“STEMIFY”
VIRTUAL
STUDENT EXPERIENCES

LIZ DETHLOFF
ROBERT R. SHAW CENTER FOR STEAM
KATYISD STEM INSTRUCTIONAL SPECIALIST
ELIZABETHMDETHLOFF@KATYISD.ORG
CURRICULUM-BASED:

Curriculum is broadly defined as the totality of student experiences that occur in the educational process. The term often refers specifically to a planned sequence of instruction, or to a view of the student's experiences in terms of the educator's or school's instructional goals.

WHY ENGINEERING TASKS?

STEM is important because it pervades every part of our lives. Science is everywhere in the world around us. ... By exposing students to STEM and giving them opportunities to explore STEM-related concepts, they will develop a passion for it and hopefully pursue a job in a STEM field.

Science is about knowing; engineering is about doing.

Henry Petroski
2020 SPRING & SUMMER CHALLENGE
DAILY SCHEDULE:

Our summer camp for elementary students grades 3-5 was five days long, each day from 8:30am until 12:30pm.

We provided a 10 minute break with included snacks, as well as teambuilding activities before the day's events started and end of day closure time.

Each day of camp had an overarching content:

Monday: Matter & Energy
Tuesday: Earth & Space
Wednesday: Organisms in their Environment
Thursday: Force & Motion
Friday: Engineering Design- Toys!
WHY HAVE A TEAM OF TEACHERS:

Social support and social interaction have a positive influence on human beings' physical and mental health. It lowers occurrence of stress, depression, anxiety and also highly affects our endocrine-immune system. So at the end we can say People need People.
HIGH SCHOOL STUDENT TEACHERS
ENGINEERING DESIGN PROCESS

THE GOAL

ASK    IMAGINE

PLAN

IMPROVE

CREATE

EXPERIMENT
Lindsay Felder, KISD 2nd grade Science/Math teacher, instructs her students on designing support systems from everyday consumables.

Students were given real X-rays of various broken bones and were asked to present their findings. Lindsay evaluated their designs, and either “released them” from the hospital or sent them back to make changes.
Building your skeleton

- Cut 5 pieces of string about 16 inches long each
- Flip your hand over and tape them to the tips of each finger
STUDENT PRESENTATIONS:

It is CRITICAL to give students time to report out on findings or to share their critical thinking processes with the instructor and their peers.

In this activity, students were instructed to use provided consumables to design a room on a Mars space station.

Before building, they were shown a quick video clip of Mars conditions so they had background knowledge.

In this picture, Theia pulled her model close to the camera and shared what the objects in the model represented.
WHERE ARE THE STUDENTS IN THIS ZOOM MEETING???
“STEMIFY”
VIRTUAL
STUDENT EXPERIENCES

LIZ DETHLOFF
ROBERT R. SHAW CENTER FOR STEAM
KATYISD STEM INSTRUCTIONAL SPECIALIST
ELIZABETHMDETHLOFF@KATYISD.ORG