Enclosure No. 6

NYSCATE
NYS Association for Computers and Technologies in Education

2017 NYSCATE GRANT APPLICATION

Deadline April 30, 2017

NYSCATE will award grants of up to **$2000** each to NYSCATE members for a grant project consistent with the NYSCATE Mission Statement as well as the NY State learning standards and the National Educational Technology Standards (NETS) for students.

Application Guidelines

1. Grant project application should contain this page as a cover page, the grant project application form, and the grant project budget worksheet. Additional sheets can be included as needed. The grant project description must address the seven criteria on the next page (page 2). The completed forms must be sent **as a PDF** with original signatures.

2. All applicants **must** be current NYSCATE members, please include membership # if you have it. Membership is FREE. To join NYSCATE, visit the NYSCATE website at http://www.nyscate.org.

Send the completed application electronically **as a PDF** to: mailto: NYSCATEGRANTS@gmail.com no later than April 30, 2017. A confirmation email will be sent to the email listed below.

Applicant Information

Name: Scott Reichert _____ NYSCATE Member #10383

Email Address: Sreichert@pjschools.org _____ ☐ Home X Work

Home Address:

Home Phone:

Position: Computer Teacher 4-6

Applicant Signature: _____

Project Title: Lights! Camera! STOP!

School or District: Anna S. Kuhl School

Street Address: 10 Route 209

Town/City, Zip Port Jervis N.Y 12771

School Phone:845-858-3100 X 13500

Principal/Supervisor Name: Brett Cancredi

Principal/Supervisor Signature: _____

NYSCATE Grant Project Application Criteria

Each grant project application must include information about each of the following criteria to be considered.

1. Your application should include a paragraph long Executive Summary that explains what the students would be doing with the technology.

2. Include an explanation as to how the grant project supports the NYSCATE mission of leading the transformation of teaching and learning through technology.

3. Include an explanation as to how the grant project correlates to New York State learning standards. The New York State learning standards may come from more than one curriculum area.

4. Include an explanation as to how the National Educational Technology Standards (NETS) for students correlate to the grant project. Use the link below to explore the NETS for Students: http://www.iste.org/standards/standards-for-students

5. Include an explanation about specific learning outcomes for students for the grant project. Student learning outcomes should be written as "Students will..." statements.

6. Include details about a professional development plan for teachers involved in the project to learn new instructional tools or methodologies **or** explain why a professional development plan will not be needed.

7. Specify with explanation and example assessments that will be used to assess the learning, include criteria and methods.

8. Include specific details about the financial aspects of the project; include costs for professional development if applicable. Budget may include an amount up to $2,000.

NYSCATE Grant Project Application Form

Project Title: LIGHTS, CAMERA, STOP

Grant Writer(s): Scott Reichert

School/District: Port Jervis

Executive Summary:

In LIGHTS! CAMERA! STOP! Students will study scientific phenomenon that is often not seen due to the speed or slowness in which they occurs. Students will be using a high speed video camera to slow the movements that happen, in nature, at high speed. This action will be slowed down so the human eye can observe changes in movement step by step (frame by frame). Students will also use time lapse photography to observe actions in science that take place very slowly. The time lapse will speed up the observation process. Students will "see" more science as they are exposed to both ends of the spectrum in photography both high speed and slow motion. Student will be involved in a series of projects to this end. In one project students will work in small groups cooperatively building egg drop containers. The egg drop containers will be designed to protect an egg from a fall of 3 different heights approximately 10 feet 20 feet and finally from about 30 feet.

Students will film the egg drop using a high speed stop action camera. Students will also use the film footage to analyze the actual point of failure in their egg drop container. Groups will then devise ways to improve their design and retest. Students can look at why the design fails and learn how to correct their mistakes. The eggs will be dropped with a measuring tape in the background so students will be able to calculate the speed in which the egg drops from each height.

LIGHTS,CAMERA ,STOP is also developed to show the use time lapse photography in science. Some studies would include watching chickens hatch from eggs, or flowers blooming and seed sprouting.

Section 1 The NYSCATE mission of leading the transformation of teaching and learning through technology.

LIGHTS, CAMERA, STOP address the NYSCATE mission by changing the way students and teachers will study science and scientific processes. The cameras will allow students and teachers to observe actions they could not "see" before like how an egg reacts when dropped in an egg drop event. After being exposed to the egg drop event students and teachers will be able to develop other ideas for high speed camera uses. The cameras will also be able to be used to observe science that happens very slowly like a flower blooming or iron rusting.

This technology will give students a chance to predict what they expect to "see" and compare it to what actually happens

Section 2 – New York State learning standards

Standard 1: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions

• develop written plans for exploring phenomena or for evaluating explanations guided by questions or proposed explanations they have helped formulate.

To meet the above standard students will watch some crash dummy videos to see different restraint and protection systems. They will then use this information to draw and write a design a container to protect and egg during a drops of various heights.

• carry out their plans for exploring phenomena through direct observation and through the use of simple instruments that permit measurements of quantities

In meeting the standard above students will watch the egg drop while it is filmed. They will quantitatively measure the speed by timing how long the egg takes to fall over distance use the ruler from the background to find how fast the object was falling during the drop. They will discuss what they "saw" and then look at the slowed down video tape to see if they what they "saw" is consistent with what they see on the film A discussion will ensue based on differences they "saw"..

