Dream Big Homeschool: Ecosystem Explorers March Curriculum (Ages 2-12)

I. Supplies:

- **Art Supplies:** Construction paper (various colors, including browns, greens, blues), crayons, markers, paint (various colors, including earth tones), paintbrushes, glue (sticks and liquid), scissors, glitter (biodegradable), yarn, beads, clay, modeling dough, recycled materials (cardboard tubes, boxes, plastic bottles, egg cartons), fabric scraps, felt, googly eyes.

- **Writing Supplies:** Paper (lined and plain), pencils, pens, journals, notebooks, index cards.
- **Books:** Age-appropriate books about ecosystems, plants, animals, and conservation (check your local library!).
- **Music:** Nature sounds, world music inspired by nature.
- **Videos/Documentaries:** Age-appropriate documentaries and films about different ecosystems (check streaming services, libraries).
- **Other:** Computer/tablet with internet access, printer (optional), maps (world map,

local area map), magnifying glass, binoculars, seeds, soil, containers for planting, materials for building (LEGOs, blocks, recycled materials), rulers, measuring tape, scales, counters (beans, buttons, colorful beads), graph paper, dice, playing cards, stopwatches, simple tools (screwdrivers, hammers - for older children with supervision), baking ingredients (for science experiments in the kitchen), dress-up clothes (animal costumes), puppets.

II. Weekly Themes:

- Week 1: What is an Ecosystem?

- Week 2: Forest Ecosystems
- Week 3: Aquatic Ecosystems
- Week 4: Our Local Ecosystem & Conservation

III. Daily Activities:

Week 1: What is an Ecosystem?

- **Monday: Introduction to Ecosystems**
  - (2-5):
    - Activity 1: Nature Walk: Explore a local park or backyard. Observe plants, animals, and the environment.
    - Activity 2: Sensory Bin: Create a sensory bin with natural

materials like soil, leaves, rocks, and water.

- (6-9):
  - Activity 1: What is an Ecosystem?: Discuss the basic components of an ecosystem (living and non-living things, interactions).
  - Activity 2: Create a Food Chain: Make a food chain using pictures or drawings of animals and plants.
- (10-12):
  - Activity 1: Ecosystem Research: Research different types of ecosystems around the world.

        - Activity 2: Build a Terrarium: Create a mini-ecosystem in a jar or container.
- **Tuesday: Living and Non-living Things**
    - (2-5):
        - Activity 1: Sorting Activity: Sort objects into "living" and "non-living."
        - Activity 2: Animal Dress-Up: Dress up as different animals and talk about what they need to survive.
    - (6-9):
        - Activity 1: Interdependence: Discuss how living things

depend on each other and non-living things.
        - Activity 2: Web of Life: Create a web to show the connections between organisms in an ecosystem.
    - (10-12):
        - Activity 1: Biotic and Abiotic Factors: Research biotic (living) and abiotic (non-living) factors in a specific ecosystem.
        - Activity 2: Design an Ecosystem: Design an ideal ecosystem for a specific animal.
- **Wednesday: Habitats**
    - (2-5):

        - Activity 1: Animal Homes: Read books or watch videos about where different animals live.
        - Activity 2: Build a Habitat: Create a habitat for a toy animal using recycled materials.
    - (6-9):
        - Activity 1: Habitat Research: Research different types of habitats (forest, grassland, etc.).
        - Activity 2: Diorama Creation: Create a diorama of a chosen habitat.
    - (10-12):

        - Activity 1: Habitat Loss: Discuss the causes and effects of habitat loss.
        - Activity 2: Conservation Plan: Develop a plan to conserve a specific habitat.
- **Thursday: Food Chains and Food Webs**
    - (2-5):
        - Activity 1: What Animals Eat: Talk about what different animals eat.
        - Activity 2: Act Out a Food Chain: Act out a simple food chain (e.g., grass-rabbit-fox).
    - (6-9):

        - Activity 1: Food Chain Game: Play a game to learn about food chains.
        - Activity 2: Create a Food Web: Create a food web showing the complex relationships between organisms.
    - (10-12):
        - Activity 1: Trophic Levels: Learn about trophic levels and energy transfer in an ecosystem.
        - Activity 2: Impact of Changes: Discuss how changes in one part of a food web affect the entire ecosystem.
- **Friday: Ecosystem Interactions**

- (2-5):
  - Activity 1: How Animals Help: Discuss how animals help plants (e.g., pollination).
  - Activity 2: Seed Planting: Plant seeds and observe how they grow.
- (6-9):
  - Activity 1: Symbiosis: Learn about symbiotic relationships between organisms.
  - Activity 2: Nature Journal: Start a nature journal to record observations of ecosystem interactions.
- (10-12):

        - Activity 1: Competition and Cooperation: Research examples of competition and cooperation in ecosystems.
        - Activity 2: Ecosystem Model: Build a model of an ecosystem showing the interactions between organisms.

