**Maryland Department of Natural Resources**

**Aquatic Resources Education Grant Application**

**Project Title: Trout in the Classroom Date: 10-2-2014**

**School: Dundalk Middle School**

**Contact Information: Federal Identification Number: 52-6000886**

**Name: Jeff Merlette**

**Address: 7400 Dunmanway Baltimore, MD 21222**

**County: Baltimore Dollar Amount Requested: $ 1,161.63**

**Phone: 410-887-7018**

**Fax: Project Start and End Dates: Jan 2015-May 2015**

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**Abstract:**

We wish to instill and foster a better understanding and appreciation for environmental conservation in our sixth grade students by having them raise trout in our classroom and releasing them at the end of the year. We wish to educate our students on why it is important to protect and conserve our local streams and teach them strategies that they can use to help promote healthy conditions within their community.

Prior to the experience, a school wide Character Education lesson regarding overfishing and water pollution due to overdevelopment of suburban areas was delivered. Students analyzed the issue, developed research questions, and designed strategies to conduct research and data collection on local waterways. This exercise satisfied several Maryland Environmental Literacy Standards including:

**Standard 1, Topic A – Environmental Issue Investigation**

**Standard 5, Topic B – Human Impact on Natural Resources**

It is our intention to incorporate the Trout in the Classroom initiative in the fulfillment of additional Maryland Environmental Literacy Standards, including:

**Standard 1, Topic B – Environmental Issue Action Component**

**Standard 4, Topic B – Population Dynamics**

**Standard 4, Topic C – Community & Ecosystem Dynamics**

**Standard 6, Topic B – Human – Induced Changes & Human Health**

**Standard 7, Topic B- Independent & Group Actions & the Environment**

By the end of this experience, Students will be able to:

* Successfully maintain the aquarium in order to provide a healthy environment for the trout as well as feeding and caring for the hatchlings.
* Participate in a variety of activities such as stenciling storm drains, completing research projects, completing a local stream study, and researching and announcing helpful tips on the morning announcements in order to promote healthy conditions for trout in our local streams.

**Strategies:**

Prior to beginning the TIC Project, 6th grade students will be exposed to a cross curricular project whereby they will be analyzing topographical maps in social studies class in order to examine the human impact on local watersheds. Soon after, students will take a field trip to a local stream in their community and complete various water sampling activities. Students will test and examine both biotic and abiotic components of the stream. Upon returning to school, they will graph and analyze trends in the data in math class. They will also complete a journaling activity about the entire process in Language Arts. The Environmental Club will have put together leaf packs that will be placed in the stream prior to the trip. Upon completion of raising the trout, students will take part in the release of the trout by attending a field trip to an approved local stream.

**Project Personnel:**

Jeff Merlette-6th Grade Science teacher and Environmental Club Co-sponsor

Ken Compher- 6th Grade Science teacher and Environmental Club Co-sponsor

**Evaluation:**

We will evaluate the success of our project in May after the release of our trout. This is right around the time students will begin their 6th grade Ecology Unit. We plan on integrating many of the skills and concepts that we learned throughout the entire TIC process into the curriculum. One such way is to conduct a nature walk around the school property and evaluate the overall health of the area through a comprehensive investigation of such things as biotic factors, abiotic factors, the amount of trash in the area, etc… Students will then develop a plan of action that they intend to carry out within their own community to further help to “restore” the ecosystem. This may be small scale such as focusing specifically in their own yard, or may be larger focusing on their neighborhood. Students will develop their action plans, collect data on what they observe as areas in need of improvement, take before and after photos, and be expected to describe in detail how and why their action plan helps the environment.

**Budget Breakdown:**

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| **Items from ThatFishPlace.com** | Price | |  |
| Fluval 406 canister filter | $199.99 | |  |
| Foam Pre-filter 1 | $5.96 | |  |
| Fluval Biomax Media17.63 oz**.1** | $10.19 | |  |
| White Diamond NH3 Neutralizing Crystals50 oz | $6.82 | |  |
| 2-3 Chemi-Pure Charcoal 5-ounce containers. | $6.88 x3 | | $20.64 |
| 2-3 Pure Aquatic 300 micron 5”x6” filter Bags | $2.52 x3 | | $7.56 |
| Whisper #40 Air Pump | $10.20 | |  |
| 10” Aqua Mist add-a-stone (Penn Plax) | $5.14 | |  |
| 8-ft., 1/4-inch airline tubing | $1.40 | |  |
| Fusion check valve 1 pk. (JW Pet) | $2.41 | |  |
| Battery Operated Digital Thermometer | $7.06 | |  |
| Freshwater (FM) Master Testing Kit2 | $24.99 | |  |
| GH & KH Hardness Test Kit for fresh water2 | $5.41 | |  |
| Lee’s Squeeze Bulb Ultra Gravel Vacuum | $20.90 | |  |
| NovAqua Plus Tap Water Conditioner | $4.72 | |  |
| Microbe-Lift Special Blend 16 oz. | $10.69 | |  |
| 1 Nite-Out II 16oz. | $10.69 | |  |
| 4” Aquarium Net | $2.37 | |  |
| 2 bags of gravel “river jewels” | $4.90 x2 | | $9.80 |
| Breeder Box (Hatching Basket) | $15.65 | |  |
|  |  | |  |
| **Items from Home Improvement Store** |  | |  |
| 1 4’x8’x1” closed cell polyethylene insulation board | $19.47 | |  |
| 5-Outlet Surge Protector | $8.97 | |  |
| 2 5-gallon buckets with lids**3**  jugs2 | $4.30 x2 | $8.60 |  |
|  |  | |  |
| **Items from other Sources** |  | |  |
| 55-gallon tank and stand | $125 | |  |
| TradeWinds DL-25 1/4HP drop-in chiller | $615.00 | |  |
| 2 one or two-liter bottles | - | |  |
| Plastic turkey baster | $1.00 | |  |
| 2 1-gallon milk jugs**4** | - | |  |
| Measuring spoon set with 1/4 tsp5 | $1.00 | |  |
| Plastic eye dropper**6** | - | |  |
| 8 oz box of baking soda | - | |  |