Youth Services Interest Group

PLAN Innovation Project: KidSpark Education

LeRoy Collins Leon County Public Library System

Tallahassee, FL 32301

850-606-2665

Thursday, March 12, 2020 2:00 – 3:00 EST

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PLAN's Innovation Award

The LeRoy Collins Leon County Public Library system applied for PLAN's Innovation Award in August. In December, we were so excited to receive the award for $3,120 to purchase Kid Spark Education lab kits. Kits arrived in January. We've organized the kits and plan to start programming with them this Summer. Here's a brief intro to the kits we now have.

KiDSPARK EDUCATION

KidSparkEducation.org

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The ROK Blocks STEM Lab – PRE K – 5th grade

- We were able to acquire 3 ROK Blocks STEM Labs. Each lab serves 4 students. It is designed for preschool through 5th grade. The containers came with an "packing list" so that we know what parts go in each container. The base was extra and well worth the money as it is easy to move from place to place.

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Engineering Pathways Mobile STEM Lab for student in 3rd – 8th grade

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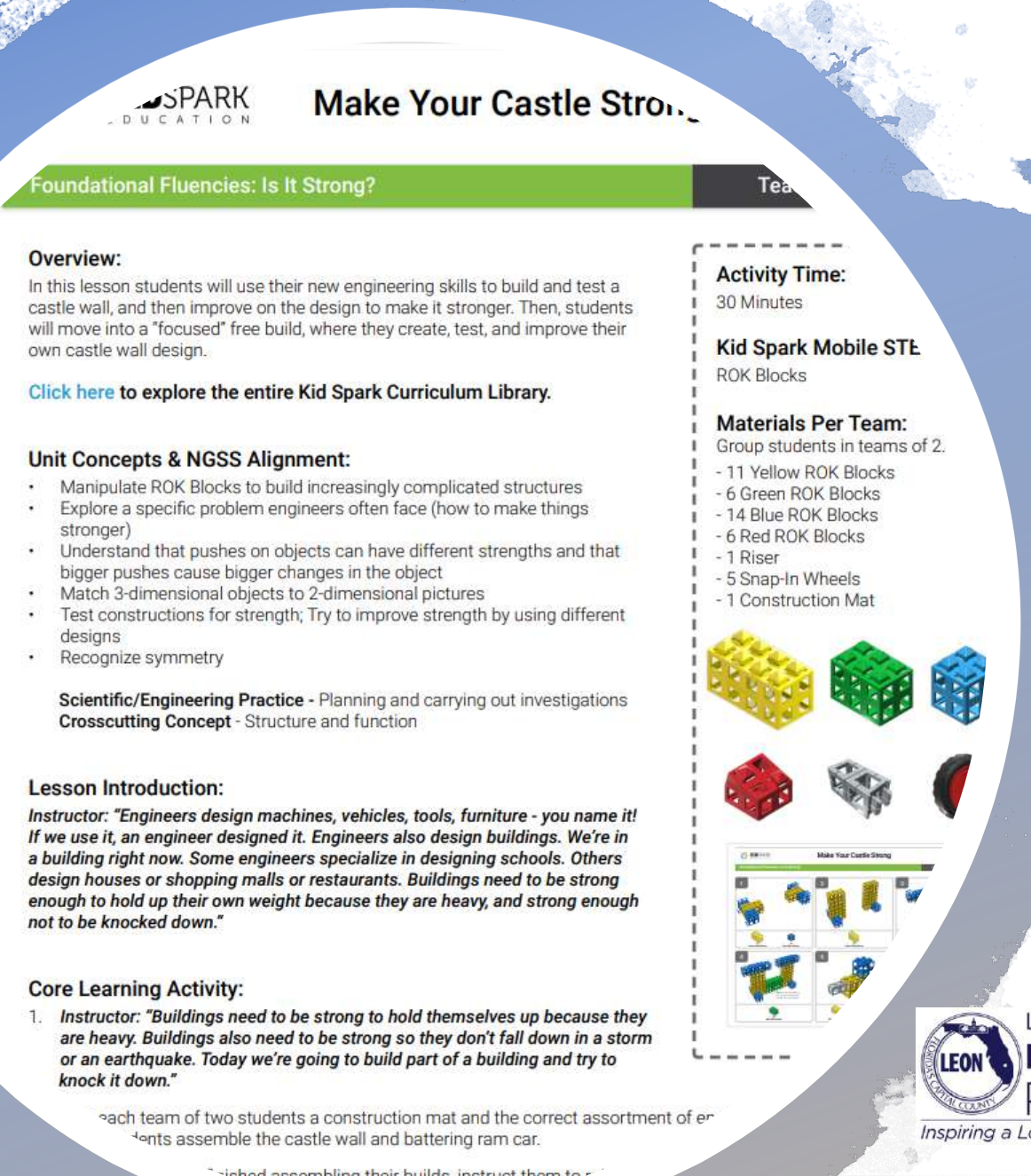