Week 2: Forest Ecosystems

- **Monday: Types of Forests**
    - (2-5):
        - Activity 1: Forest Animals: Read books or sing songs about forest animals.
        - Activity 2: Leaf Art: Create art using leaves collected from outside.

- (6-9):
  - Activity 1: Forest Layers: Learn about the different layers of a forest (canopy, understory, forest floor).
  - Activity 2: Forest Walk: Visit a local forest and identify different plants and animals.
- (10-12):
  - Activity 1: Forest Biomes: Research different types of forest biomes (tropical rainforest, temperate deciduous forest, etc.).
  - Activity 2: Forest Mapping: Create a map of a local forest, identifying key features.

- **Tuesday: Forest Plants**
  - (2-5):
    - Activity 1: Tree Bark Rubbings: Make rubbings of tree bark.
    - Activity 2: Story Time: Read stories about trees.
  - (6-9):
    - Activity 1: Tree Identification: Learn to identify common trees by their leaves and bark.
    - Activity 2: Photosynthesis Experiment: Conduct a simple experiment to demonstrate photosynthesis.
  - (10-12):
    - Activity 1: Forest Ecology: Research the role of plants in

the forest ecosystem.
        - Activity 2: Sustainable Forestry: Debate the pros and cons of different forestry practices.
- **Wednesday: Forest Animals**
    - (2-5):
        - Activity 1: Animal Tracks: Make animal tracks in sand or mud.
        - Activity 2: Puppet Show: Put on a puppet show about forest animals.
    - (6-9):
        - Activity 1: Animal Adaptations: Learn about the adaptations of forest animals.

        - Activity 2: Build a Bird Feeder: Build a bird feeder and observe the birds that visit.
    - (10-12):
        - Activity 1: Wildlife Conservation: Research the challenges facing forest wildlife.
        - Activity 2: Food Web Analysis: Analyze a forest food web and discuss the impact of removing a species.
- **Thursday: Forest Cycles**
    - (2-5):
        - Activity 1: The Water Cycle: Review the water cycle with a focus on its role in the forest.

- Activity 2: Make a Rain Stick: Make a rain stick.
- (6-9):
  - Activity 1: Nutrient Cycling: Learn about the cycling of nutrients in the forest.
  - Activity 2: Decomposition: Observe decomposition in action (e.g., in a compost bin).
- (10-12):
  - Activity 1: Carbon Cycle: Research the role of forests in the carbon cycle.
  - Activity 2: Climate Change Debate: Debate the impact of deforestation on climate change.

- **Friday: Forest Conservation**
  - (2-5):
    - Activity 1: Reduce, Reuse, Recycle: Practice the three Rs.
    - Activity 2: Make Recycled Paper: Make paper from recycled materials.
  - (6-9):
    - Activity 1: Forest Threats: Discuss the threats to forests (e.g., deforestation, pollution).
    - Activity 2: Create a Conservation Poster: Design a poster to raise awareness about forest conservation.
  - (10-12):

        - Activity 1: Conservation Organizations: Research organizations working to protect forests.
        - Activity 2: Action Plan: Develop an action plan to help conserve forests in your community.

Week 3: Aquatic Ecosystems

- **Monday: Types of Aquatic Ecosystems**
    - (2-5):
        - Activity 1: Water Play: Explore water with different containers and toys.
        - Activity 2: Read Books: Read books about ocean animals.

- (6-9):
  - Activity 1: Fresh vs. Saltwater: Learn about the differences between freshwater and saltwater ecosystems.
  - Activity 2: Map Aquatic Ecosystems: Locate major aquatic ecosystems on a world map.
- (10-12):
  - Activity 1: Research Ecosystems: Research different types of aquatic ecosystems (oceans, lakes, rivers, wetlands).
  - Activity 2: Water Testing: Test water samples from different

sources (if available) for pH, etc.

- **Tuesday: Ocean Zones**
  - (2-5):
    - Activity 1: Ocean Layers: Create a picture of the different layers of the ocean.
    - Activity 2: Sensory Bottle: Make an ocean sensory bottle.
  - (6-9):
    - Activity 1: Ocean Zones: Learn about the different zones of the ocean (sunlight zone, twilight zone, midnight zone).
    - Activity 2: Ocean Animal Adaptations: Research animals

that live in different ocean zones and their adaptations.
    - (10-12):
        - Activity 1: Deep Sea Exploration: Research deep-sea exploration and the challenges of studying the deep ocean.
        - Activity 2: Design a Submersible: Design a submersible vehicle for exploring the deep sea.
- **Wednesday: Freshwater Ecosystems**
    - (2-5):
        - Activity 1: Pond Life: Observe pond life (if possible) or look at

pictures.
    - Activity 2: Build a Pond: Build a mini-pond in a container.
- (6-9):
    - Activity 1: River Systems: Learn about river systems and the flow of water.
    - Activity 2: Lake Food Web: Create a food web for a lake ecosystem.
- (10-12):
    - Activity 1: Wetland Ecology: Research the importance of wetlands.
    - Activity 2: Water Pollution: Investigate the sources and effects of water pollution.

