



The STEAM Expo is designed to bring science, technology, engineering, arts and mathematics (STEAM) to life by displaying the STEAM integrated learning and projects at Johnson STEAM Academy Magnet School.

Join us for an afternoon full of hands-on activities and learning.

When: Friday, March 31, 2017

1:00-4:00 pm

Where: Johnson STEAM Academy Magnet School

355 18th Street SE, Cedar Rapids, IA 52403

Each classroom teacher has been working with a group of students for this event. Student groupings vary in each classroom. Some students will be working in students in their classroom, others will be working with students in their grade level, and some are working in multiage groupings.

1:00-2:00- School-wide STEAM Presentations

During this time, students will share their STEAM integrated learning and projects with other students. See the attached document for more details regarding the learning to see in each classroom. Students will be following a presentation schedule during this time block.

All K-5 students will be participating in this portion.

2:00-4:00- STEAM Exhibition

Classrooms will be open for students, families, community members and partners to observe the STEAM integrated learning and projects happening at Johnson STEAM Academy.



STEAM Expo Exhibition Descriptions

Gallery "Enrichment" Exhibition

We are moving Full STEAM Ahead with enriched learning at Johnson STEAM Academy! Stop by the JSA front gallery area during the STEAM Expo as we showcase some of the special learning experiences JSA students are offered. All Johnson STEAM Academy students have the opportunity to explore and expand special interests and activities by participating in a variety of before and after school enrichment classes as well as having guest artists and presenters. These exciting learning opportunities are provided at no cost to the students. Some of these programs are offered before/after school and some are during the school day.

Tiny Circus Artist and Author Visits Exhibition

St. Paul's United Methodist Church members have been donating time (reading with students) and books to JSA through its "Change a Child's Story" since the fall of 2016. In December of 2016, the St. Paul's UMC member's generously donated their Christmas Even offering to JSA. This particular financial donation exceeded our expectations and allowed us to bring in two Iowa authors to JSA, give each family a signed copy of the authors' books, and spend a week collaboratively producing a fictional stop-motion animation movie with the Tiny Circus.

This donation allows us to bring literacy alive for all JSA students. After hearing how Michelle Edwards wrote and illustrated her books, students will collaboratively produce a stop-motion animation video with Tiny Circus during the week of March 27-31. All students participated in the brainstorming process of creating a storyboard including characters and a trap to catch the main character, a (Johnson) jaguar. From there, author Jill Esbaum will spend a day with us in April talking about writing nonfiction books about animals.

Be sure to check out the information in the JSA gallery related to our author visits and the Tiny Circus collaborative stop-motion animation project and video. The entire JSA community along with special guest artists, Katie and Carlos, created the stop-motion video. This learning will be on display in the gallery during the STEAM Expo.

POD 1 and POD 2:

K-2 students in Pod 1 and Pod 2 have been preparing for the STEAM Expo for the past 16 weeks. Students were in multi-aged groupings where they worked with other students of various age and skill level to learn and collaborate with students from different classrooms. Students spent two weeks in each of 4 different classrooms experimenting and learning different technologies that support STEAM integrated learning throughout the year. After participating in an intro session with each technology, students had voice and choice in choosing their favorite of the 4 technologies and were regrouped again to create a final product to be shared at the Expo. Students worked creatively to show their expert knowledge of literacy and math skills through the use of these new technologies. They are showcasing their learning in the following classrooms:

Rooms 101 (Fisher) and Room 106 (Williams): ScratchJr

Students learned to use a coding app on the iPads called ScratchJr. This app allows students to learn to code characters to make them move, talk, and create a story line. In today's fast-paced technology world, coding is the new literacy! With ScratchJr, young children can program their own interactive stories and games. In the process, students learn to solve problems, design projects, and express themselves creatively. K-2 students worked independently on their project, but also worked with each other to solve problems. We cannot wait to share our learning with you!

Room 102 (Zangerle) and Room 105 (Lyng): Lego Story Starters

Students have been learning about the elements of a story and what makes a story interesting. They discussed character, setting, author, illustrator, problem/solution and retelling a familiar story. With a Lego Story Starters kit, students represented these story elements and created their own unique model of the story using the Legos. Then, they used an iPad to retell the story with using their Lego model. Students worked collaboratively to build the model and practices the skills of communication, problem solving and creativity while representing the story elements using Legos.

Room 103 (Clark) and Room 109 (McCullough): Stop Motion

Stop-motion animation is a movie making method that uses a series of photos of objects to create a movie. Students used a stop motion animation iPad app collaboratively to solve problems and create their own story line while demonstrating their knowledge of story elements. The students choose an animal or an insect they had been learning about for characters in their story. To make the video, students posed the object(s), took a picture of it, then moved it in tiny increments took another photo and repeated the process. When the photos are placed together it creates the sense of motion and when combined turns into a video. Kindergarten through second graders worked in collaborative teams to design their own stop motion movies. Stop by to listen to what they learned and to see their final videos!

PODS 3 and 4

All 2nd-5th grade students in Pod 3 and Pod 4 have been utilizing technology blended into their STEAM learning. They have been discovering various tech tools and devices that assist them with researching, experimenting, inventing, creating and finally presenting their findings. The students often work collaboratively to achieve their STEAM learning goals and have been using the Design Process as they meet their project-based learning goals.

Room 202(Cox): "Makey Makey" Energy

3rd and 4th graders have been learning about how everyday objects can be much more fun than they appear when you use the "Makey Makey" invention kit. This special circuit board encourages students to find creative ways to interact with their computers, by using everyday objects as a replacement for keyboards and mice. The students will be demonstrating how to create sound and visual art with just everyday objects such as bananas and apples! Stop by to learn about Makey Makey!

Room 203 (Dorrance): Life Science & Tech Fun

These 2nd grade students will be sharing their integrated learning related to mealworm habitats using Donor's Choose funded science materials, which include a classroom grow station, carnivorous plants, succulent garden, life cycle models and viewing chambers. Students will also share animal reports, brochures, and iMovie's they worked on with team members. "Tech" stations will feature some of the blended learning sites they use on a regular basis in the classroom, such as Raz Kids, ST Math, Xtra Math, Superkids, and FOSS Science kits. A binder documenting integrated STEAM learning throughout the year will be on display.

Room 204 (Ryan) and Room 207 (Rozendaal): K'NEX Energy

3rd and 4th grade students have been learning about energy in science. Students will use physics concepts they learned about to use K'NEX blocks to design and build something that has a moving part. Each student will model how energy is created from a motor, water, wind, or a solar panel and how it powered their creation.

Room 205 (Glime): Sphero Robots

These 3rd and 4th grade students will be using a robotic (sphere shaped) robot called Sphero, as the energy source to move a container of pennies. We have been using the design process to help create a device that would help the Sphero move the pennies. The goal was to see who can move their container the farthest through an obstacle course. We are looking forward to sharing our project with you at the STEAM Expo!

Room 206 (Murphy): littleBits Energy

3rd and 4th grade students have been learning all about electricity in their science unit. These students will be using the littleBits circuit kits to create an invention powered by electricity. LittleBits are small, magnetic, circuit pieces that can be combined to create new inventions. The student projects run on the electricity from the littleBit circuit pieces. Students will be advertising their electrical inventions by creating a poster about their project and sharing it with others.

Room 208 (Ernst) and Room (209) Frette: Natural Disasters

5th grade students have been using stop motion animation and green screen technology to produce presentations displaying their learning related to natural disasters. Students worked in teams to research then produce their final products, which will be on display. A big book of learning will be on display to explain how they utilized the Design Process in creating their own musical about floods that they also performed!

