

Create/Innovate with a 3-D Scanner

Collaborative Classroom Grant Application

Riverside Middle School

Robert Wennerberg

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Application Form

Report Fields

Project Name*

Name of Project

Create/Innovate with a 3-D Scanner

Amount Requested

Amount Requested

\$3,151.00

Grade Level

Program Area of Request

Middle School (7-8)

Primary Subject Area

Please choose the primary subject area.

Technology

School

Please select your school.

Riverside Middle School

Applicants*

Please list the educators collaborating on this grant.

Robert Wennerberg (Technology Education)

Karla Stenberg (Art)

Scott Haffey (Computer Applications, World of Work)

Number of Students Served

Please enter the number of students that will be served by this grant.

300

Project Cost

What is the total cost of your project?

2749

Statement of Need

Please describe the need for this project. For example, how will this project impact student learning?

Students will create an object with clay (or other pliable material) and then scan it with the 3-D scanner which will then digitize it and send it to the computer. They can then print it with a 3-D printer, thereby changing it into a durable plastic model. If needed, they can modify it with 3-D software. Some students could even use it for animation. If a 3-D printer is not available, they can send the image to a friend, family member, or post it to thingiverse.com. It will be a huge motivation for them to experiment, invent, and innovate.

Primary Goal

Please describe the primary goal of the project and how it blends with School District 2 goals and curriculum.

This scanner will expose the students to real world applications. Scanners of this type are used world wide in manufacturing, aerospace, hospitals, automotive industry, homes, animation, the Smithsonian and more. It could give them the edge they need to get a job and become a productive citizen.

Project Description

Briefly identify the major activities and materials involved in your project.

Activities would include, but are not limited to creating objects, tools, characters, etc. out of clay or other materials and scanning them on the 3-d scanner. They would then put them in a 3-d editing software program (solid works, Poser, Blender, etc.) and or on a background. I would also like to collaborate with the art teacher and have the students do 3-d modeling and animation. It could be used by the World of Work teacher as well to come up with new products to sell.

Professional Development

If your project includes professional development how will it improve student performance?

No professional development needed.

Project Timeline

When will you implement your project?

The scanner could be implemented immediately. It can be plugged into any computer and comes with the needed software. Will need additional software (shareware or commercial) if the students are going to animate or use modeling software.

Plan for Evaluation

How will you evaluate student outcomes for your project?

Students will be evaluated on the completion of a model made with clay or other materials and then the scanned 3-dimensional object that they put in a 3-d computer application. It will also include their ability to convert files to their proper formats when appropriate. They will also be evaluated on their problem solving and creativity skills used to get the job done. Their final evaluation will be on their ability to write and recall the steps and the procedures they did to create and scan an object in a one page report.

Project Budget

Please explain how the funds from this grant will be spent to support your project goal. You can either type or upload a project budget to show how funds will be used. Please identify other funding sources if applicable.

Stenberg - scanner.docx

Total cost is \$2749

Clay and tools for manipulating clay - \$300

3-D Scanner - \$949

3-D modeling software - \$1,500 (optional)

The modeling software is optional. All my goals can be achieved without it. If purchased, it could be used to enhance those goals and make the students even more marketable in the job world. If left out, total cost would be \$1249

Supervisor Approval*

I have received approval from my supervisor to apply for this grant.

yes

Attachment 1

Please attach any photos, pages from catalogs, or other documents below. This is completely optional.

3d scan.jpg

Attachment 2

animation.jpg

Attachment 3

File Attachment Summary

Applicant File Uploads

- Stenberg - scanner.docx
- 3d scan.jpg
- animation.jpg

To whom it may concern,

As an art teacher, I am always looking for ways to stay up to date on technology and ways to motivate my students in the area of Art. I think a 3d scanner would help do that. The students could work on a three dimensional character with clay and then actually print it out to take home or use for other activities or classes. I also do a Claymation activity and this would enhance that. The kids could use this program to scan their clay projects and create a show with other computer software. As I get better with the software and the printer, I think there could be other uses I have not even thought of. Thank you for your time.

Karla Stenberg – Art Teacher – Riverside Middle School

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http://store.makerbot.com/digitizer

MakerBot Digitizer | 3D Sca... x

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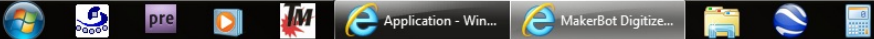
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2. K-3D

K-3D is free-as-in-freedom 3D modeling and animation software. It features a plugin-oriented procedural engine for all of its content, making K-3D a very versatile and powerful package. K-3D excels at polygonal modeling, and includes basic tools for NURBS, patches, curves and animation.

