123D Creature Ipad App Review

Reviewed By: Scott VanKurin

Center Moriches School District

Grade: 9-12

Subject: Technology Education

Standards: ITEA Standards

Standard 1: Students will develop an understanding of the characteristics and scope of technology.

Standard 2: Students will develop an understanding of the core concepts of technology.

Standard 3: Students will develop an understanding of the relationships among technologies and the connections between technology and other fields of study.

Standard 6: Students will develop an understanding of the role of society in the development and use of technology.

Standard 8: Students will develop an understanding of the attributes of design.

Standard 9: Students will develop an understanding of engineering design.

Standard 10: Students will develop an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.

Standard 11: Students will develop abilities to apply the design process.

Standard 12: Students will develop abilities to use and maintain technological products and systems.

Standard 19: Students will develop an understanding of and be able to select and use manufacturing technologies.

MST Standard 5

5.1 Engineering design is an iterative process involving modeling and optimization used to develop technological solutions to problems within given constraints.

5.3 Computers, as tools for design, modeling, information processing, communication, and system control, have greatly increased human productivity and knowledge.

Common Core

CCSS.ELA-Literacy.RST.9-10.3
Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.

CCSS.ELA-Literacy.RST.9-10.4
Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 9-10 texts and topics*.

CCSS.ELA-Literacy.RST.9-10.5
Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., *force, friction, reaction force, energy*).

CCSS.ELA-Literacy.RST.9-10.10
By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently.

CCSS.ELA-Literacy.RST.11-12.3
Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

CCSS.ELA-Literacy.RST.11-12.4
Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 11-12 texts and topics*.

CCSS.ELA-Literacy.RST.11-12.10
By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.

Location: 123D Creature is available through iTunes - This app is free

Description: Our students will be graduating into a world that is becoming more and more dependent on electronics. Our society is finding ways to use computers programs to improve the cost, efficiency, and quality of our products and services. It is of the upmost importance that our students become technologically literate, so they can compete in a world of virtual models, computer aided designing and CNC technologies such as 3D printing.

123D Creature is part of a collection of 123D Apps made by Autodesk including 123D Design, 123D Sculpt, 123D Make, and 123D Catch.

This app takes creature making in 123D Sculpt to a whole new level. Users start my creating a skeleton. The user then can use the tools to create the core structure of their creature. They can add more members and joints, move the members and joints, shape the figure around the members, pose their creature, and scale the members. This is the

foundation for their creature. The user is limited by their imagination, from monsters with 4 arms to horse bodies, the size and orientation of the skeleton and the thickness of the body around it can all be adjusted in this stage. The built in tutorial makes this process very easy as noninvasive descriptions of the tool pops up each time you choose a new tool. Most actions are automatically mirrored on the opposite side of your creature to keep it uniform, and speed up the process.

Once your foundations is created, you hit the "Bake Skeleton" option which takes you to the second half of the creation process. Your figure is now a piece of clay that can be sculpted with the same tools found in 123D Sculpt. Each tool can be further defined by adjusting the "Brush Size" and "Brush Strength" sliders. Tools available here are sculpt out, sculpt in, smooth, sharpen, flatten, and grab. I recommend making each tool as small and as strong as possible to make it easier to understand how each tool works. Again there is an option to mirror your changes to keep your creature uniform and speed up the process. Then the creature can be painted with a paintbrush and airbrush option. Finally the creature can be rendered, by adding lighting and shadow, adding a background and putting on filters.

All creatures can then be shared in the 123D creature community which is a social network that allows people to share their creatures and download other peoples designs. Creatures can also be exported as stl files and printed on a 3D printer.

Incorporation:

Students really enjoyed this software and many downloaded it to their personal iPads because it is so much fun it is almost like a game. The motivation and inspiration was exciting to see. There are even middle school and elementary school children in my district that are now using this app. This app has all the benefits of 123D Sculpt (please read by 123D Sculpt review), with the addition of the skeleton creation that the community of users.

I can see using this app in a CAD class, for an English class working on character development, for a science class to discuss the skeleton and anatomy, or even for website design, videogame design, or graphic communication classes.

With a 3D printer students can even print their creature and have action figures, or props in a play, puppet show or diorama. This would definitely be a great tool to keep the students more engages and passionate about the topic discussed while challenging them on their creativity and logic skills.

See a creature created by a student in 123D Creature and then 3D printed below. (We are still pretty new to our printer, so we have some settings that have to be adjusted):