- **Thursday: Aquatic Plants**
  - (2-5):
    - Activity 1: Seaweed Art: Create art using seaweed (if available) or green materials.
    - Activity 2: Plant Observation: Observe aquatic plants (if available) or pictures.
  - (6-9):
    - Activity 1: Aquatic Plant Adaptations: Learn about the adaptations of aquatic plants.
    - Activity 2: Algae Investigation: Investigate algae under a microscope (if possible).
  - (10-12):

        - Activity 1: Photosynthesis in Water: Research photosynthesis in aquatic plants.
        - Activity 2: Aquatic Plant Survey: Conduct a survey of aquatic plants in a local body of water (if possible).
- **Friday: Aquatic Conservation**
    - (2-5):
        - Activity 1: Reduce Plastic Use: Discuss ways to reduce plastic use.
        - Activity 2: Beach Clean-up: Simulate a beach clean-up.
    - (6-9):

        - Activity 1: Overfishing: Learn about the problem of overfishing.
        - Activity 2: Create an Awareness Campaign: Create a campaign to raise awareness about aquatic conservation.
    - (10-12):
        - Activity 1: Marine Protected Areas: Research marine protected areas.
        - Activity 2: Debate: Should we ban single-use plastics?

Week 4: Our Local Ecosystem & Conservation

- **Monday: Identifying Our Local Ecosystem**

- (2-5):
  - Activity 1: Local Walk: Take a walk in your neighborhood and observe the environment.
  - Activity 2: Draw Our Neighborhood: Draw pictures of your neighborhood.
- (6-9):
  - Activity 1: Local Ecosystem Research: Research the main ecosystem(s) in your area.
  - Activity 2: Map Our Ecosystem: Create a map of your local ecosystem.
- (10-12):
  - Activity 1: Environmental Issues: Identify the main

environmental issues affecting your local ecosystem.
    - Activity 2: Community Resources: Research local environmental organizations and resources.
- **Tuesday: Local Plants and Animals**
    - (2-5):
        - Activity 1: Backyard Bird Watching: Observe birds in your backyard.
        - Activity 2: Make a Nature Collage: Create a collage using natural materials found locally.
    - (6-9):

        - Activity 1: Plant and Animal Identification: Learn to identify common plants and animals in your area.
        - Activity 2: Field Guide Creation: Create a field guide to local plants and animals.
    - (10-12):
        - Activity 1: Invasive Species: Research invasive species in your local ecosystem.
        - Activity 2: Impact of Development: Discuss the impact of human development on local wildlife.
- **Wednesday: Water Sources and Conservation**

- (2-5):
  - Activity 1: Water Conservation: Discuss ways to save water at home.
  - Activity 2: Water Play: Explore how water flows.
- (6-9):
  - Activity 1: Local Water Sources: Learn about the sources of water in your community.
  - Activity 2: Water Usage Audit: Conduct a water usage audit at home.
- (10-12):
  - Activity 1: Watersheds: Research local watersheds.

        - Activity 2: Water Management: Debate local water management policies.
- **Thursday: Waste Management**
    - (2-5):
        - Activity 1: Sorting Recyclables: Practice sorting recyclable materials.
        - Activity 2: Make Art from Recycled Materials: Create art from recycled materials.
    - (6-9):
        - Activity 1: Landfills and Recycling: Learn about landfills and the recycling process.

        - Activity 2: Reduce Waste Challenge: Conduct a family challenge to reduce waste.
    - (10-12):
        - Activity 1: Composting: Learn about composting and its benefits.
        - Activity 2: Waste Reduction Plan: Develop a plan to reduce waste in your school or community.
- **Friday: Taking Action for Conservation**
    - (2-5):
        - Activity 1: Plant a Tree or Flower: Plant a tree or flower.

        - Activity 2: Make a Promise to the Earth: Have children make a promise to help the Earth.
    - (6-9):
        - Activity 1: Community Service: Participate in a local environmental service project.
        - Activity 2: Presentation: Prepare a presentation about what you have learned during the "Ecosystem Explorers" month.
    - (10-12):
        - Activity 1: Advocacy: Write letters to local officials about environmental concerns.

- Activity 2: Future Plans: Develop long-term plans for continued environmental stewardship.