Planning Document

<table>
<thead>
<tr>
<th>Title</th>
<th>Fishburn Park Environmental Action Plan</th>
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</thead>
<tbody>
<tr>
<td>Author</td>
<td>Tammy Brown, Tom Fitzpatrick</td>
</tr>
<tr>
<td>School, District</td>
<td>Fishburn Park Elementary School, Roanoke City Public Schools</td>
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<tr>
<td>Audience (grade, course)</td>
<td>PK-5</td>
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**Curriculum Anchor**

**Learning Objectives and Curriculum Connection**

Curriculum indicators, performance expectations, and/or learning objectives.

Identify target SOL. Include all content areas you anticipate will be involved in the MWEE-based PBL.

Science SOL1 all grades, 1.8, 2.4, 3.4-3.10, 4.5, 4.9a, 5.7f, g

**Driving Question**

A broad, open-ended, life-relevant question that is based on the standards/learning objectives. Guides inquiry for the investigation(s), prompts the development of actionable claims.

What is a watershed? What animals depend on the Fishburn watershed? What human factors affect watersheds? What is the Fishburn Park watershed and how is it impacted by humans? What is the health of our watershed and what action do we need to take to improve and protect the watershed?

**Context**

Establishes local connections and life-relevancy of the core ideas in the learning objective and driving question.

What is the Fishburn Park watershed and how is it impacted by humans? What actions can we take at school and at home to protect and improve the watershed?
## Issues Investigation

### Asking Questions, Defining Issues and Problems
Students define the issue, problem, or phenomenon to be investigated and develop questions that are relevant for investigation.

Students will need to observe and question their environment. Measure, map, research historical documents.

### Planning & Conducting Investigations
Students develop plans for collecting, analyzing, and communicating information and/or data to help them answer their questions and understand the problem. Students identify and justify appropriate sources of information and/or data, and determine methodologies for the collection of information and/or data.

Teachers will teach the scientific investigation process and guide students through planning their investigation. Students in upper grades will use technology to collect data on temperature, acidity, turbidity, dissolved oxygen.

### Analyzing and Interpreting Data
Students represent and share information and/or data to reveal patterns that indicate relationships. Students apply disciplinary concepts as they analyze and interpret information and/or data to make sense of the issue or phenomenon.

Students will be taught to document and graph their data to look for trends and similarities or differences from acceptable levels.

### Constructing, Communicating, & Refining Explanations
Students identify and apply evidence from their investigations (for example, measurements, observations, and patterns) to construct, communicate, and refine explanations about the driving question.

Display boards, math class data analysis, writing assignments summarizing results.
**Planning Document**

### Civic Engagement

#### Develop a Claim
Students develop and present a claim (a belief or opinion grounded in factual knowledge that is based on evidence from the analysis of data and constructed explanations from the issues investigation).

Written report on their results. Persuasive papers and oral presentations on problems identified and possible solutions.

#### Design a Solution and Implement Action
Students assess their individual and collective capacities to take action to address the problem or issue of their claim. Students develop a plan to apply a range of deliberative procedures to take action in their classrooms, schools, and/or in out-of-school civic contexts. Student’s Civic Engagement plans should define the criteria for success of the action as a solution to the problem or issue.

Watershed mapping of the actual watershed, student created ideal watershed use for the same property. Students will narrow down to a specific solvable problem and implement a solution.

#### Evaluate Action
Students analyze the effectiveness of the action as a solution to the problem or issue based on determined criteria.

Students will be led to analyse the effectiveness of their solution to the local problem (school runoff, erosion, etc.)

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**Additional notes**
Teachers will be trained in the Project Learning Tree curriculum, supplemented with training from the Va Soil and Water Conservation staff.
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