

Activity Name: "Wetland in a Pan"

Activity Description: Students will observe the role of a wetland using a simple home-made model.

Suggested Grade Level / Age Range: K-6

Science Content Covered (just provide keywords - *example - heat, light, energy*): Environment and Ecology, wetlands

Time needed to complete the activity: 10 minutes

Materials Required (per student):

- Long, narrow plastic tub or baking pan
- Pieces of carpet
- One-piece plastic picture frame
- Watering can/bottle of water
- Small bag of tiny rocks

Directions as well as Activity Success Tips for Parents and Teachers:

1. Create the "Pan wetland"
  - a. Place the picture frame in half of the pan to represent land. Slant it so the water will run down to meet the carpet.
  - b. Cut the pieces of carpet to fit in the pan. Glue the pieces of carpet to one end of the picture frame.
  - c. Mix about 3/4 of a cup of water with a very small amount of the rocks (sediment).
2. Ask students: "Can anyone tell me about these vocabulary words?" (erosion, sediment, pollutants)
3. Allow time for students to respond.
4. Say to students: "Excellent responses! I am going to explain in a little more detail what each of these words mean."
5. Explain the vocabulary terms:

- a. Erosion: the process of land wearing away; often caused by water
  - b. Nutrients: something that gives nourishment to promote growth and sustain life, but can also harm life if there is too much
  - c. Pollutants: something that makes something unclean or impure (chemicals, waste substance), can be introduced by air, water, or soil
  - d. Sediment: material (such as dirt or small rocks) carried and deposited by water or wind
6. Say to the students: "Now you have an idea of different terms that relate to a wetland. Today you are going to learn about wetlands and their importance to the environment."
7. Explain what a wetland is:
- a. Land or areas (like marshes or swamps) that are covered irregularly with shallow water or have soil saturated with moisture (use picture on the board to show visual examples).
8. Explain the role and importance of wetlands:
- a. Helps maintain good water quality
  - b. Filters water by removing excess nutrients and chemical pollutants
  - c. Functions like a large and natural water treatment system
  - d. Traps sediments
  - e. Prevents excess sediment from polluting water bodies downstream
  - f. Provides homes for wildlife
9. Do the demonstration:
- a. Pour dirty water on the 'land.' Explain that the water represents rain, mixed with sediments and pollution that erode away the land.
  - b. Tell students to watch what happens as the water/sediment hits the carpet.
  - c. Explain that the carpet collects the dirt but lets the water pass into the 'ocean' in the same way that a wetland collects dirt to prevent it from going into the ocean.

- d. Ask the students what would happen if there was no wetland or carpet. If they do not know, explain that if the sponge or wetland were not present the pollutants, sediments, etc. would all end up in the ocean.
10. Ask the students to discuss one reason why wetlands are important.
  11. Allow the students time to respond.
  12. Use student responses and apply additional information to summarize the role of wetlands:
    - a. Helps maintain good water quality
    - b. Filters water by removing excess nutrients and chemical pollutants
    - c. Functions like a large and natural water treatment system
    - d. Traps sediments
    - e. Prevents excess sediment from polluting water bodies downstream
    - f. Provides homes for wildlife

Possible follow-up, extension activities or ideas for children and parents to explore (with references or urls):

- *Visit nearby wetlands*
- *Explore the different types of wetlands*
- *Create a wetland food chain or food web*

If your activity should be credited to any specific source or citation - indicate that here:

*Ideas adapted from:*

- <http://www.epa.gov/gmpo/education/pdfs/Activity-WetlandPan.pdf>
- [http://educators.btnep.org/client\\_files/editor\\_files/ACTIVITY%201-04%20Wetland%20in%20a%20Pan.pdf](http://educators.btnep.org/client_files/editor_files/ACTIVITY%201-04%20Wetland%20in%20a%20Pan.pdf)

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