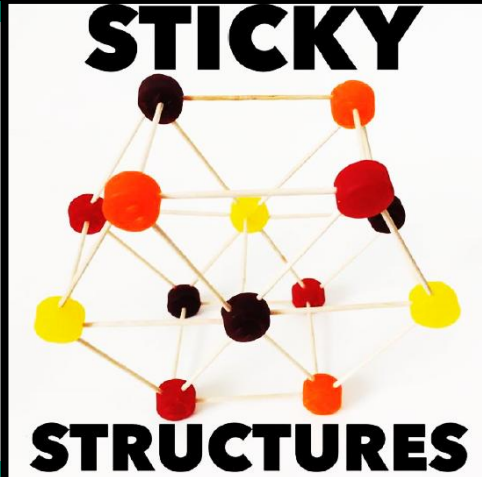


# AUGUST



## BACK TO SCHOOL STEM & ELA ACTIVITIES

Iggly Peck, Architect



Press Here



We're All Wonders



What Do You Do With an Idea?



CREATED BY BROOKE BROWN & KATIE KING

# Simple, Engaging STEM Challenges to Supplement Favorite Back to School Read Alouds

## LESSON PLANS

### STICKY STRUCTURE

Iggy Peck, Architect

**NGSS Standard Alignment:** 2-PS1-3: Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object. K-2-ETS1-1: Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. K-2-ETS1-2: Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. Identify and describe shapes, Analyze, Compare, Create, and Compare Shapes, Reason with shapes and their attributes.

**Challenge Description:** Students will construct a variety of structures using fruit snacks and toothpicks. The fruit snacks will connect toothpicks together at the joints, allowing students to experiment with a wide variety of two-dimensional shapes and three-dimensional solids such as cubes, prisms and pyramids. They will discover that certain patterns allow for more stability and balance of 3D structures than others.

**Suggested Materials:** fruit snacks (2 pouches per student), toothpicks (25 per student)  
**OPTIONAL:** blocks or models of three-dimensional shapes

#### LESSON PLAN

1. Ask students to brainstorm different two-dimensional and three-dimensional shapes. If possible, show students blocks or real models of three-dimensional shapes and have them point out real examples of those shapes in the classroom. Record student ideas on the provided teacher chart and have them add ideas to their individual booklets.
2. Introduce provided materials and share the challenge instructions. Refer to the vocabulary cards as needed throughout the lesson and display them in your classroom. Have students time to construct shapes and solids with their materials and draw pictures of their creations in their STEM journals.
3. Hold a whole class closing discussion and reflection, allowing students to share about 2D and 3D shapes and structures and which solids were the most stable. Record their ideas on the provided teacher chart and have them finish their booklets.

## KEY VOCABULARY

### STICKY STRUCTURE

Vocabulary Cards

# architect

a person who designs buildings

# joint

a point in which parts of a structure are joined

# two-dimensional

a flat shape with length and width

# three-dimensional

a solid structure with length, height, and depth

## TEACHER CHARTS

### STICKY STRUCTURE

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#### Two-Dimensional shapes

rectangle, hexagon, triangle, pentagon, rhombus

#### Three-Dimensional solids

cube, pyramid, prism

#### Shapes & Solids Found in our classroom



## STUDENT BOOKLETS

### STICKY STRUCTURE

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What was your favorite shape and solids STRONGEST?

#### STEM CHALLENGE

Can you construct 2D shapes and 3D solids using only fruit snacks and toothpicks?

#### 3D Solids

cube, pyramid, prism

One thing that was EASY:

One thing that was HARD:

One new thing I LEARNED:

#### What I Created

Label your 3D shapes.

## MAKER CARDS

### STICKY STRUCTURE

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#### Maker Task Cards

Use the following task cards in a Maker Space or with STEMins for students to make more creations.

**Make a bridge that holds weight.**

**Make a tall tower.**

**Make a blueprint of your school.**

**Make a blueprint for a new playground.**

# Simple, Engaging STEM Challenges to Supplement Favorite Back to School Read Alouds

The collage consists of numerous educational cards and worksheets, primarily for STEM activities. Key elements include:

- Genius Gizmo Cards:** These cards focus on problem-solving and invention. One card asks "What Do You Do With an Idea?" and provides a template for a "blueprint gizmo prototype". Another card, "Important Inventions", lists various inventions and asks students to design their own. A third card, "Our Inventions", provides a space for students to draw and describe their inventions.
- Chain Reactions Cards:** These cards introduce the concept of chain reactions. One card, "Chain Reactions Vocabulary Cards", defines "action" and "reaction". Another card, "Chain Reactions", provides a template for a "chain reaction" project, including a "chain reaction" diagram and a "chain reaction" story.
- Lever Launcher Cards:** These cards focus on levers. One card, "Lever Launcher", provides a template for a "lever launcher" project, including a "lever launcher" diagram and a "lever launcher" story. Another card, "Lever Launcher", provides a template for a "lever launcher" project, including a "lever launcher" diagram and a "lever launcher" story.
- Astronauts Cards:** These cards focus on space exploration. One card, "Astronauts", provides a template for an "astronaut" project, including an "astronaut" diagram and an "astronaut" story. Another card, "Astronauts", provides a template for an "astronaut" project, including an "astronaut" diagram and an "astronaut" story.
- Maker Task Cards:** These cards provide templates for various maker projects. One card, "Maker Task Cards", provides a template for a "maker task" project, including a "maker task" diagram and a "maker task" story. Another card, "Maker Task Cards", provides a template for a "maker task" project, including a "maker task" diagram and a "maker task" story.

