Russ Brielman Teaching Enhancement Grant

The Russ Brielman Teaching Enhancement Grant has been established in honor of Russ Brielman's long record of encouragement and support of classroom teachers through his numerous outreach activities as a founding member of the Illinois Association of Aggregat Producers – Public Information and Education Committee and the Teachers Workshop. The Russ Brielman Teaching Enhancement Grant shall enhance student (K-12) learning about earth science, the aggregate mining industry, mined land reclamation, resource sustainability, or resource stewardship by providing a grant to a school on behalf of a classroom teacher to support a class activity that is an outgrowth of the teacher's experience at the annual IAAP Teachers Workshop. The maximum grant is $500.

Eligibility

Any classroom teacher that has attended an Illinois Association of Aggregate Producers' Rocks, Minerals & Mining Teachers Workshop may apply. Only one application per school will be considered annually; two or more teachers may submit a single application.

Application Process

The completed application, consisting of the four parts listed below, shall be submitted electronically to shawn@iaap-aggregates.org by June 15, 2015.

Merit Review Process

Proposals will be reviewed in late June with consideration to:

1) How will this activity enhance student learning?
2) How will this activity promote earth science, the aggregate mining industry, mined land reclamation, resource sustainability, or resource stewardship?
3) How realistic is the budget?
4) How achievable is the activity?

Grant recipient(s) will be notified by the end of July.

Grantee Deliverables:

The grantee shall submit a report on the supported activity by June 30, 2016. The report should include pictures, description and outcomes of the activity and a PowerPoint presentation that could be shown at the following Teachers Workshop.

Application Components

Part 1: Teacher and School Information

Teacher:_____ Email Address: _____

Year Attended Workshop: 2012?

School: Springfield Southeast High School Grade(s): 10-12

Class Size(s): 30 per class/6 classes = ~180

School Address:
Springfield Southeast High School
2350 East Ash Street
Springfield, IL 62703

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Part 2: Teaching Activity

Describe what you taught based on an activity or materials from the IAAP Teachers Workshop. (500 characters maximum)

The IAAP Workshop was the best workshop or class that I have ever attended. I use many of the activities presented during the workshop. My students drill holes in cupcakes, mine chocolate chips from cookies, find beads buried in birdseed, create their own tooth paste, and use pretzels for fuel to get to Nearville and Farville. These are the activities my students and I love the most. I use the posters for a carousel activity so every student can see every poster. Thank you for presenting such an outstanding workshop for Illinois teachers.

How can it be improved? (500 characters maximum)

I have changed the cookie mining activity to make it easier to manage and use with my students. I do not use the play money – it takes too much time and is a hassle to use. Instead, all money is just recorded on the activity sheet. I also only use one type of cookie because having the students choose took too long. Everyone starts with the same set of tools as well. These changes make setting up much faster and easier. The students spend much less time waiting to start the activity and much more time doing the activity and discussing the outcome.

Part 3: Proposed Activity Using Grant Money (2,500 characters maximum)
Describe the activity and address how this will enhance what you have done in the past.

I will use the grant to fund 5 different activities that will help give my students a deeper understanding of rocks and minerals.

The first kit I would purchase is the Mineral Crystal Shapes Kit. This kit will provide my students a hands-on opportunity to explore and distinguish the main types of crystal formations. In this exclusive kit, paper models of cubic, tetragonal, orthorhombic, hexagonal, monoclinic and triclinic crystal shapes will be constructed and compared to specifically selected mineral samples. Kit includes two sets of six different actual mineral samples, crystal shape master sheets, and a handout with detailed background and instructions.

The second is the Common Uses of Rocks and Minerals Laboratory Kit. We would use this activity to better understand our toothpaste activity and to increase our knowledge of other uses for minerals and rocks. With this kit, students will perform 10 hands-on activities to determine the properties of various rocks and minerals and identify their common uses such as limestone in building homes, feldspar in soaps, and fluorite in toothpaste.

The third is the Modeling Faults Student Activity Kit, which helps students visualize how geological faults form. Each group of students will create their own multicolored and multilayered landform model. Normal, reverse, and strike-slip faults will be simulated and sketched, and the models can then be further inspected to explore the properties of different kinds of faults. Great learning activity provides a unique and inexpensive way for students to investigate the movements of each type of fault.

The fourth is How Soil Is Formed Student Laboratory Kit. Soil is the bridge between the living and non-living world. This kit will introduce students to how soil is formed. Students will perform a series of hands-on experiments to gain an understanding of the chemical, physical, and organic processes involved in rock and soil formation. Students will investigate the results of erosion, glacial changes, ice expansion, chemical processes and much more.

The fifth is Chemical and Mechanical Weathering of Rock Student Laboratory Kit that shows the impact of wind, rain, and atmospheric conditions have on rocks. Students will experiment and observe how mechanical weathering, geological changes, glacial changes, ice expansion, chemical weathering, oxidation and organic processes affect the rock specimens provided. Students observe which types of rocks are most affected by these processes, and identify which chemicals and weathering processes have the greatest impact on rocks. Kit includes eight lab activities.

Each of these kits is reusable with little or no replacement of supplies needed so they will provide my students years of engaging activities that promote earth science, the aggregate mining industry, mined land reclamation, resource sustainability, and resource stewardship.

Part 4: **Budget** (500 characters maximum)

The five kits are available from Flinn Scientific Company for a total cost of $501.46.

AP 6124 Mineral Crystal Shapes Kit	2 x $44.90 = $89.80
AP7052 Common Uses of Rocks and Minerals Kit	2 x $88.50 = $177.00
AP 7255 Modeling Faults Kit	1 x $24.50 = $24.50
AB 1141 How Soil Is Formed Kit	2 x $57.15 = $114.30
AP7035 Chemical and Mechanical Weathering of Rocks Kit	2 x $83.75 = $167.50

Total $573.10 – 12.5% discount = $501.46 (No tax or shipping is charged for our school.)