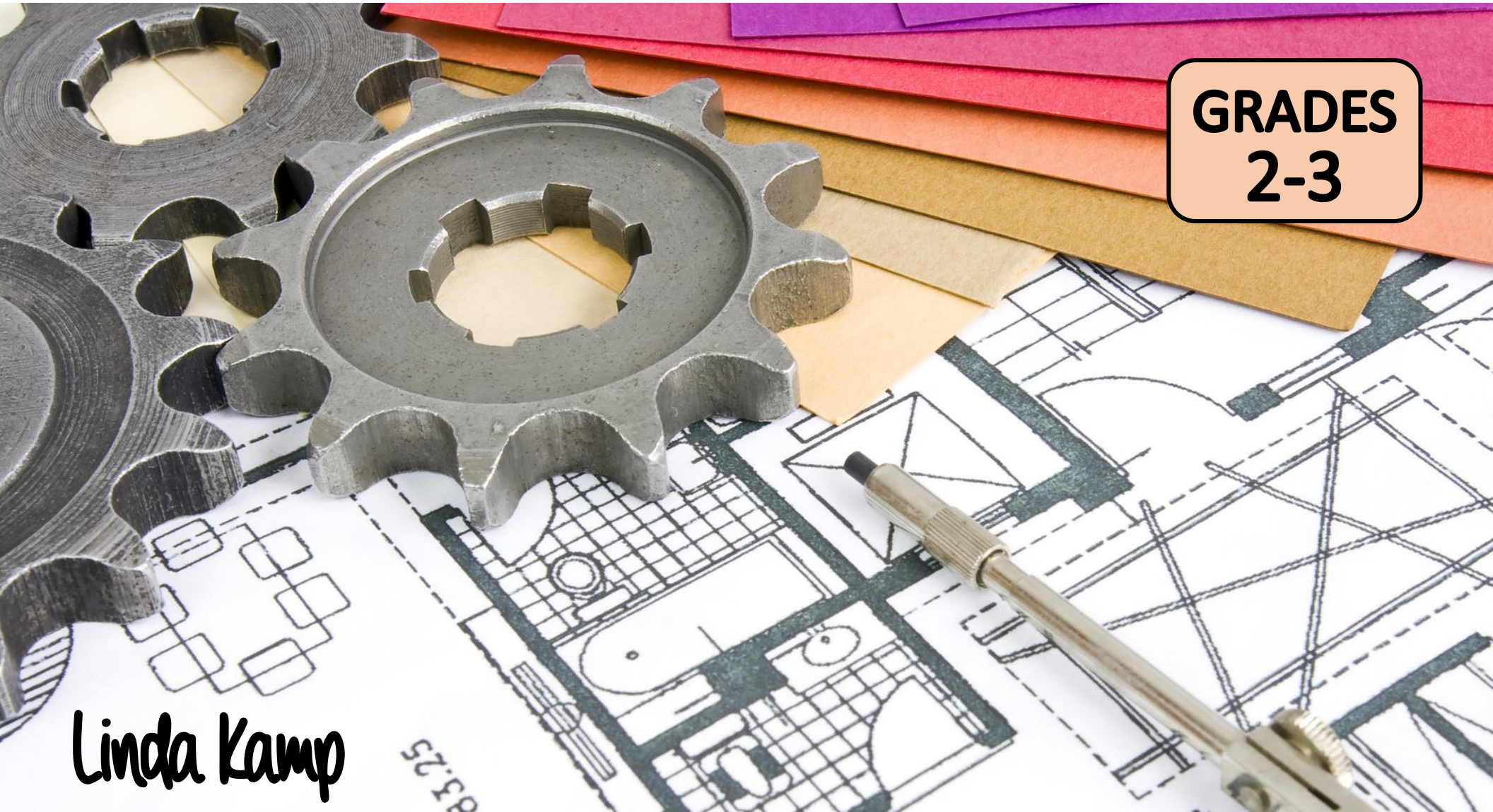
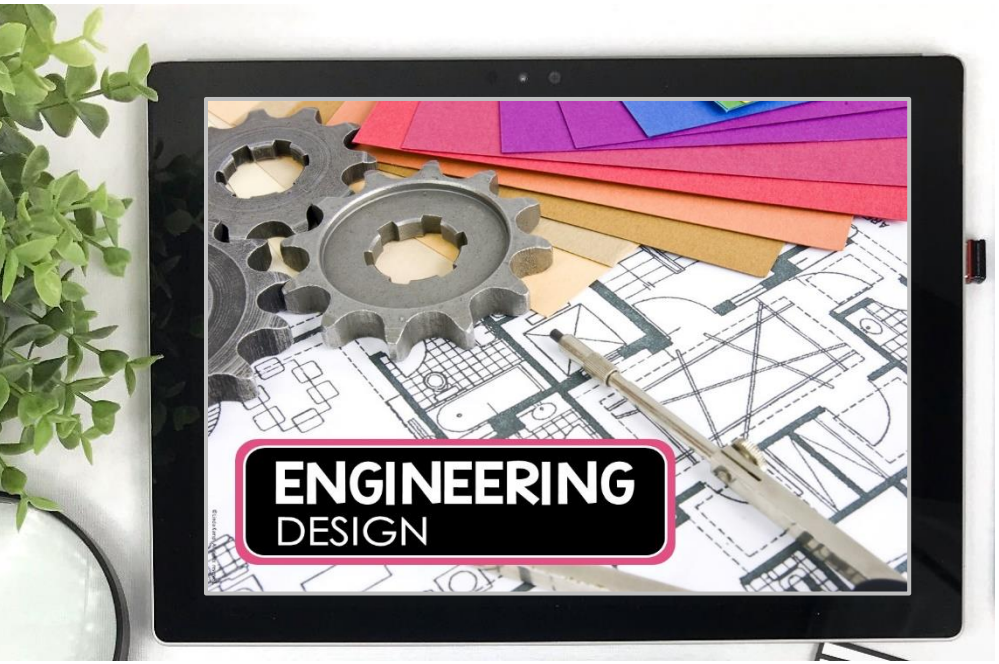
ENGINEERING & THE DESIGN PROCESS