SPARK EDUCATION

Make Your Castle Stro

Foundational Fluencies: Is It Strong?

Tea

Overview:

In this lesson students will use their new engineering skills to build and test a castle wall, and then improve on the design to make it stronger. Then, students will move into a "focused" free build, where they create, test, and improve their own castle wall design.

Click here **to explore the entire Kid Spark Curriculum Library.**

Unit Concepts & NGSS Alignment:

- Manipulate ROK Blocks to build increasingly complicated structures
- Explore a specific problem engineers often face (how to make things stronger)
- Understand that pushes on objects can have different strengths and that bigger pushes cause bigger changes in the object
- Match 3-dimensional objects to 2-dimensional pictures
- Test constructions for strength; Try to improve strength by using different designs
- Recognize symmetry

Scientific/Engineering Practice - Planning and carrying out investigations
Crosscutting Concept - Structure and function

Lesson Introduction:

Instructor: "Engineers design machines, vehicles, tools, furniture - you name it! If we use it, an engineer designed it. Engineers also design buildings. We're in a building right now. Some engineers specialize in designing schools. Others design houses or shopping malls or restaurants. Buildings need to be strong enough to hold up their own weight because they are heavy, and strong enough not to be knocked down."

Core Learning Activity:

1. ***Instructor: "Buildings need to be strong to hold themselves up because they are heavy. Buildings also need to be strong so they don't fall down in a storm or an earthquake. Today we're going to build part of a building and try to knock it down."***

each team of two students a construction mat and the correct assortment of er
dents assemble the castle wall and battering ram car.

ished assembling their builds, instruct them to r

Activity Time:
30 Minutes

Kid Spark Mobile STE
ROK Blocks

Materials Per Team:
Group students in teams of 2.
- 11 Yellow ROK Blocks
- 6 Green ROK Blocks
- 14 Blue ROK Blocks
- 6 Red ROK Blocks
- 1 Riser
- 5 Snap-In Wheels
- 1 Construction Mat

Lesson Plans

Each kit has a detailed lesson plan, including picture books that can be read. In this lesson "Make Your Castle Strong" it gives words for the instructor to say.

