study of Hellshire Beach in Portmore, Jamaica, and explore the role of mangroves as a nature-based solution.

Activity Design for Teachers:

Preparation:

- Gather before-and-after photos of Hellshire Beach to show the extent of erosion over time.
- Prepare a simple, child-friendly story or background information about Hellshire Beach and its challenges.
- **Story: Once a wide beach with soft white sand, Hellshire Beach in Portmore has been severely eroded over the years. Many believe this erosion is due to human activities like sand mining, combined with natural factors like rising sea levels.**
- Research basic facts about mangroves and their role in coastal protection to share with the students.
- Develop a worksheet or guide for the research activity on mangroves.

EROSION AT HELLSHIRE BEACH

Instructions for Students:

1. **Storytelling and Visual Presentation:** Share the story of Hellshire Beach, showing the before-and-after photos to illustrate the changes. Explain the factors contributing to its erosion, including both human activities and natural factors like rising sea levels.
2. **Research Activity on Mangroves**: Ask students to research the role of mangroves in preventing coastal erosion. Provide guiding questions: "How could mangroves have helped Hellshire Beach?" and "Can mangroves be a solution to the beach's erosion?"
3. **Class Discussion:** After the research activity, facilitate a discussion on their findings. Encourage students to share their thoughts on how mangroves could act as a nature-based solution to the beach's erosion problem.
4. **Creative Reflection:** Encourage students to draw or write about what they learned, imagining Hellshire Beach with a healthy mangrove ecosystem.

Materials Needed:

- Before-and-after photos of Hellshire Beach
- Research materials on mangroves
- Art supplies for creative reflection activity

Assessment Criteria:

- Understanding of Erosion: Ability to comprehend and discuss the erosion issue at Hellshire Beach.
- Research Skills: Quality of research and understanding of the role of mangroves in coastal protection.
- Creative Expression: Clarity and creativity in their drawings or writings about mangroves and coastal protection.

Teaching Tips:

- Use simple language to explain erosion, its causes, and the importance of mangroves.

EROSION AT HELLSHIRE BEACH

- Assist students in research by providing age-appropriate resources or guiding them to suitable materials.
- Encourage a supportive environment where students feel comfortable sharing their ideas and findings.

Through this activity, students will gain a real-world understanding of coastal erosion and the importance of conserving natural barriers like mangroves. It provides an opportunity to connect classroom learning to local environmental issues, fostering a sense of connection and responsibility towards their natural surroundings

LOCAL CASE STUDIES/STORY TELLING

COMPOSTING: NATURE'S SPECIAL TRASH HELPER

Objective:
To teach students in Grades 1-3 about composting as an effective nature-based solution for managing organic waste and combating climate change.

Activity Design for Teachers:

Preparation:

- Prepare a child-friendly story about composting, highlighting its benefits in fighting climate change.
- **Story: Sometimes, when we throw away food peels and old leaves, they go to big places like the Riverton City Dump. Here, they stay and can turn into a smelly bad gas called methane that isn't good for our planet. Methane acts like a thick blanket that makes the Earth too hot, leading to climate change. But guess what? There's a magic trick called composting! When we use this trick, these food peels and leaves turn into special soil without making the bad gas. This helps keep our Earth from getting too hot, fighting against climate change**
- Gather materials for mini-compost pots: small containers (like yogurt pots), fruit peels, old leaves, bits of paper, and a little soil.
- Create a simple guide or checklist for maintaining the compost pots.

COMPOSTING: NATURE'S SPECIAL TRASH HELPER

Instructions for Students:

1. **Storytelling Session:** Share the story about how food waste can turn into harmful gases like methane at dumps, but composting can turn this waste into valuable soil without releasing bad gases.
2. **Creating Mini-Compost Pots**
   - Distribute small containers to each student.
   - Guide them to fill their pots with layers of fruit peels, old leaves, bits of paper, and a little soil.
   - Explain how to mix the compost occasionally, allowing air to help the composting process.
3. **Observation and Maintenance:** Instruct students to watch their compost pots over the next few weeks. Provide a guide for how often to turn their compost and what changes to look for.
4. **Class Discussion:** After a few weeks, discuss the changes seen in the compost pots. Explain how the compost is now rich soil, full of nutrients for plants, and how composting helps reduce climate change.

Materials Needed:

- Small containers (like yogurt pots)
- Fruit peels
- Old leaves
- Bits of paper
- Soil

Assessment Criteria:

- Participation: Active involvement in creating and maintaining their compost pots.
- Observation Skills: Regular observations and understanding of the composting process.
- Comprehension of Composting Benefits: Ability to explain how composting helps reduce waste and combat climate change.
- Suggested Follow-Up Activities:
- Planting in Compost Soil: Use the compost to plant seeds, observing how plants grow in nutrient-rich soil.

COMPOSTING: NATURE'S SPECIAL TRASH HELPER

- Reflective Art or Writing: Have students draw or write about what they learned from the composting activity.

Teaching Tips:

- Use the storytelling session to make the concept of composting engaging and relatable.
- Provide clear instructions and support for setting up and maintaining the compost pots.
- Encourage students to share their observations and findings, fostering a sense of discovery and learning.

Through this activity, students will learn about the importance of composting and how this simple act contributes to a healthier planet. They'll gain hands-on experience in turning waste into a resource, deepening their understanding of sustainable practices and their role in environmental stewardship.

Story: Story: Sometimes, when we throw away food peels and old leaves, they go to big places like the Riverton City Dump. Here, they stay and can turn into a smelly bad gas called methane that isn't good for our planet. Methane acts like a thick blanket that makes the Earth too hot, leading to climate change. But guess what? There's a magic trick called composting! When we use this trick, these food peels and leaves turn into special soil without making the bad gas. This helps keep our Earth from getting too hot, fighting against climate change!

Activity: Let's make our mini-compost pots! Using small containers, students can add fruit peels, old leaves, and bits of paper. Show them how to mix it now and then, turning the compost to let it breathe.
Key Learning Outcome: Students will learn how old food and leaves can become something good for plants, and how this simple act helps in the fight against climate change.

Suggested Follow-Up Activities:

Watch the mini-compost pots over a few weeks and see how things change.
Discuss how plants love to grow in this special soil because it's full of goodies and nutrients and how this natural process is a nature-based solution that can help in our efforts against climate change.

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