Linda Kamp

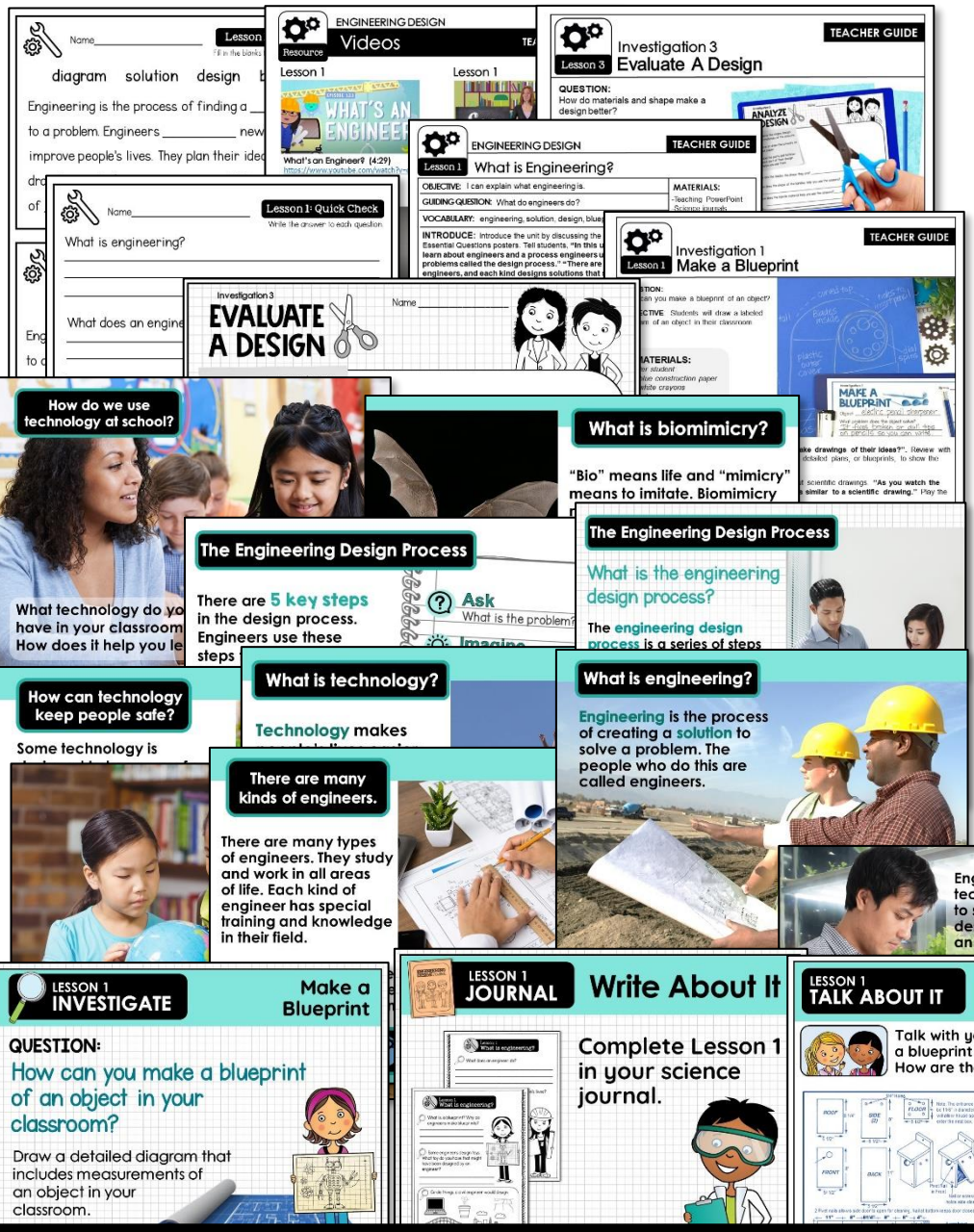
TEACHING POWERPOINT



6 ENGAGiNG LESSONS

- What is Engineering?
- The Engineering Design Process
- What is Technology?
- Natural & Man-Made Materials
- Engineering Inspired By Nature
- Designing Solutions

EACH LESSON INCLUDES:

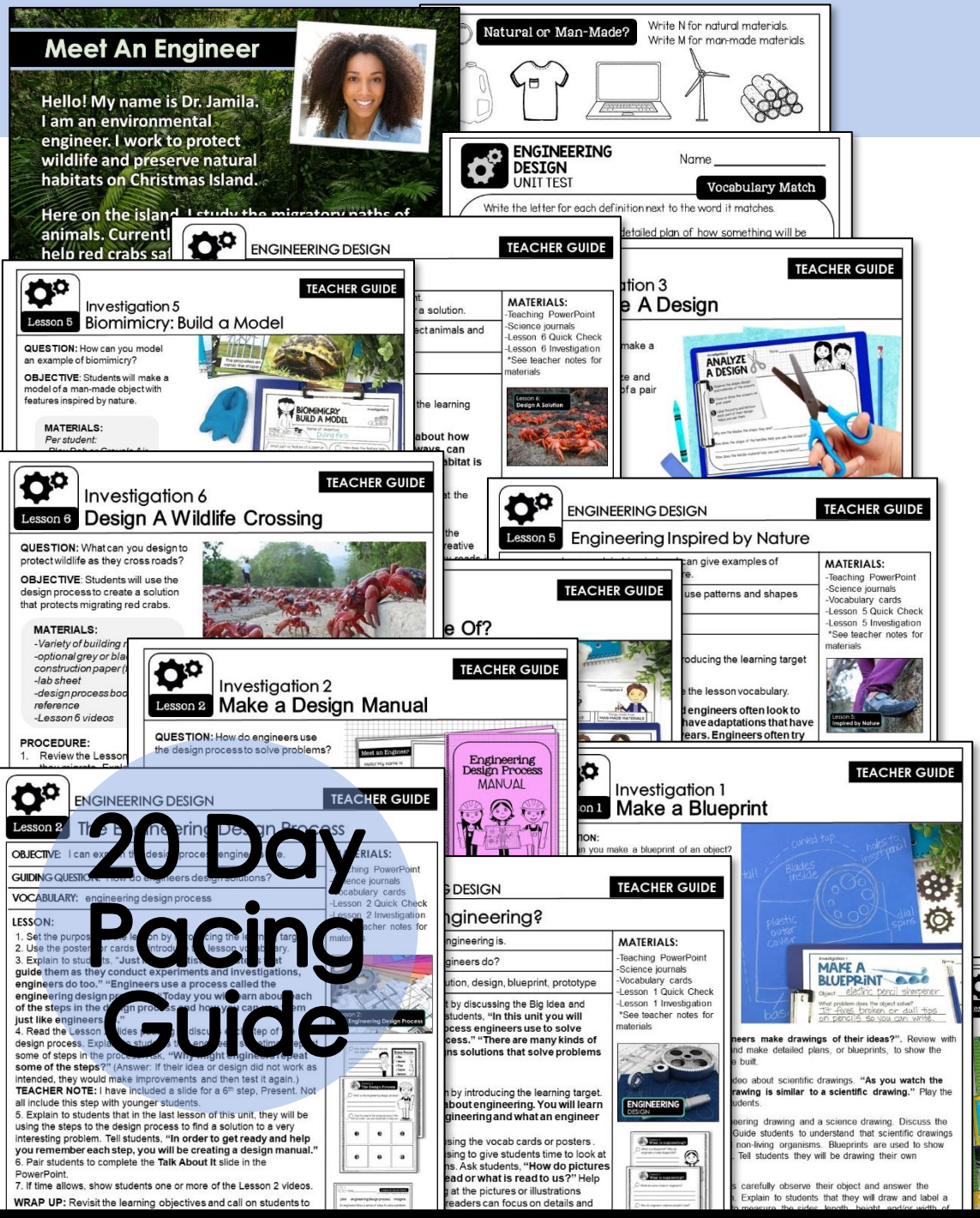


- Detailed, scripted lesson plan
- Engaging PowerPoint lesson
- Engineering Journal activity
- Related lab investigation
- Exit ticket quiz in 2 formats
- Vocabulary cards & posters
- Objectives display cards
- Turn & talk partner questions
- Related video links
- Center activity

