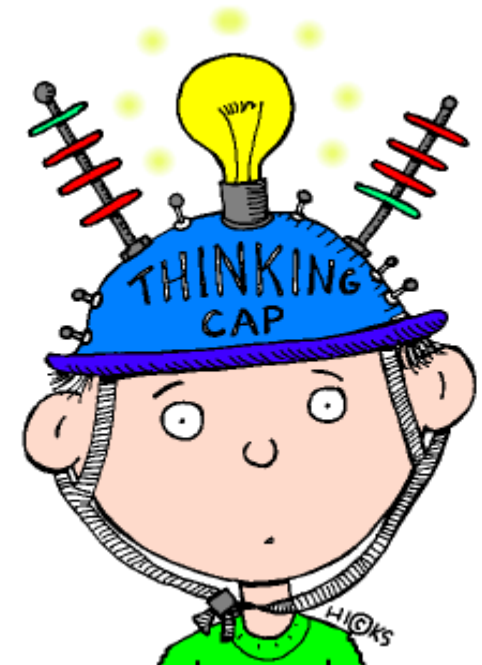


# The Quick Challenge is ...

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- Designed to engage the students' attention at the beginning of class and draw them into the lesson.
- Sometimes called the “anticipatory set,” the “hook activity,” or the “bell ringer”, it pulls student into the lesson.



# Characteristics of the Quick Challenge

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- **Similar to a hook activity**
- **Differs from the anticipatory set or bell ringer in that it is activity-based**
- **Short: 10-15 minutes maximum**
- **Directly tied to the daily content/standards**
- **Usually not graded**
- **Usually, first exposure to the concept**



# Launched at the Beginning of Class

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- **Directs student attention to the learning tasks at hand.**
- **It exposes the students to concepts they are about to learn.**
- **It is NOT about rote drill and kill.**



# Quickly Engages Students in the Topic

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- **Expands upon student life experiences & background knowledge.**
- **Puts students in a receptive mode.**
- **Draws out major concepts to be learned**
- **Introduces concepts to be learned**
- **Engages students early**
- **Provides purpose**

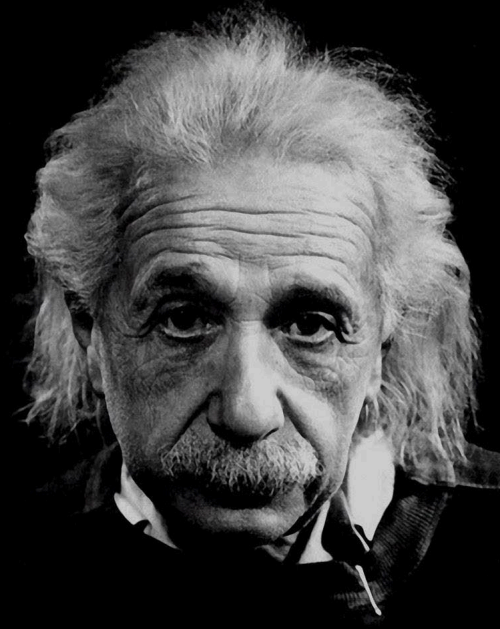
# Thus, the Quick Challenge Should ...

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- **create an organizing framework for the ideas, curiosities, principles, or information that is to follow.**

“I am neither clever nor especially gifted. I am only very, very curious.”

-Albert Einstein



- If I were planning to teach a lesson related to STEL Standard #7 *Design in Technology and Engineering Education and Benchmark A (Apply design concepts, principles, and processes through play and exploration)*, I might use the following quick challenge at the beginning of class to introduce the idea:
  - *Students will work as a member of a small team and use a 6" square of aluminum foil to build a boat that will hold the most pennies. The vessel will be placed in a bucket of water and pennies will be added until the vessel sinks. Such an activity can be used to introduce the concepts of balance, stability, buoyancy, cargo, etc.*
  - Such a *quick challenge* would be followed by an information session where Standard #7 will be expanded upon and other STEM content added. Then the lesson might conclude with a larger design challenge (i.e., carve a sailboat from Styrofoam that can be powered down a water-filled rain gutter with a box fan). This larger sailboat design lesson will:
    - Expand upon the knowledge and experience gained in the original *quick challenge* and add new features from related STEM standards (i.e., propulsion, time, distance, rate, graphing, etc.).

