### Teacher Information

<table>
<thead>
<tr>
<th>Name</th>
<th>Ileana Ionica-Padgiotis</th>
</tr>
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<tbody>
<tr>
<td>School</td>
<td>Dominion</td>
</tr>
<tr>
<td>Grade Level and Content</td>
<td>Physics/Chemistry</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:Ileana.padgitis@luoun.k12.va.us">Ileana.padgitis@luoun.k12.va.us</a></td>
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<tr>
<td>Companies Visited</td>
<td>INOVA, PPI</td>
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### Educational Transfer Plans

#### Non-routine Problem Solving

**CH1 i)** construction and defense of a scientific viewpoint (the nature of science)

**Implementation / Corporate Collaboration**

Equally important in understanding chemistry in the world around us are certain skills and habits of mind—the ability to make predictions and then test them to see if they are right, to pose questions and design experiments to answer those questions, to demand evidence and logical reasoning to support assertions, and to think critically about others’ claims or ways of thinking. Guide students to develop these abilities.

#### Systems Thinking

**CH2** The student will investigate and understand that the placement of elements on the periodic table is a function of their atomic structure.

**CH1 g)** mathematical manipulations (SI units, scientific notation, linear equations, graphing, ratio and proportion, significant digits, dimensional analysis);

**PH 1 h)** the components of a system are defined;

**PH2 a)** a description of a physical problem is translated into a mathematical statement in order to find a solution;

**PH2 h)** analysis of systems employs vector quantities utilizing trigonometric and graphical methods.

**Implementation / Corporate Collaboration**

To be scientifically literate, students need to have a deep and connected understanding of the “big ideas” of science. Implement by organizing the material in units that emphasize particular concepts.

The world is interdisciplinary. Chemistry alone, or physics alone, does not provide the answers to important social questions. And students should not see the world as compartmentalized, with mathematics between 10 A.M. and 11 A.M., and science only after lunch. Drawing from as many scientific disciplines as necessary to dig deeply into the topic and providing multiple opportunities for using and strengthening students’ expressive and quantitative abilities would highly benefit the students.

#### Complex Communication

**CH1 h)** and **PH1 h)** use of appropriate technology including computers, graphing calculators, and probeware, for gathering data and communicating results.

**Implementation / Corporate Collaboration**

Scientific literacy means an understanding of science that can be put to good use outside of school. By being exposed to teaching materials that connect scientific ideas, skills, and habits of mind with important real-world systems, events, and problems students will become skilled communicators themselves.