SAMPLE LESSON

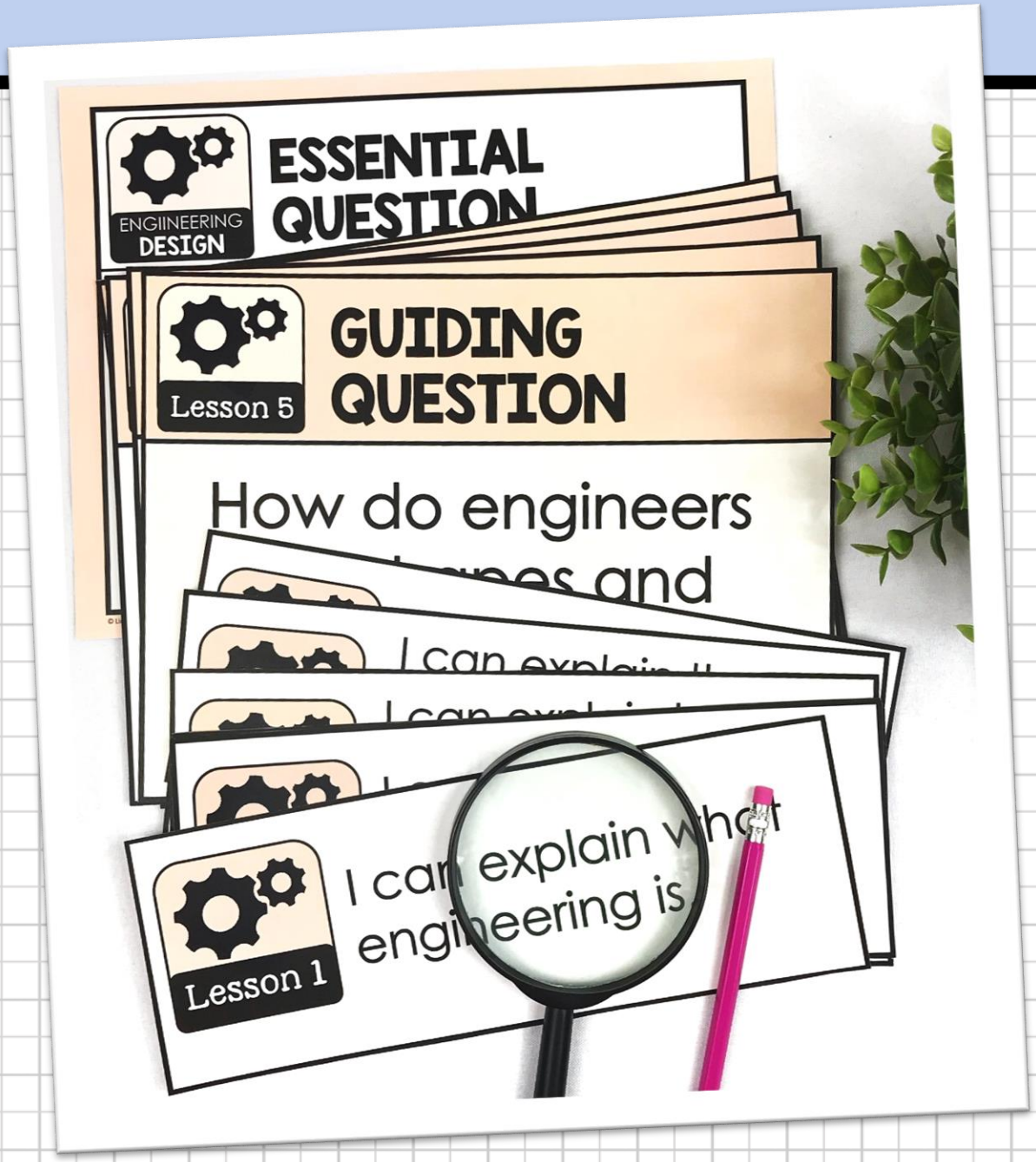
TEACHER GUIDE

- Scripted lesson plans
- Lesson objectives
- Performance tasks
- Pacing Guide
- Management tips
- Standards alignment
- Extension activities
- Assessment & quizzes



20 Day Pacing Guide

DETAILED LESSON PLANS



Aligned to

Next Generation Science Standards,

TEKS,

and

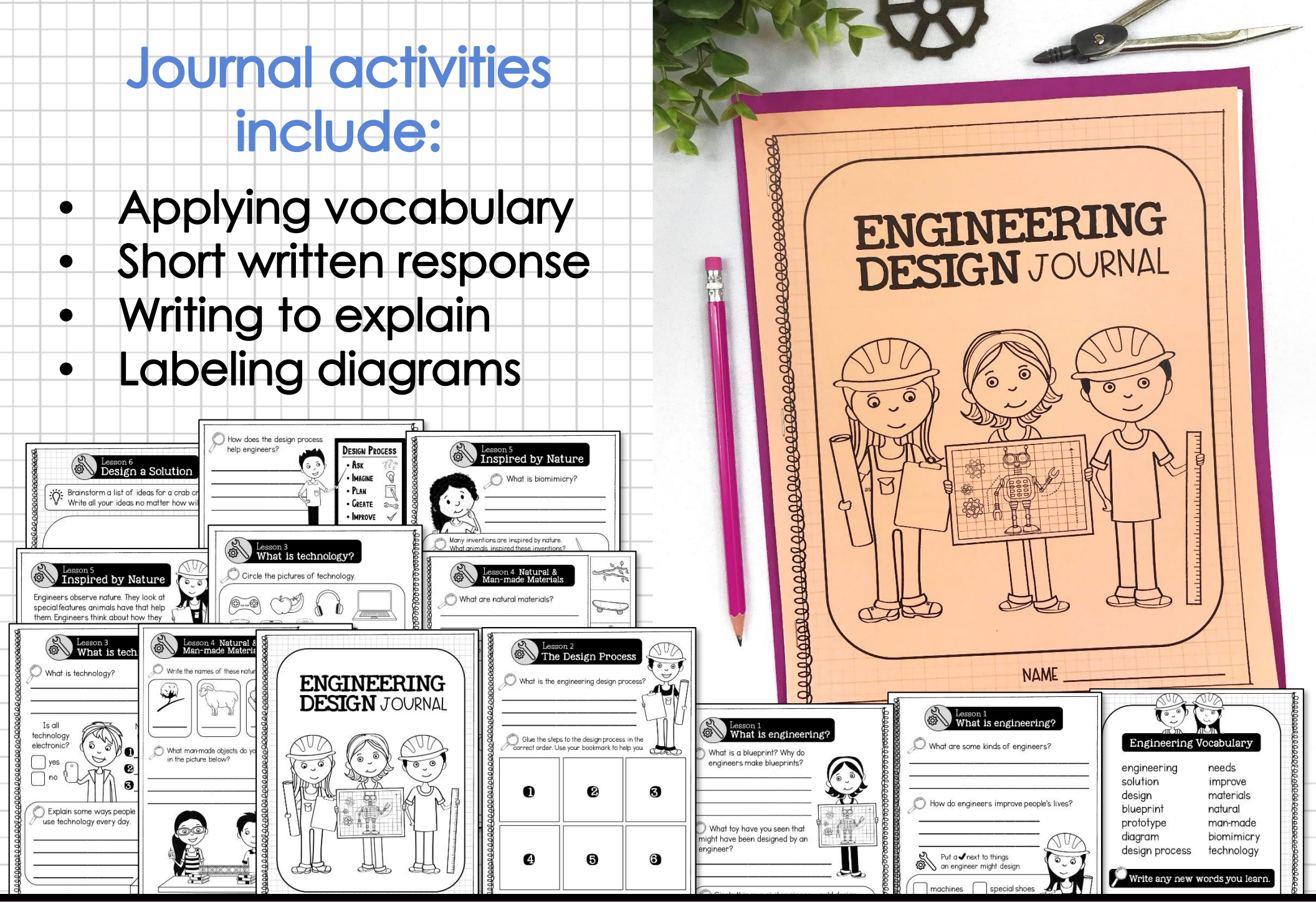
Common Core State Standards

for 2nd Grade

STANDARDS-BASED

Journal activities include:

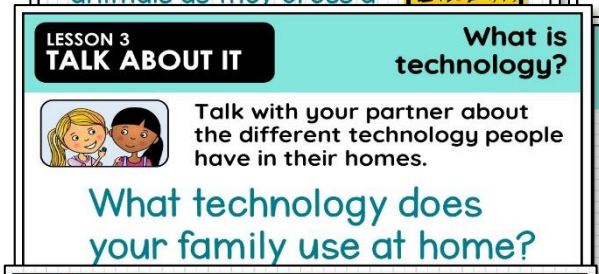
- Applying vocabulary
- Short written response
- Writing to explain
- Labeling diagrams

