Powhatan County Public Schools

Powhatan County Schools (PCPS) held their Meaningful Watershed Educational Experience (MWEE) field experience at Fighting Creek Park in Powhatan, Virginia. The purpose of the experience was to give the 4th grade students a better understanding of their watershed, how the health is measured, and their own impact on their watershed.

This was accomplished through eight stations which Environmental Science students from the high school ran. They were supported by community partners and PCPS staff. The eight stations were:

1- Biocubes: Given a cube made from PVC piping, the students placed the cube along the trail and creek. They then made observations about what was inside the cube, both biotic and abiotic, and documented them in their field journal.

2- Enviroscapes: Students discussed water a watershed is and compared it to two models. One model had no mitigations to slow down pollutants and erosion, while the other did. The model was run, and the students noted the differences that those mitigations made. They discussed what they could do in their own yard and schoolyard to protect our watershed.

3- Our Impact on the Watershed: Students participated in a sort to determine how long various kinds of trash take to decompose. They discussed which of those could be recycled. They used a map in the field journal to follow the path of their own watershed. They also looked at the past few years of “Report Cards” for the Chesapeake Bay health and how what we do impacts that health.

4- Forest Dichotomous Key: Students explored the trees growing in Fighting Creek Park by using a dichotomous key to identify them. They documented it in their field journal.

5- Macroinvertebrates Life cycle and Food Chain; Students learned what macroinvertebrates are, explored the life cycle of some found in our creek, and created a food chain of macroinvertebrates. This station served as background information before they went to the creek itself.

6-Health of Creek through Macroinvertebrate Identification: In this station, the students learned how sampling the macroinvertebrates can indicate the health of the creek. They used D-nets to catch and release macroinvertebrates, identifying them and determining their sensitivity rating.

7- Animal Tracks: Students learned about the animals native to our forests and identified tracks which were made in the sand.

8- Journey of a Water Molecule Through the Chesapeake Bay Watershed: Using dice which had the different places a water molecule might travel; students followed the path of a water molecule. The intent here was to understand that, although the water cycle is a cycle, water doesn't follow the same path every time. There are many places where water might be found. They graphed their path, as well as making a physical model of their path with beads.

This project served 69 high school students, 324 elementary students, and 35 educators. Thank you to the community volunteers who supported the high schoolers including the Department of Conservation and Recreation, Powhatan Extension Office, Master Gardeners, Monacan Soil and Water, and Department of Forestry. Following the field experience, surveys went out to the PCPS staff, as well as the community volunteers asking for feedback for improvement. The feedback will be used to improve upon next years' experience.