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Honors Expanded Learning Clubs

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### STEM Club

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NEBRASKA HONORS PROGRAM  
CLC EXPANDED LEARNING OPPORTUNITY CLUBS  
INFORMATION SHEET

**Name of Club:** STEM Club

**Age/Grade Level:** 3-5<sup>th</sup> Grade Elementary School

**Number of Attendees:** 12

**Goal of the Club:** *(learning objectives/outcomes)*

To introduce broad STEM topics at elementary school students

**Resources:** *(Information for club provided by)*

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**Content Areas:** *(check all that apply)*

- Arts (Visual, Music, Theater & Performance)
- Literacy
- STEM (Science, Technology, Engineering & Math)
- Social Studies
- Wellness (Physical Education, Health, Nutrition & Character Education)

**Outputs or final products:** *(Does the club have a final product/project to showcase to community?)*

N/a

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**Introducing your Club/Activities:**

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**General Directions:**

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**Tips/Tricks:**

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# LESSON PLAN WORKSHEET

(copy table as needed)

**Lesson Activity Name:** Introduction Day/Construction Paper Chain Contest

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**Length of Activity:** 45 minutes

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**Supplies:** Construction Paper, Tape, Scissors

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**Directions:**

Have students split into two groups. Give students construction paper, tape, and scissors. The goal of this contest is to make the biggest possible chain out of construction paper. Students can either fold or directly put tape on flat piece of construction paper as long as they make the biggest paper chain possible.

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**Conclusion of the activity:**

Students were able to get to know each other by working together. They used their critical thinking skills to allow them to think of a way to make the biggest paper chain as possible. Students also like being hands on and competing with one another to win the contest.

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**Parts of activity that worked:**

Students worked together in teams and did not exclude anyone. Students called the contest a draw at the end for fairness to allow everyone to win.

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**Parts of activity that did not work:**

With larger groups of students, it was harder for each student to be actively doing something the whole time. The limited amount of scissors and tape made students have to do certain things such as only taping or only cutting the paper which can get repetitive for them

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# LESSON PLAN WORKSHEET

(copy table as needed)

**Lesson Activity Name:** Slime

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**Length of Activity:** 45 minutes

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**Supplies:** Elmer's All-Purpose Glue, Slime Activator, & Plastic Baggie; Optional: Food Coloring

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**Directions:**

Have students split into two groups. Pour Elmer's All-Purpose Glue & Slime Activator into a plastic baggie for students to mix. The goal of this activity is to introduce two completely different things into a fun mixture such as slime.

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**Conclusion of the activity:**

Students were able to get to know each other by working together. They used their critical thinking skills to allow them to mix and discover how slime composition worked. Through this activity, they were able to see if they need more glue or activator to achieve their desired texture of the slime.

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**Parts of activity that worked:**

Students worked together in teams and did not exclude anyone. Students also helped their other classmates to achieve the same slime texture as they preferred.

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**Parts of activity that did not work:**

With larger groups of students, it was harder for each student to be actively doing something the whole time. The amount of glue to slime ratio was unevenly distributed among students, so the club leaders had to reevaluate the amount of glue and slime in order to receive the desired texture.

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# LESSON PLAN WORKSHEET

(copy table as needed)

**Lesson Activity Name:** Marshmallow & Toothpick Challenge

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**Length of Activity:** 45 minutes

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**Supplies:** Marshmallow & Toothpicks

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**Directions:**

Have students split into two groups. The goal of this activity is to build the most unique or tallest tower using marshmallows and toothpicks. The toothpicks are the structure while the marshmallow is to hold the toothpick together. At the end, evaluate the group that achieve this outcome.

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**Conclusion of the activity:**

Students were able to get to know each other by working in smaller groups. This required collaboration and teamwork in order to participate in the challenge. All the students were learning how to fix a falling tower, giving them an opportunity to utilize their critical thinking skills to fix their tower. In the end, the club leaders chose to give distinctive awards such as “Best Unique Tower” and “Tallest Tower Made.”