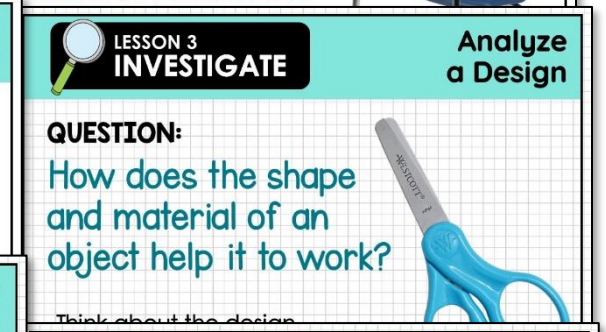


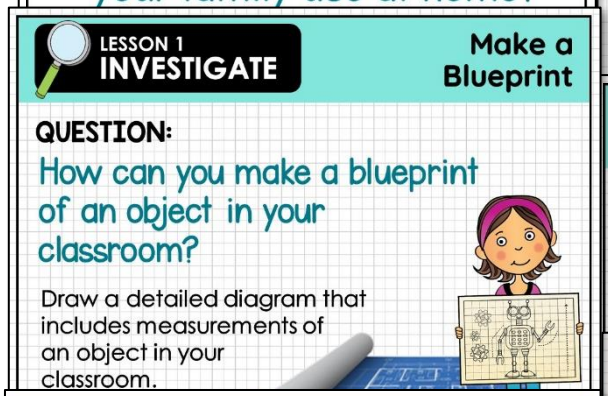
LESSON RESPONSE JOURNAL

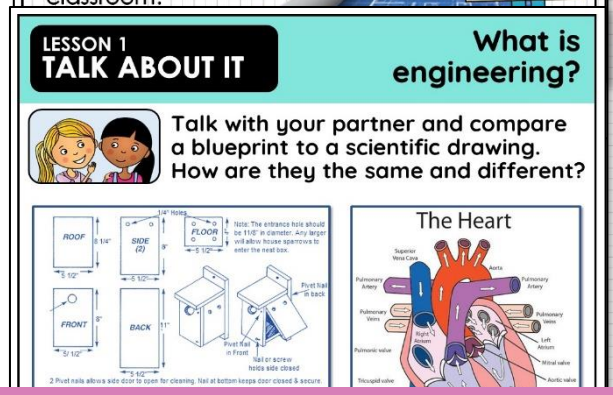
HIGH-ENGAGEMENT LESSONS

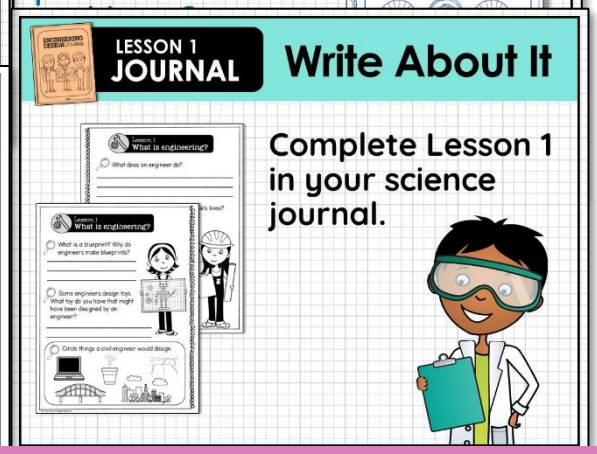
Students discuss, write & investigate

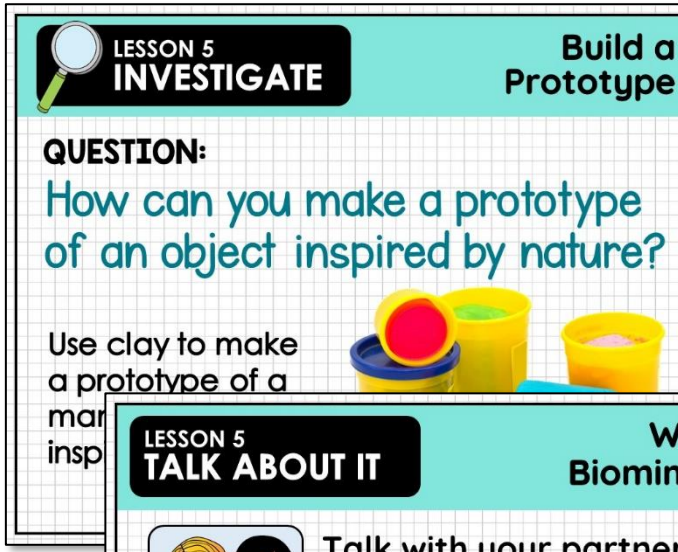


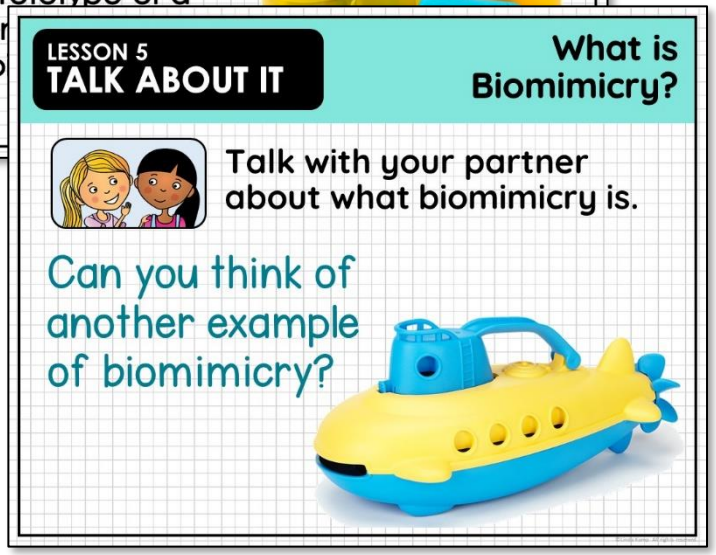




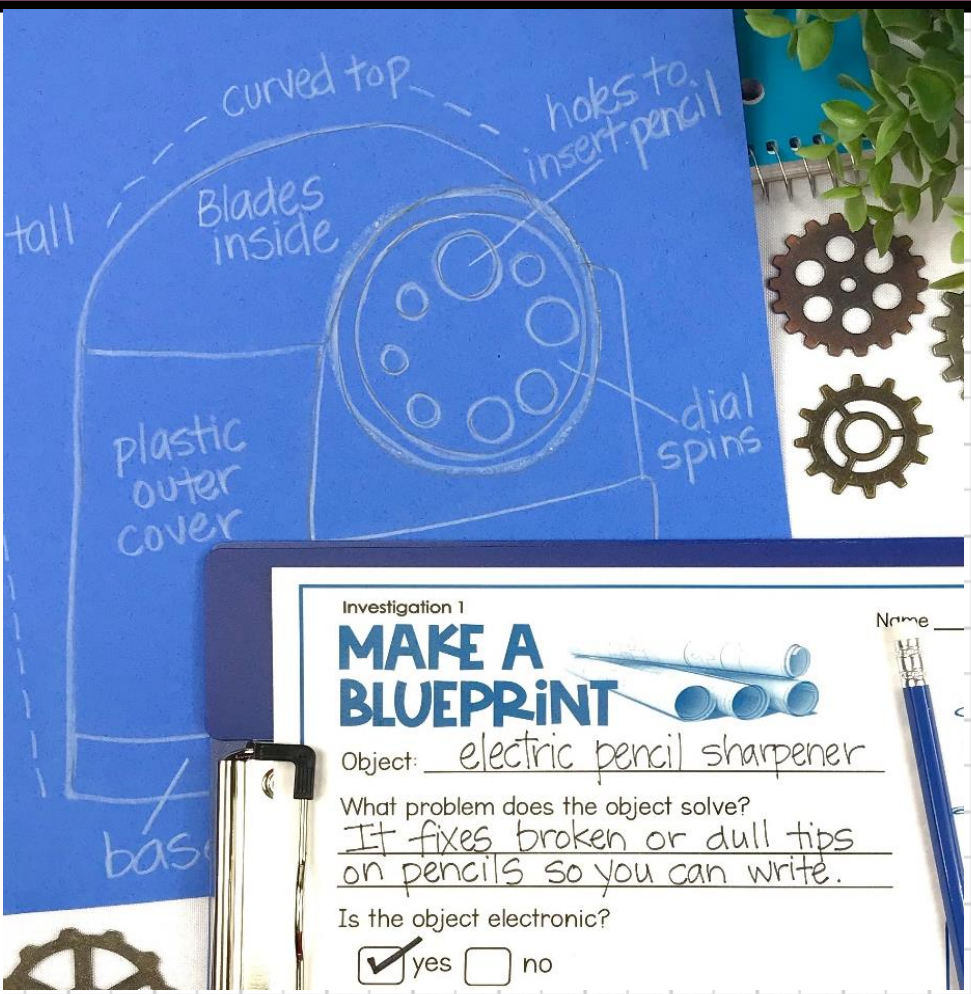




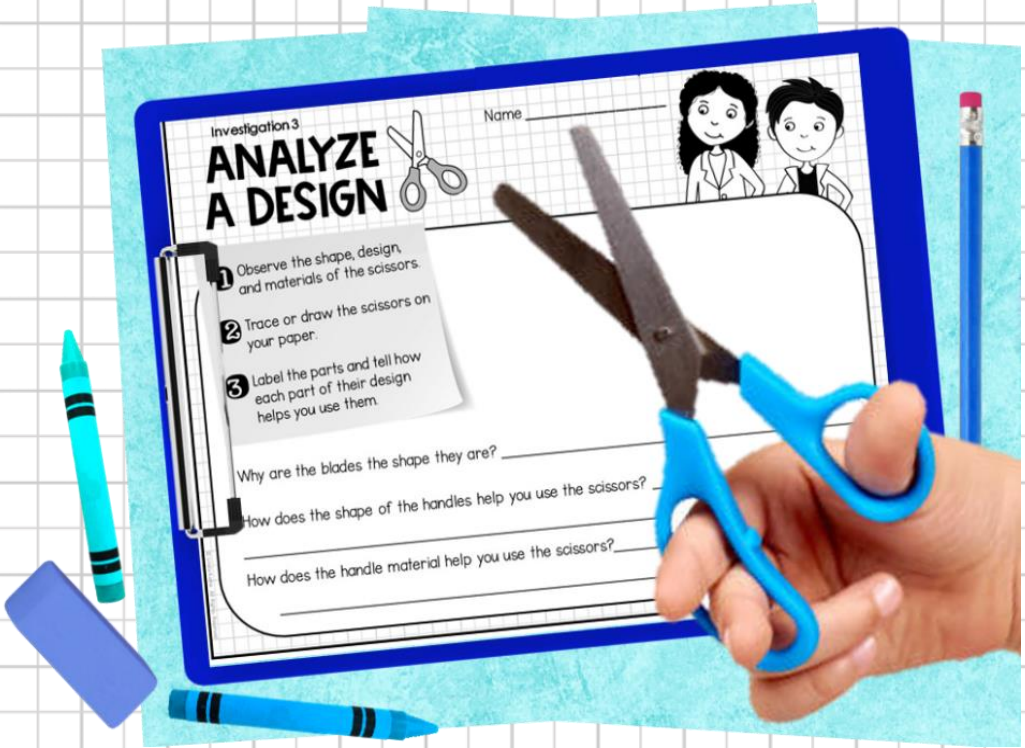




