BINDERS: Engineering for Elementary Students

Physical Sciences:

Simple Machines and Industrial Engineering-- Marvelous Machines: Making Work Easier

1. Aisha Makes Work Easier
2. Assembly Lines
3. Using Simple Machines
4. Improving a Factory Subsystem

Solids and Liquids and Chemical Engineering-- A work In Process: Improving a Playdough Process

1. Michelle's MVP Award
2. Get the Creative Juices Flowing
3. All Mixed Up

Electricity and Engineering: An Alarming Idea-- Designing Alarm Circuits

1. A Reminder for Emily
2. It's Electric!
3. Representing Circuits
4. Designing an Alarm Circuit

Magnets and Transportation Engineering-- The Attraction is Obvious: Designing Maglev Systems

1. Hikaru's Toy Troubles
2. Steering Clear of Danger
3. A Magnetic Personality

Balance, Forces, and Civil Engineering-- To Get to the Other Side: Designing Bridges

1. Javier Builds a Bridge
2. Pushes and Pulls
3. Bridging Understanding
4. Designing a Bridge

Geosciences:

Air, Weather, and Mechanical Engineering-- Catching the Wind: Designing Windmills

1. Leif Catches the Wind
2. Who are Mechanical Engineers?
3. Test Sail Designs
4. Designing a Windmill

Landforms and Geotechnical Engineering: A Stick in the Mud: Evaluating a Landscape

1. Suman Crosses the Karnali River
2. The Core of the Issue
3. Selecting a Site
4. Evaluating a Landscape
5. Designing a Maglev System

Earth Materials and Materials Engineering: A Sticky Situation: Designing Walls

1. Yi Min's Great Wall
2. Materials and Their Uses
3. Testing Mortar
4. Designing a Wall

Water and Environment Engineering

1. Saving Salila's Turtle
2. Who are Environmental Engineers?
3. Exploring Filter Materials
4. Designing a Water Filter

Biological Sciences:

Bioengineering: Just Passing Through: Designing Model Membranes

1. Juan Daniel's Fútbol Frog
2. Biology Meets Technology
3. Exploring Membranes
4. Designing a Model Membrane
5. Improving a Play Dough Process

Sound and Acoustical Engineering: Sounds Like Fun: Seeing Animal Sounds

1. Kwame's Sound
2. Shh! Damping Sounds
3. "Seeing" Sounds
4. Representing Bird Sounds

Plants and Package Engineering: Thinking Inside the Box: Designing Plant Packages

1. A Gift From Fadil
2. Who are Packaging Engineers?
3. Evaluating Needs and Creating Criteria
4. Improving a Package Design

These curricula have great lessons that fit well with the three dimensional approach of the Next Generation Science Standards (NGSS)

Binders may be checked out for a period of two-weeks.

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To request a Binder or Teaching Box call 707-826-4479