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**Parts of activity that worked:**

Students worked diligently on their towers. Most of the students contributed to the activity by supporting or building the tower itself.

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**Parts of activity that did not work:**

Some students in our club chose not to work in groups. Instead, we allowed the students to work individually on their towers in order to participate in the marshmallow and toothpick challenge.

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# LESSON PLAN WORKSHEET

(copy table as needed)

**Lesson Activity Name:** Rocketship Building

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**Length of Activity:** 45 minutes

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**Supplies:** Rocketship Building Kit and Scissors

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**Directions:**

Have students use the rocket ship kit with all the materials included in it. Students may use scissors to help with the building process. Instructions are provided in the kit, so students can work in groups to build the rocket ship together. The process is complicated so the students will probably need help in order to build the Rocketship.

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**Conclusion of the activity:**

All students were able to successfully build a rocket ship in groups. They used the engineering part in STEM to help them build up the rocket.

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**Parts of activity that worked:**

Most students worked in pairs, and no one was left out. Some students wanted to work alone by choice.

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**Parts of activity that did not work:**

Instructions to build the rocket were very complex and hard to understand. This caused some confusion in the students requiring them to need further assistance on how to build the rocket.

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# LESSON PLAN WORKSHEET

(copy table as needed)

**Lesson Activity Name:** Boiled Egg Dissection and Community Letters

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**Length of Activity:** 45 minutes

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**Supplies:** Dissection: Boiled eggs and tin foil containers  
Community Letters: paper and markers

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**Directions:**

Students will be given a boiled egg in a tin foil container to break open the egg and look inside it. Students may use a magnifying glass to look closer at the egg. Community letters are made for people in the nursing home to celebrate Easter. Students were able to use the paper and pencil to make the letters.

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**Conclusion of the activity:**

Students were able to learn what makes up an egg such as the yolk and egg whites. Students saw close up the egg. They also used the rest of the time to draw pictures and send nice notes to people in the nursing home.

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**Parts of activity that worked:**

Students had fun breaking open the egg as if it was a real dissection. They also enjoyed giving back to the community by sending nice letters to those who are in need for them. No students were left out and were able work individually while still having a good time.

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**Parts of activity that did not work:**

The students found the egg dissection to be boring pretty fast. Since there was not much to look at, they lost interest fast. Students also drew pictures fairly quickly which caused them to finish up fast. This left some extra time at the end for them to do some free hand drawing since there were no more activities left.

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# LESSON PLAN WORKSHEET

(copy table as needed)

**Lesson Activity Name:** Ice cream in a bag

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**Length of Activity:** 45 minutes

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**Supplies:** Milk, vanilla extract, ice, ice cream salt, sugar, Ziploc bags, and spoons

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**Directions:**

Have students take out a Ziploc bag of ice and mix in salt to put aside. In a second Ziploc bag, have students put in milk, sugar, and vanilla extract. Put the second bag inside of the first bag (so milk, sugar, vanilla extract bag is inside of ice and salt bag). Ensure that both bags are sealed tight to prevent spilling. Have students shake bag vigorously until the milk bag goes from a liquid to a solid. Once it is solid, that means that the students have successfully made ice cream in a bag.

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**Conclusion of the activity:**

All students were able to make ice cream in their bags successfully. Some took longer than others and depended on how long they shook the bag for. Ensure that students are in an area that can get messy while performing this experiment.

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**Parts of activity that worked:**

Students worked alone and made their own bags of ice cream. All students were able to make ice cream within the 45 minutes. Students had fun making it and had a fun treat afterwards.

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**Parts of activity that did not work:**

Since some students struggled more than others, it would have been better to try to get measurements for each ingredient as accurate as possible which could have helped speed up the time it took to make the ice cream. Another thing that did not work was some students were not consistent with shaking the bag since the ice was cold and water started leaking through the bag.

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