6 HANDS-ON ENGINEERING LABS

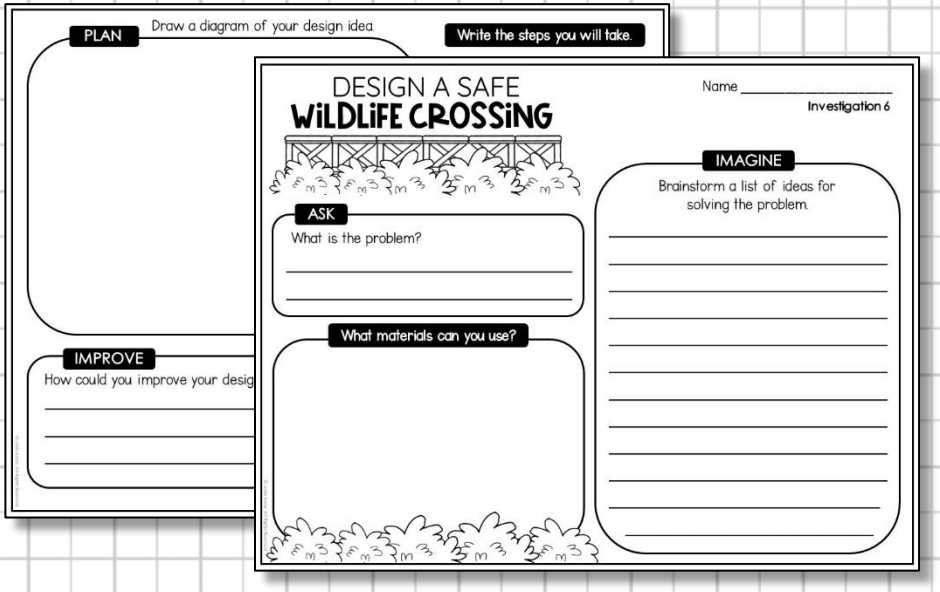


Each lab builds on the previous one as students gain knowledge of engineering practices



and learn the steps of the design process

CULMINATING DESIGN PROJECT



Students apply the steps of the design process in a culminating project

LESSON 6
INVESTIGATE

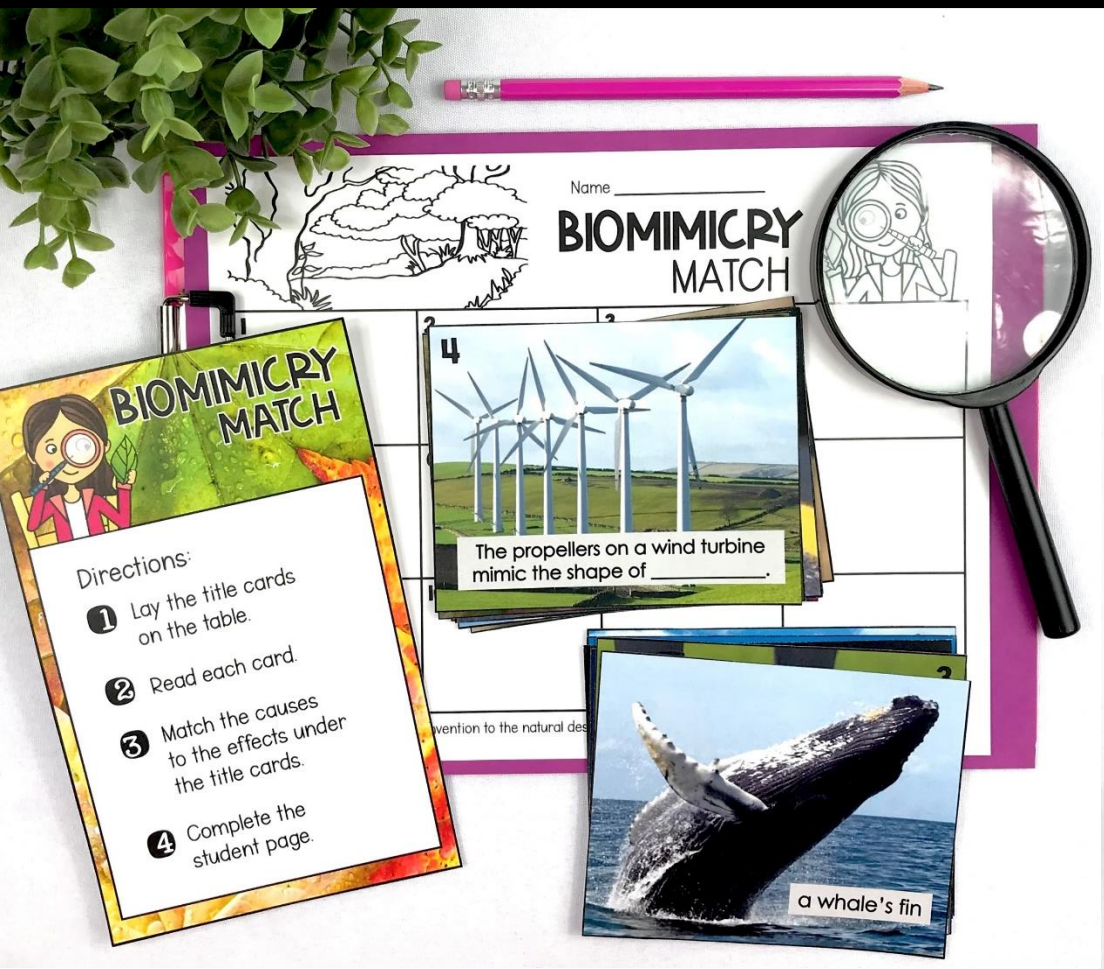
Design a Crab Crossing

QUESTION:

