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First and Last Name

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School

Bethel High School

Phone Number 7578492580

Position or Title

Teacher

Project Title:

Moving Masterpieces

This project is designed for:

High

Target Grade Level(s)

9th through 12th grades

Subject Areas or Discipline

Visual Arts and Computer Science (Robotics)

Project Summary (500 characters or less)

This is a project-based lesson designed to introduce and incorporate computer science and robotics with visual arts. This project promotes the four 'C's of 21st century learning: critical thinking, communication, collaboration, and creativity. Through participating in this project students develop critical thinking and problem solving skills, and work with others to achieve a common goal. This program helps students, who don't normally see themselves as part of the computer science pipeline, broaden their view of themselves as potential coders. Incorporating physical computing and robotics with the visual arts makes learning fun and less threatening to students of all ages and gender. Being involved in creating technologies can give confidence in dealing with complex, open-ended problems, and persistence in the face of challenges in the 21st century.

Project description: Please describe your project in as much detail as possible. Be sure to include a brief description of plans and activities for your project.

• Students in our sculpture class will begin this project with a visit to a local art museum.
• There students will view the collections and select inspiration pieces as the basis for moving robotic masterpieces.
• Students will work in teams of 2-3 to select a work of art.
• In their teams, students will create the work of art.
• Students will then use the Hummingbird Robotics kit to incorporate robotics and simple mechanisms into their works of art.
• Students design and create their robots using strategies and processes used for any art project: sketching, journaling, revision, peer critique, etc.
• Students will work together in small collaborative groups to discuss, debate and decide the design. They will then work together to develop and bring their creation to life.
• At the same time, students will engage in thoughtful, dynamic discussions to set tasks, delegate responsibilities, follow a specific step by step process, and adhere to deadlines to build their creation and achieve their goal.
• Students will reveal and demonstrate their creations to the rest of the groups/class/teachers in an open forum. They will discuss the development process, explain ALL materials used, steps, challenges, difficulties, highs and lows and answer any questions as they arise.
• Upon completion of the masterpieces, students will have the opportunity to display their Moving Masterpieces at the museum they visited (I plan on working with the Chrysler Museum of Norfolk); or during the High School Art Show in April of 2019.

Standards of Learning Objectives: What are the learning objectives of this project? How do they correlate with the Virginia Standards of Learning?

This project incorporates the following standards: English Arts, Math, Science, Visual Arts and Engineering.

VA: Cr1.1.5 Combine ideas to generate an innovative idea for art-making.

VA: Cr2.1.5 Experiment and develop skills in multiple art-making techniques and approaches through practice.

CCRA.L.6 Acquire and use accurately a range of general academic and domain-specific words and phrases; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.

CSF.12 The student will develop a program working individually and in teams using a textbased language.

CSF.15 The student will design and implement algorithms using
a) sequencing of instructions;
b) conditional execution; and
c) iteration.

Evaluation: How will you know if the objectives have been met? How will the outcomes be measured? Students in each of the teams created a moving work of art that is inspired by a famous masterpiece. This sculpture should demonstrate the use of some of the following technologies: LED lights, light sensors, motion sensors, accelerometer, and simple mechanisms.

Innovation: Explain the innovative learning experiences in this project. Using the Hummingbird Robotics Kit is a tool for true interdisciplinary learning. It can be used to integrate robotics and computer science into visual arts to make learning collaborative and fun. It also encourages higher order thinking and problem solving. This kit is also designed to break stereotypes: to expand ideas of what robotics is, and to promote gender equality and diversity in engineering and robotics.

Dissemination: Would your project be of value to other educators? How would you share your idea? (Sharing your project idea could include things such as school events, social media, school division meetings, conferences, etc…) I plan to work with a local museum whereby students will get inspirations from the works that are on display at the museum. Students then design and create their robots using strategies and processes used for any art project: sketching, journaling, revision, peer critique, etc. Upon completion, this project will be shared in our annual High School Art show in addition to a possible exhibit for the public at the museum.

Provide a timeline outlining the preparation and events of the project. Note that funded projects must be implemented within the school year and a project report must be completed.(See Hampton Education Foundation website for Project Report form)

• Once funding is approved, order kits by October 2018.
• Plan trip to museum. Prepare students.
• Kits delivered by December 2018.
• Jan – March: work on project.
• Projected completion: end of March or beginning of April to have it ready for the High School Art Show and a possible museum open house for students, families and the community.

Budget: Hummingbird Bit Classroom Bundle (8 Premium Kits + Classroom Supplies & Tools for 16-24 students): $1575.00

Total amount requested (If your total project cost exceeds this grant request, please describe how the additional funds will be obtained. If unable to raise all funds and project is not completed, HEF grant funds awarded must be repaid).

I am also applying for the mini-grant, which together with the innovative grant totals $1500. To acquire the additional funds, I will use DonorsChoose.org along with fund raising activities at school. I believe there's also a 10% discount for educators; which will bring the total cost down to $1417.50.

Electronic Signature Ai Choo Ashe