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| Quarter 1 | Topic | **My Watershed Address** | **Wildlife in the City** | **Leaves are not Litter** |
| *Issue definition* | Understanding that everyone lives in a watershed. | Populations of species fluctuate  widely over course of DC history | Widespread use of leaf blowers harming mini-ecosystems |
| *Outdoor Field Experience* | Campus walk to observe topography | Walk in natural area to choose a  species for study | Examination of natural area or garden for organisms that live in leaf cover. |
| *Action Projects* | Finding and marking on large map the watershed addresses of students’ homes | Preparation of poster with description of species’ present condition in city | Survey of campus to determine extent of leaf removal and use of commercial mulch |
| *Synthesis & Conclusion* | Mounting “watershed address”  map in school. | Recommendations for helping species’ recovery if warranted | Students debate necessity of leaf blowers and present conclusions to other classes, administration |
| Quarter 2 | Topic | **Polluted Urban Runoff** | **Schoolyard Tree Canopy** | **Invading Plants!!** |
| *Issue definition* | Large amounts of impervious surfaces pollute streams and rivers | Schools can contribute to DC goal of increasing overall city canopy | Invasive, non-native plants have become a major threat to urban biological diversity |
| *Outdoor Field Experience* | Collect runoff samples and test for pollutants | Document existing trees on campus and economic, environmental value | Inventory of existing invasive plant species on campus |
| *Action Projects* | Plant a rain garden or other form of green infrastructure | Planting tree or shrub selected for best value and appropriateness | Research proposal for best means of controlling invasives on campus |
| *Synthesis & Conclusion* | Make recommendations of other ways to reduce campus runoff | Proposal for increasing tree canopy on campus | Letter to parents and neighborhood campaign to urge removal of non-native plants |
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| Quarter 3 | Topic | **Urban Hydrology and Aquifers** | **Imperviousness on Campus** | **Tap vs. Bottles** |
| *Issue definition* | Development patterns have compromised hydrologic cycle | Stream water quality can be harmed by overall watershed imperviousness | Commercial water bottles remain a major societal source of pollution and energy waste |
| *Outdoor Field Experience* | Stream site visit or mini-excavation for water table on campus | Measure impervious service area of campus | Survey of commercial bottle usage or field trip to water treatment plant |
| *Action Projects* | Construct model aquifers | Construct model green roof | Blind taste test of commercial vs. tap water |
| *Synthesis & Conclusion* | Make recommendations of ways to reduce campus runoff | Display of green roof model | Debate whether to ask school to ban purchase of commercial water |
| Quarter 4 | Topic | **Leaf Peeking** | **Enviro. Non-profits/Careers** | **Local Environment Justice** |
| *Issue definition* | Climate change and phenology | Watershed groups and other volunteer-driven local action | DC’s legacy of pollution in neighborhoods of poverty and color |
| *Outdoor Field Experience* | Collect data on leaf drop and bud break on campus trees | Non-profit representative visits as part of class service project | Field trip to Anacostia River toxic site |
| *Action Projects* | Record data on Project Budbreak website | Evaluation of class project and organization of follow-on by students | TBD |
| *Synthesis & Conclusion* | Present results to other classes | Creation of school watershed club or other group to continue projects | TBD |