NYS Science standard

1. Engineering design is an iterative process involving modeling and optimization finding the best solution within given constraints which is used to develop technological solutions to problems within given constraints. Students engage in the following steps in a design process:

• describe objects, imaginary or real, that might be modeled or made differently and suggest ways in which the objects can be changed, fixed, or improved plan and build, under supervision, a model of the solution using familiar materials, processes, and hand tools.

• discuss how best to test the solution; perform the test under teacher supervision; record and portray results through numerical and graphic means; discuss orally why things worked or didn't work; and summarize results in writing, suggesting ways to make the solution better.

The above standard is met thru students use of the film footage to analyze the actual point of failure in their egg drop container. Groups will then devise ways to improve their design and retest. Students can look at why the design fails and learn how to correct their mistakes. Students will use film analysis to evaluate design weakness and improve the design. Students will also learn perseverance, understanding engineering projects are not one and done but take repeated attempts to improve design. Students will also learn working cooperatively in designing the project and sharing results.

Section 3 – National Educational Technology Standards (NETS) for students

2007 Standards

2-D Contribute to project teams to produce original works or solve problems

Students will be working in design teams of 3-4 students. Each team will first create a prototype, from the materials provided to protect their egg during the first drop. After the drop teams will discuss options to improve their container in preparation for a second drop.

4-C Collect and analyze data to identify solutions and/or make informed decisions.

Students will use the data gathered from the video such as the speed of the falling egg based on the how fast the container falls in a meter from the video. The data then will be applied to helping make decisions when the container is re-engineered.

2016

1-C Use technology to seek feedback that informs and improves their practice and to demonstrate their learning in various ways

Students will use the data gathered from the video such as the speed of the falling egg based on the how fast the container falls in a meter from the video. The data then will be applied to helping make decisions when the container is re-engineered.

4-C Develop, test and reform prototypes as part of a cyclical design process.

Students will meet this standard by working cooperatively developing an egg crate design to protect the egg while being dropped from various heights. After the egg is dropped the footage can be examined and the container can be remodeled and re-tested again.

Section 4 – Student learning statements

Students will work cooperatively in small groups to research & design an egg holders and use a journal to record iterations in designs.
Students will observe what happens to the egg and holder as it strikes the ground (discuss what they "saw")
Students will see the video and compare what they see on the video verses what they "saw" in real time, and what they predict
Students will discuss and redesign the egg holder for improvement
Students will evaluate- the new redesigned container then test it from a higher height

Section 5 - Professional development plan for teachers

Professional development will be provided in the AM before school in the form of BREAKFAST BYTES and after school in a more traditional PD setting. The first step will be training in a general photography course covering the basics of camera settings and composition. The second part of the training will cover slow motion photography tips and tricks along with time lapse photography

Section 6 - Assessments that will be used to assess the students

Students will be evaluated on the group work in constructing the egg container, Students will be evaluated in the areas of consideration to group, Knowledge added to the group and sharing information. Groups will be assessed on how the design evolves based on information gathered from the slow motion observations.

Section 7 - Complete all parts of the budget worksheet on the next page.

Grant Project Budget Worksheet (not to exceed $2,000)

Project Title:- LIGHTS, CAMERA STOP!

Grant Writer(s): Scott Reichert

School/District: Port Jervis City School District

Amount Requested: 2000 dollars

Complete all sections that are applicable and write any additional information related to budget below.

Item	Vendor/Description	Qty.	Cost Ea.	Total Cost
Sony A 6000	B&H PHOTO	1	500	500
Sony Cyber-shot DSC-RX100 V 20.1	B&H Photo	1	999	999
Sony Elph	B&H Photo	3	125	375
Professional Development				
Total Cost				1874

Additional Information related to budget:

The A600 and the RX100 will be used to film both the stop action and time lapse photography. The Sony Elphs will be used for training in time lapse photography and also for teaching the the basic controls and settings on cameras.

NYSCATE
Innovate. Educate.

July 18, 2017

Port Jervis CSD
Attn: Scott Reichert
9 Thompson Street
Port Jervis, NY 12771

Dear Scott,

It is with great excitement that I share with you that your NYSCATE grant submission, *Lights! Camera! Stop!* has been accepted for full funding of $1875. With a record number of grant submissions this year, the strength of your submission was quite clear to the evaluators.

NYSCATE would like to invite you and a guest to the 2017 Champions Banquet, to be held on Sunday, November 19 at the Joseph A. Floreano Rochester Riverside Convention Center. Your grant will be announced and you will be called on stage to receive a plaque with your name and grant title. I hope you will be able to join us. Kindly, RSVP to nyscateinfo@gmail.com at your earliest convenience.

Congratulations to you and Port Jervis School District for fostering innovation and creativity, and enhancing education through the appropriate use of technology.

Kind regards,

Amy S. Perry-DelCorvo, Ed. D.
CEO/Executive Director

CC: Thomas M. Bongiovi