

## **Baltimore Energy Challenge**

### **Elementary/Middle Core Curriculum**

#### **I. Description**

The Baltimore Energy Challenge curriculum is intended to city schools students' understanding of energy and the importance of energy conservation. The curriculum strives to increase students' awareness of both how energy consumption is an essential part of daily life in Baltimore City, and the crucial financial, environmental, health and civic benefits that a reduction in energy consumption with behavioral change can provide. To this end BEC core Green Team curriculum will focus on exploring the following questions:

- *What is energy? How is energy produced and delivered to household? What are the requirements, costs and benefits of renewable resources as compared to fossil fuels?*
- *What is energy used for at home, in schools and in the community? How much energy is actually being used in our homes and schools?*
- *What are the consequences of our community's current energy use?*
- *What is behavioral change and what are the benefits? How can we reduce energy consumption at home, at school and in our community?*

#### **II. Organization**

The core curriculum is the essential background in energy production, energy consumption and behavioral change that all Green Team/ classes **must** complete. It is intended to take about six weeks. Green Team/ class projects are to follow the core curriculum and completed by June. Suggested supplemental lessons are also provided in this binder and on BEC's Google Drive. These lessons can be added into your Green Team and/or curriculum as needed, but only after completion of the core curriculum. Projects can begin prior to the completion of the curriculum. If it's a lengthy project, like creating books, it would be best to start them early by interspersing curriculum with projects.

#### **III. Weekly Schedule**

**Week One:** *Understanding Behaviors , Draw Energy, Energy Conservation Brainstorm & Student Pledge*

Introduce the students to actions they can take and habits that they can change to conserve energy. Encourage students to follow these habits and share them with teachers, parents, and friends. Have the students draw what they think energy is and discuss. Brainstorm ways to save energy and have students take the superhero pledge.

**Week Two:** *Energy Overview, Pollution and Renewables*

After an introduction to fossil fuels, energy production and the electrical grid have the students map out energy from the the source to their homes and schools. Students should identify causes and consequences of pollution in their energy maps. Introduce renewables and discuss their cost, benefits and potential impact on their energy maps. Talk to students about what energy captains are and how they can become one.

**Week Three:** *Two Basic Energy Principles Energy, Draft Detectors*

Pick a common household object and have students create a web of all the energy inputs required to produce, transport and consume that object. Students should consider what we use energy for by detecting drafts and their effects on heating and cooling bills at school and at home.

**Week Four:** *Home Energy Challenge, Energy Vampires, Introduction to Energy Audits*

Lesson on Energy Vampires also known as standby energy and home energy usage. Have students identify where energy is being consumed in the classroom compared to the home and introduce the concept and use of energy audits.

**Week Five:** *School Energy Audits*

Perform a school energy audit. Convert watts into more tangible explanations of energy consumption such as cars on the road.

**Week Six:** *Behavioral Change*

Use "Don't be a Waster" search and find and Bingo to review energy vampires and to reinforce the lessons of the energy audit and the necessity of behavioral change.

**Weeks Seven to Twelve:** *Green Team Projects*

Energy Grant project is found on the schools' energy grant application..

