WATERSHED MAP GAME

Directions

The main focus of the game is to explore the positive and negative human impacts of runoff, water use and misuse, sedimentation; natural and human water treatment, energy usage, etc. on water systems.

The game and pieces:

- The Really Big Watershed Game Mat: This 12' X 14' vinyl mat depicts three streams that empty into the same body of water - one closest to their school and one east and one west of the school grounds.
- Three Buckets: contain 12-15 water molecules (ping pong balls) of different colors
- A large die
- Three players that act as game pieces that move on the mat

Play: Each player has a bucket with 12-15 water molecules (ping pong balls). On their turn, they roll the large die and move that many water drops (spaces) up his/her creek on the game mat. Depending upon the water drop on which they land the players are directed to remove different colored balls related to the environmental impact described on the water drop. The colors symbolize different types of pollution such as chemical, soil, waste, etc.

Pollution Categories Water - blue; Litter - yellow; Chemicals - pink; Fertilizer - green; Waste - orange; Soil- purple

Green drops on the game mat include "recommendations" to encourage stakeholders and community members to take action to improve the condition of their watershed. Recommendation drops do not remove pollutants because there is not a specific action occurring but they are extremely important.

Game ends when all students reach the end of the streams. The composition of the "water" left in their bucket is analyzed. The bluer the water, the cleaner it is. The more colors present, the more polluted it is.

Additional Information

Litter – In general, this pollutant is removed when the amount of trash is reduced. Examples include: recycling, stream clean-ups, adding trash containers, reducing the use of plastic bottles, etc.

Chemicals – This pollutant is removed when plants naturally absorb nutrients from runoff; examples are green spaces, gardens and addition of plants. Also, if the burning of fossil fuels is reduced by public transportation, riding bicycles, walking, using renewable energy sources, conserving energy, park-and-rides, no idling; local produce, etc. this reduces the amount of air pollution that can fall to the ground and into the water; drug take-back program; green cleaning products; selective cutting; community gardens; porous parking lots.

Fertilizer – This is removed when composting occurs and can be used an organic fertilizer and reduces the amount of inorganic fertilizers placed into the watershed; cleaning up dog waste; animal manure used for natural fertilizer

Waste - This refers to warm-blooded animal waste or animal bodies. This is reduced by sewage treatment plants, any method that reduces human waste traveling into streams, animal body clean-ups.

Soil – Any action that reduces the erosion of soil removes this pollutant. Examples would be planting trees, green spaces, gardens, riparian buffers, stream bank restoration, no-mow zones; rain barrels to collect water; selective cutting; community gardens

Add water – These actions help water to travel within the natural hydrologic cycle. Examples: rain gardens

How to Design a Watershed Map Game

- Use the map template and sample map games that are provided for reference.
- Identify 3 local streams closest to your school/ organization.
- Identify the body of water they travel into.
- Research best management practices in your community that impact the watershed in a positive way. In other words, they prevent pollutants from entering the local streams.
- Consider the following pollutants of the watershed: Waste (animal and human); Soil (areas of erosion); chemicals (industrial, commercial, residential); litter (paper, wrappers, etc.); fertilizer (agricultural, residential, commercial)
- Compose the text for each raindrop in relation to each of the streams you have identified.
- Determine what pollutants have been prevented from entering the stream and indicate that on the raindrop.
- For each stream, identify at least one recommendation that would improve the water quality. These drops are a different color (green).
- Provide the following game pieces: colored balls, 3 buckets and construct a large die.