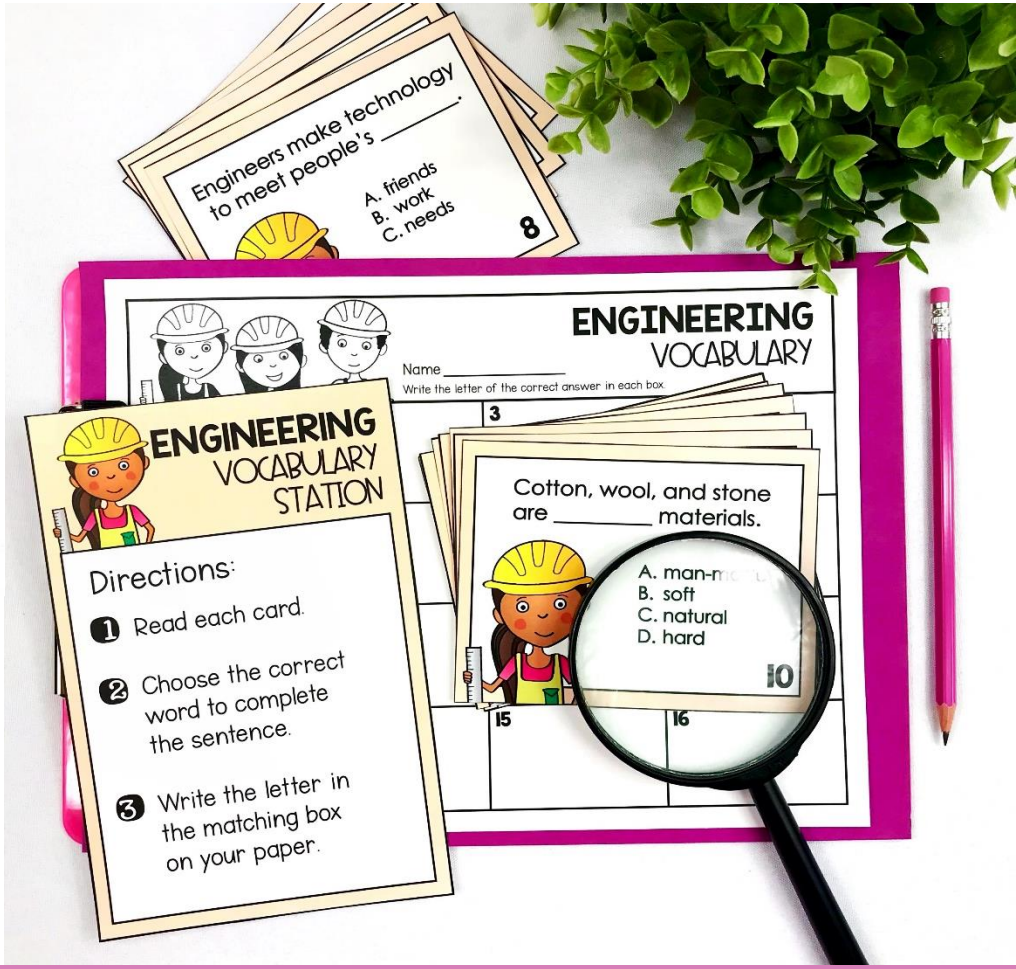
What solution can you design to protect red crabs as they migrate to the ocean?

Use the steps of the engineering design process to help Dr. Jamila design a solution.

