Green City, Clean Waters: How Green is my (Delaware River) Valley Activity

Introduction:

Stormwater runoff is the largest source of water pollution today; often in our cities, rainwater rushes too quickly off the paved streets, sidewalks and rooftops into our rivers. It also washes our streets “clean” of pollutants, depositing them instead in our waterways (the source of drinking water). By greening our environment, we can play a key role in providing more ways to absorb stormwater naturally. These tools (like tree trenches, rain gardens, etc) will slow excessive runoff and recharge our waterways from the “ground up.” We call these tools Green Infrastructure.

Note: This activity requires access to Google maps and a printer

Learning Objectives:

Students will be able to

• Identify pervious and impervious surfaces
• Interpret a Google map of their school or home neighborhood

Materials:

• Google Map Print out
• Regular pencils and Colored pencils, markers or crayons

Activity Procedure:

1. From Google maps (satellite view), print out a black and white copy of an aerial view of home or school address.
2. Discuss these definitions of pervious and impervious surfaces in an urban environment and give some examples.
   - Pervious surfaces allow the passage of water into the ground. Traditional examples of pervious surfaces are gardens, trees, and grassy areas.
   - Impervious surfaces do not allow the passage of water into the ground. Examples of impervious surfaces include sidewalk, roads, building roofs, and parking lots.
3. Make a symbol-based key or color-code for pervious and impervious surfaces. Label the map to represent the pervious and impervious surfaces they can identify using this key or color-code. (Hint: roof surfaces, sidewalks, walkways and parking lots would be impervious; street trees, grass and trees on school property would be considered pervious). Share and discuss.
4. Explore the Philadelphia Water Department’s Big Green Map using the same address location to see how many green infrastructure projects already exist in this location.

Suggested Grade Level: 3rd-8th
Suggested Subject Area(s): Mapping/Environmental Studies/Social Studies