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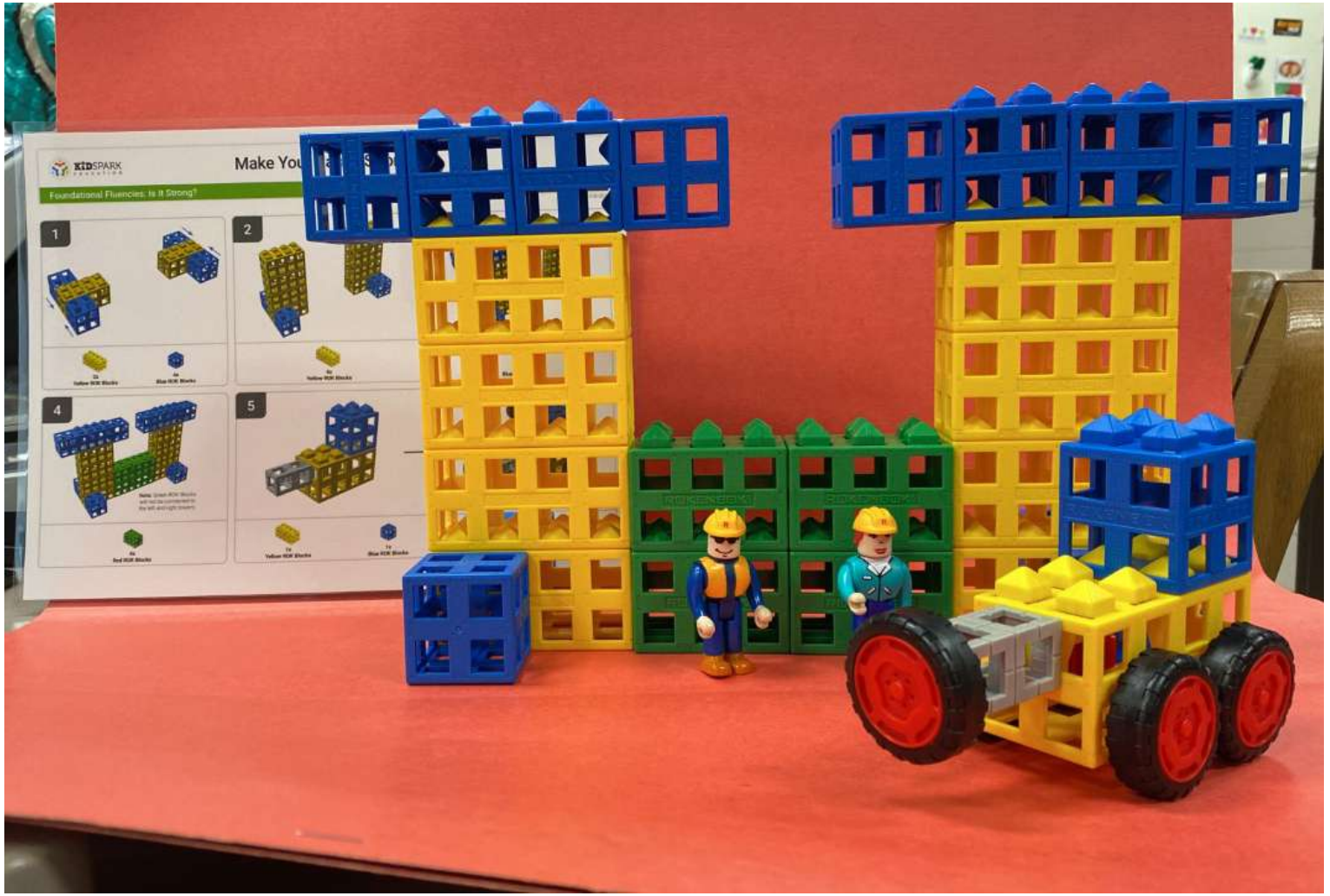
Student Mats

Each lesson comes with an instructional mat that guides the student to make their project. This lesson “Make Your Castle Strong” was simple and easy to build. The challenge is then given to make it stronger. At the end of 30 minutes, each student team may present how they reinforced their Castle wall.



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Lessons

Lessons for the younger students are 30 minutes. The older students may have 90 minutes lessons. You may break down the 90 minute lesson into 3 30 minutes if needed.

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Kid Spark website and orientation

The KidSparkEducation.org website is easy to maneuver. Once we received our kits, I was given a 30 minute orientation to what I had purchased. It seems that this organization is easy to work with. The product appears to be very sturdy. We look forward to offering STEM programming this summer using our KidSpark kits. Thanks PLAN!

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