EXTENSION ACTIVITIES

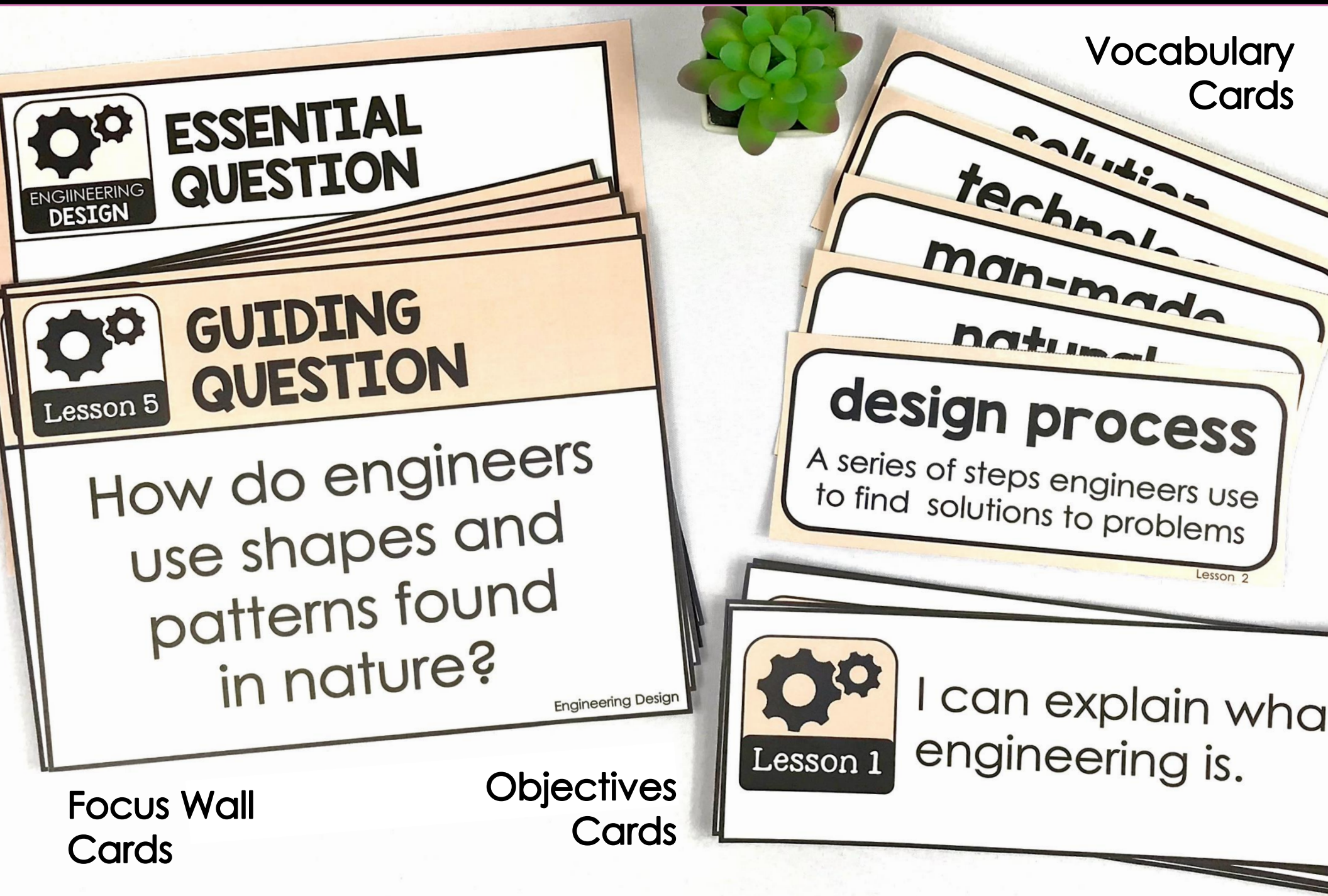


Reinforce
CONTENT



Practice
LITERACY SKILLS

FOCUS WALL RESOURCES

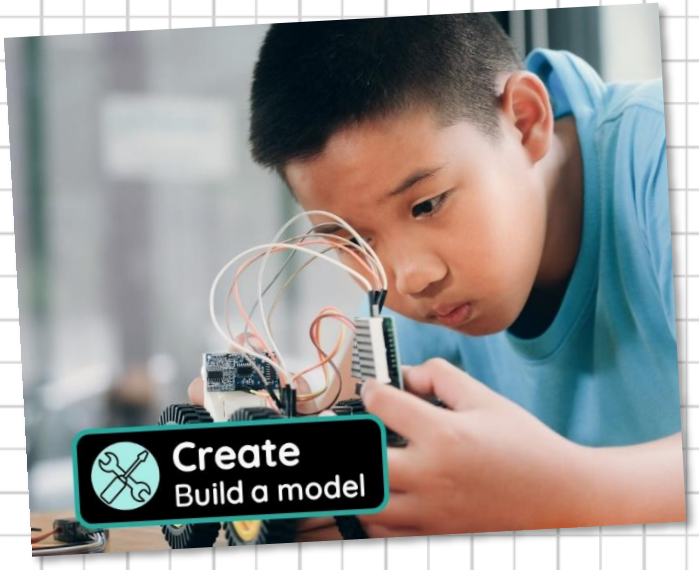


Vocabulary Cards

Focus Wall Cards

Objectives Cards

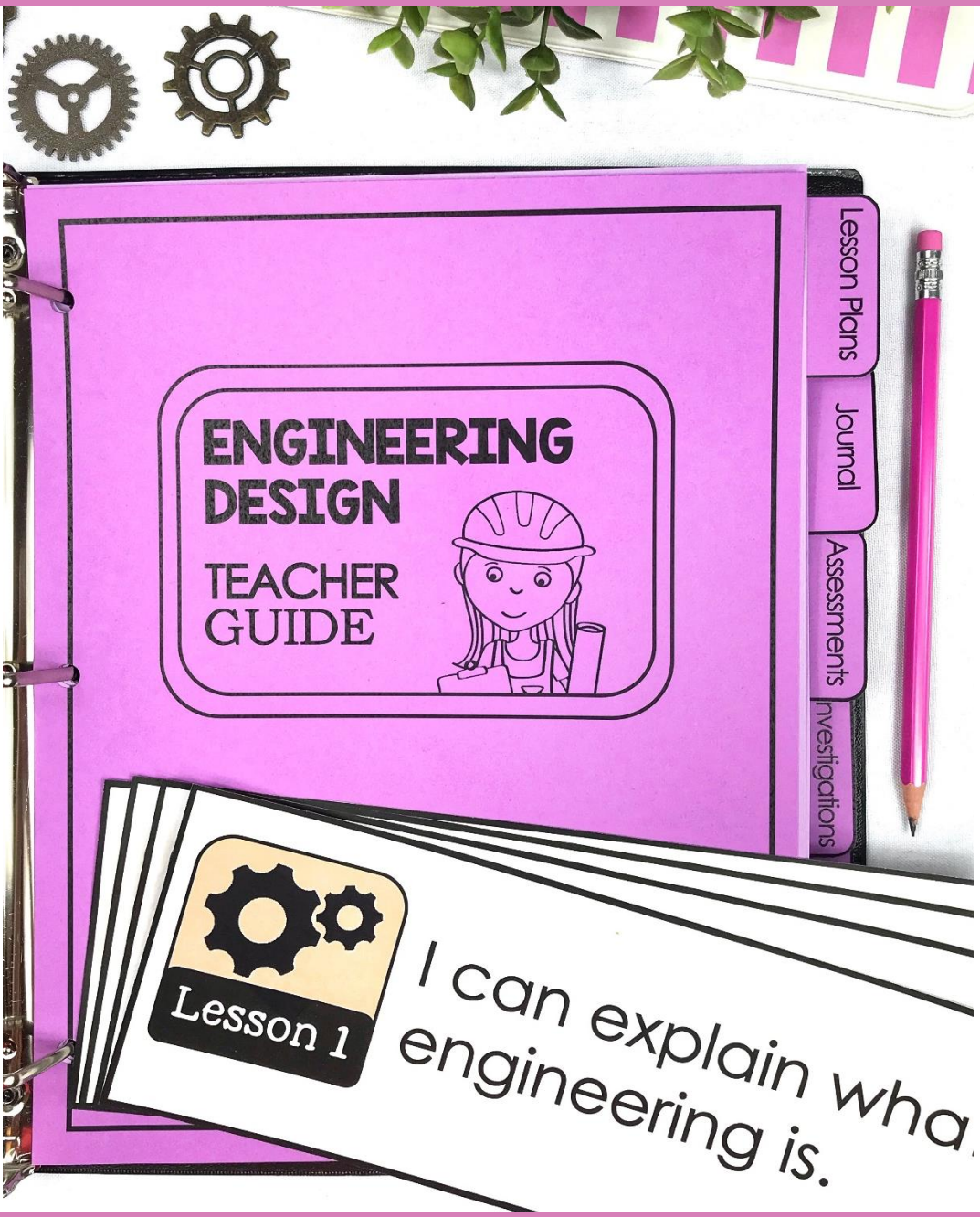
FULL PAGE POSTERS



Engineering Design Process

Unit Vocabulary Posters

UNIT PLANNING BINDER



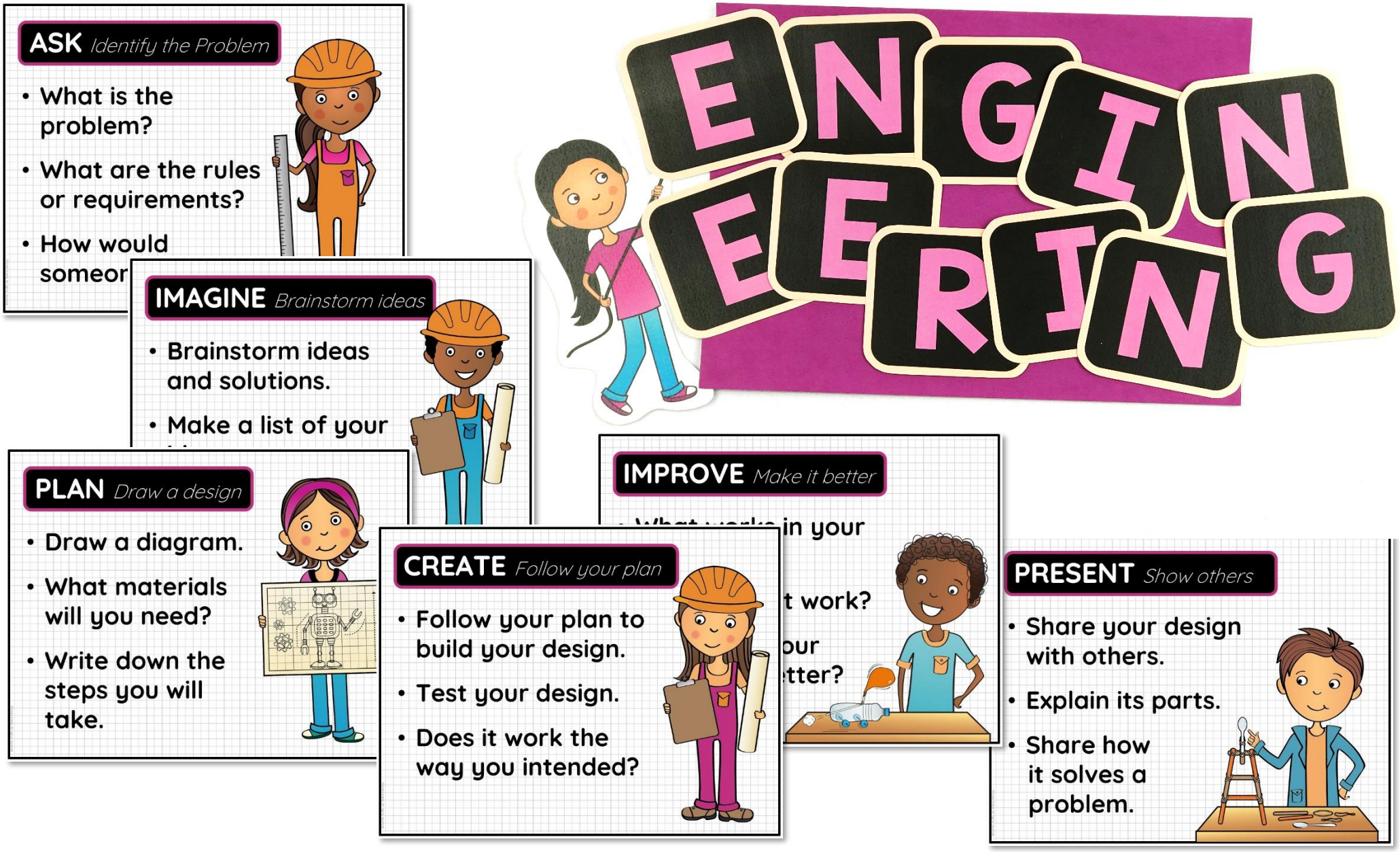
Organize the resources in a handy planning binder