The cards are designed to be engaging and interactive, with many featuring illustrations of children, robots, and various objects. They also include text prompts and diagrams to guide students through the activities.



# Quick & Effective ELA Activities

## LESSON PLANS

## KEY VOCABULARY

### COMPREHENSION

1. Use the digital anchor charts to introduce/review Parts of Speech. Then make a class anchor chart finding nouns, verbs, and adjectives from the book, *We're All Wonders*.

### COMPREHENSION

2. The can be used as a room anchor chart. Student record the on the sheet.

1. After you have read the book, discuss/review what story structure is. Talk about beginning, middle, and end. Make a whole class anchor chart to write about the events of what you *Do With An Idea?* and put them under the correct header.

2. Use the flip flap to talk about what typically happens in the Beginning (Intro to characters, set the scene, learn problem), Middle (Events occur and character tries to solve problem), End (Character learns lesson).

### COMPREHENSION

1. After you have read the book, discuss how characters experience different feelings throughout the book. The author doesn't always TELL us exactly how the character is feeling. Sometimes the author will suggest feelings with other words. And then sometimes the illustrator will help out by giving us clues in their illustrations.

### COMPREHENSION

Show students the posters with ending punctuation marks. Discuss examples of sentences that end with periods, exclamation points, and question marks. Make a class anchor chart to talk about how punctuation helps you as a reader.

2. Have students fill in the flip flap book to show understanding of ending punctuation.

**tilt**

to move to an angle

**bravo**

a word used to show approval

**gently**

to understand clearly

**realize**

to understand clearly

**protect**

to keep safe from harm

**ordinary**

to say something is true

**admit**

to say something is true

**perspective**

how you look at something

**unique**

fell down or gave way

**collapsed**

fell down or gave way

**lecture**

an educational talk

**unusual**

interesting because it is different

**severe**

intense; very bad

**severe**

intense; very bad

## TEACHER CHARTS

### Flashback

**Beginning:** starts in the present

**Middle:** flashback to the past

**End:** returns to the present

### Learning from a book

We can learn important lessons from books. In *We're All Wonders* we learn that it is important to know that different does

### Cause and Effect

**Cause:** the reason why something happens

**Effect:** the result

### dialogue

when a character is talking

use quotation marks to show when the character is talking

**Story Structure**

Name: \_\_\_\_\_

Write and draw about the beginning, middle, and end of the story.

### PARTS OF SPEECH: Vacation

Name: \_\_\_\_\_

Students should record the words in the correct column. When they're finished they should write a sentence with a word from each column.

nouns	verbs	adjectives

The kids will be here by three o'clock.

EXCLAMATION POINT

QUESTION MARK

## STUDENT PRINTABLES

### Parts of Speech

Name: \_\_\_\_\_

Identify if each word is a noun, verb, or adjective. Now write a sentence with all three words.

noun	verb	adjective
juicy	chair	throw

### Flashback

Name: \_\_\_\_\_

My baby brother threw his dinner on the floor.

Many got mad!

There was a big mess.

We had to mop the floor.

My name is Katie. I like to play soccer.

"My name is Katie. I like to play soccer."

My name is Katie. I like to play soccer.

When Lisa was seven she got lost on her 10th floor during a fire. This is where she got her fear of tall buildings.



Dig Deeper Into the Text!  
Teacher Questions for  
PRESS HERE

How does the author make you feel like you are apart of the book?  
How did you figure out which dots are out of the order in the pattern?  
Could this help you when you are figuring out math problems?  
What type of art did the illustrator use to make the pictures? How can you tell?  
What kind of math skills do you practice while following the directions in this book?  
How is this book different than other books you have read? Does it have a storyline? What about characters or other story elements that you know about from studying books?

bravo  
a word used to show approval

sequence  
a set order

cause:  
My baby brother threw his dinner on the floor.

ending punctuation

PERIOD  
EXCLAMATION POINT  
QUESTION MARK

Do you know when we will get more ice cream?

tilt  
gently

Effect Mom said  
Effect There was a big  
Effect We had

the class was proud!

the flashback

lecture  
an educational talk

severe  
intense; very bad

I can do better!

- [illegible]