GeraniaMania – a collaboration between the UMN Cedar Creek Ecosystem Science Reserve and the Anoka Middle School for the Arts

Project Overview:
The entire 7th grade class at AMSA participates in a shared authentic science process exercise in which they generate a research question, make observations, collect data, analyze the data and make evidence-based conclusions about their question. Students then take this initial information and develop hypotheses that could be tested. By acting as content experts and near-peer mentors Cedar Creek scientists are integral to this experience. After two years of conducting this project, the Cedar Creek Education and Outreach Coordinator would like to invite participation by CBS undergraduate or graduate students interested in learning more about K-12 education. And in having a really good time!

Total number of students served: ~600
Number of CBS scientists needed: 2-4

Tactics:
- Students grow geraniums in different soils over a two-month period. (Plants are grown in the classroom.)
- Students monitor their plants each week, watering when necessary and collecting productivity data based on the variables listed on their data sheets.
- Cedar Creek scientists visit the students three times over the course of the investigation to provide guidance and support.
- Students use the claim-evidence-reasoning science process model during the investigation.

2014 Dates:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
<th>Location</th>
<th>Time</th>
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<tbody>
<tr>
<td>Day 1 Setting the stage, selecting a study question</td>
<td>March 18 and 19 T and W</td>
<td>Anoka Middle School for the Arts</td>
<td>8:00 – 2:40</td>
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<tr>
<td>Day 2 Mid-point check-in and quick data analysis</td>
<td>April 16 W</td>
<td>AMSA</td>
<td>8:00 – 2:40</td>
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<tr>
<td>Day 3 Final data analysis and graphing</td>
<td>May 6 and 7 T and W</td>
<td>AMSA</td>
<td>8:00 – 2:40</td>
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<td>Field ecology experience at Cedar Creek</td>
<td>May 14 W</td>
<td>Cedar Creek Ecosystem Science Reserve</td>
<td>9:00 – 2:00</td>
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Details

Day 1: Setting Up the Investigation
CBS Scientists initiate the investigation by visiting the students the week the plants are potted. Through active discussion and activities, scientists help students understand the process of science, the abiotic and biotic needs of geraniums and develop a question to guide students throughout the investigation.
Time required: This visit requires two full school days because one full class period, 50 minutes, is used. A total of 20 classes visited over 2 days.

Day 2: Scientist Check-In
Scientists spend 20 minutes with each class to see how things are going. Students look at their data and produce a quick graph on some aspect relating to the study question.
Time required: This visit requires one full school day since each class is visited for half the total class period. A total of 20 classes visited in one day.

Day 3: Data Analysis and Graphing
Scientists visit each class for a final time to help students make sense of their data and guide them through an analysis producing an end-product to help them answer their research question.
Time required: This visit requires two full school days since each class is visited for the entire 50 minute time period. A total of 20 classes visited over 2 days.

Field Trip to Cedar Creek
Scientists work with students during a full-day ecology field experience at Cedar Creek.

Background information:
This is the third year of GeraniaMania. All presentations (power point) are prepared, the agendas for each day are determined, and all materials are prepared, in advance, by Cedar Creek staff.

The 7th grade science team at AMSA is extremely supportive. They remain in the class at all times and contribute to discussions and presentations as needed. They are excited about the idea of working with UMN students through GeraniaMania.

Students would be fully trained by Cedar Creek staff.

INTERESTED?
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