- cover & spines
- section dividers
- divider tabs

PLAN TEACH ASSESS

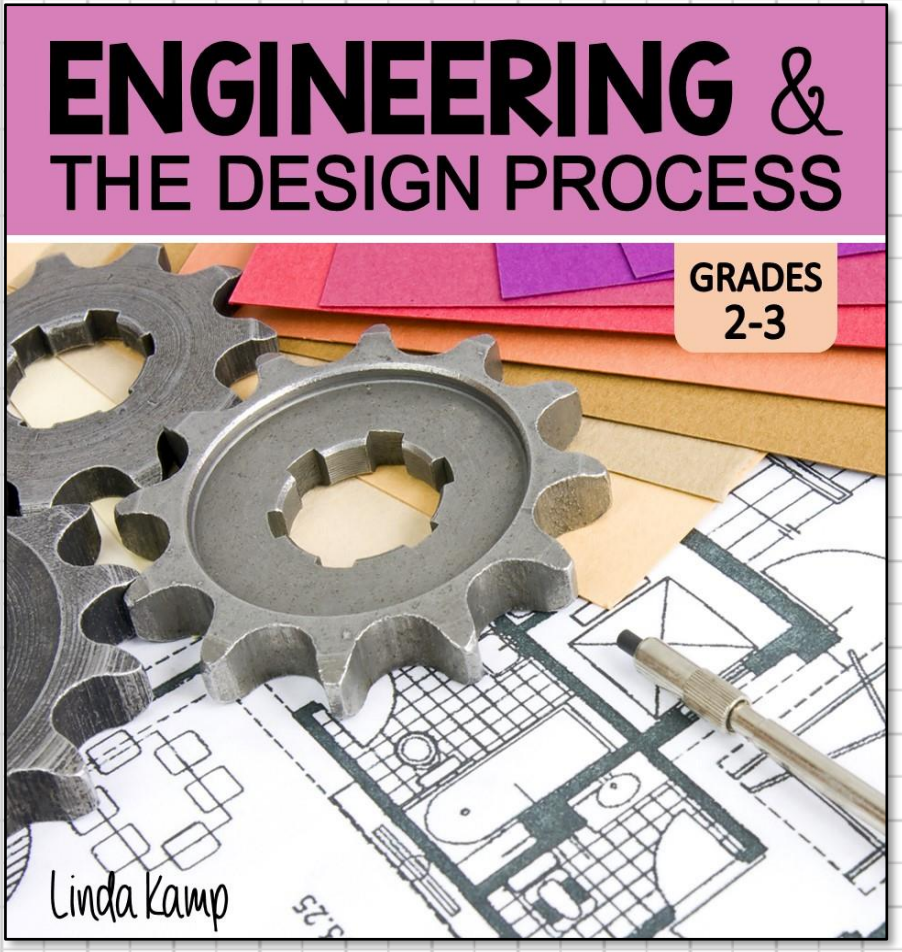
an in-depth and effective unit

BONUS Bulletin Board Set



Title letters, decorative elements & posters

Ready to use science resources

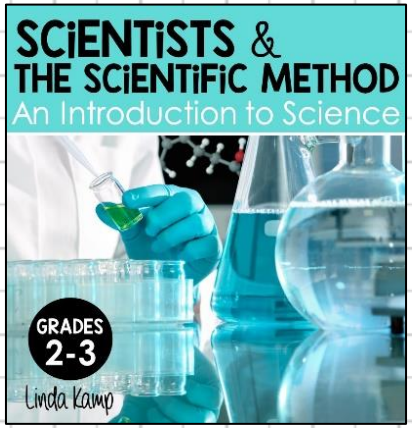


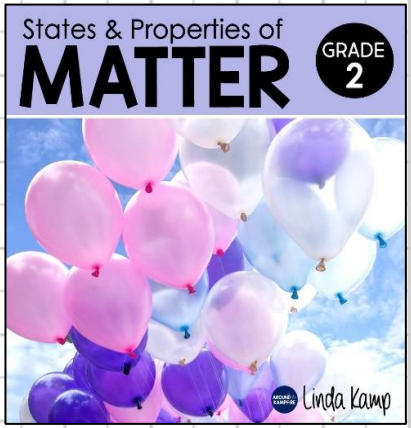
Students gain an understanding of:

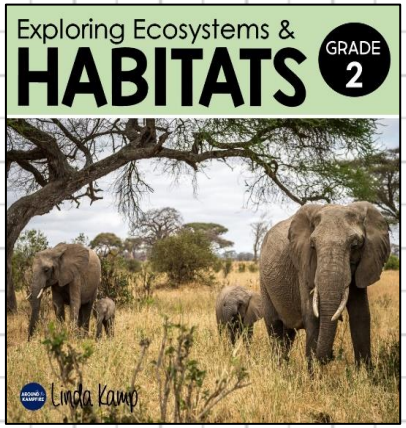
- Engineering practices
- Types of engineers
- Engineering design process
- Drawing diagrams
- Building models
- Natural & man-made materials
- Biomimicry
- Technology in engineering
- Designing a solution
- Testing & evaluating a design

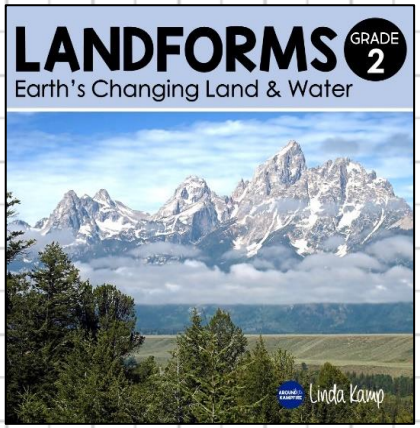
Build a science foundation!

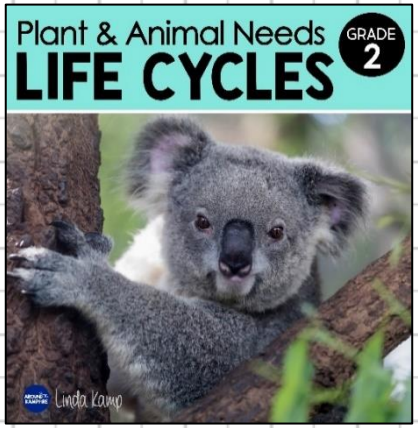
See the entire series CLICK HERE

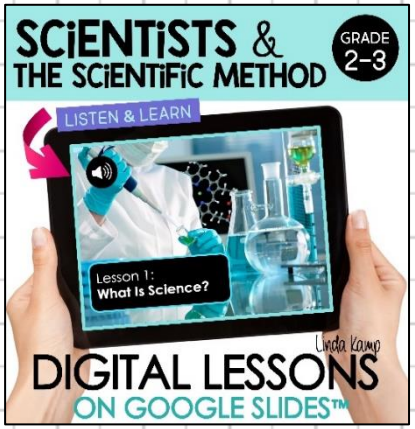


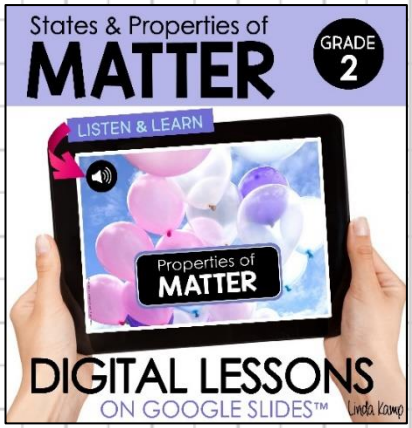


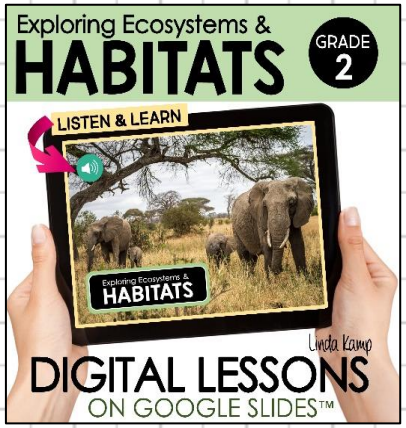


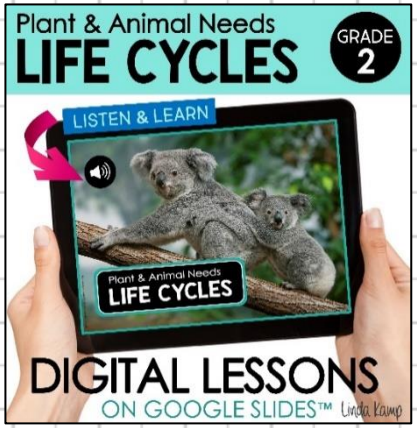












Second Grade Science Units for NGSS