## In Class Quick Challenge - Natures Weavers

Grade 1

### Quick challenge to focus on math standard

Learning Standard: CCSS.Math.Content.2.G.A.1

Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.1 Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

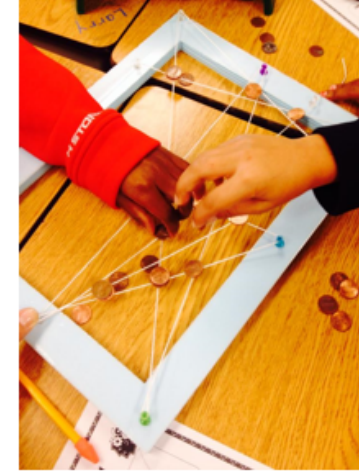
1. Students will make a large circle within the classroom
2. Students will pass yarn to a *friend* standing across from them and continue till each student has had a turn
3. Each time a new angle or shape can be identified the selected student will describe its attributes and identify it accordingly. Special focus should also look at the different angles of the shapes.

### Quick challenge used as a hook

Students will be introduced to a new unit with the narrative text *Charlotte's Web*.

1. Students will make a large circle within the classroom
2. Students will pass yarn to a *friend* standing across from them and continue till each student has had a turn

The goal of the challenge should be to make the web as strong as possible and will be tested by placing different classroom objects on top of the web to determine its strength.





# Quick Challenge: Jumping Frogs Distance



Frogs use their back legs to propel themselves forward, this leverage is similar to that of a spring!

Can you create a jumping frog that jumps multiple distances? Use the following as a guide to complete the Jumping Spring Frog Activity!

<p><b>STEP 1</b></p> <p>Start with a rectangle sheet of paper. Fold it in half, and then open back out.</p>	<p><b>STEP 2</b></p> <p>Fold both top corners to the opposite edge of the paper. Your creases should look like this.</p>
<p><b>STEP 3</b></p> <p>Where the diagonal creases meet in the middle, fold the paper backwards, crease well and open back out.</p>	<p><b>STEP 4</b></p> <p>Hold the Paper at the sides, bring these points down to the center line, then flatten. The creases should help guide the folds.</p>
<p><b>STEP 5</b></p> <p>Fold the uppermost triangles toward the top point</p>	<p><b>STEP 6</b></p> <p>Fold the sides toward the center line</p>
<p><b>STEP 7</b></p> <p>Fold the bottom half so that it is positioned in the center of the diamond</p>	<p><b>STEP 8</b></p> <p>Fold the same bottom half back downward so that it is divided in half</p>
<p><b>STEP 9</b></p> <p>Turnover and your frog is finished! To make him jump push down toward his back legs.</p>	

How far did your frog jump the first time? \_\_\_\_\_  
 Redesign your frog to jump half the distance of the first jump \_\_\_\_\_  
 Redesign your frog to jump twice the distance of the first jump \_\_\_\_\_

What did you learn? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## Can you draw this? Technical/Procedural Directions

Directions and preciseness is a valued skill and technique. It is important to not only be able to follow directions but follow them. We must remember to be clear, and specific in our directions to students. You will have 3 minutes to complete the challenge.

1. Find a partner, and decide who will be the drawer and who will give the directions.
2. Direction Giver: Give specific details to your partner in how to draw the picture below. You cannot tell your partner what the picture is, or give clues to its identity. Do not look at your partner while they are drawing.
3. Drawer: Follow the directions you are given. Do not show the direction giver your drawing as you are completing the task.



**Discussion:**  
 How accurate was your drawing?

What difficulties did the direction giver have?

What difficulties did the drawer have?

\_\_\_\_\_



# Character Cards can also be a great way to blend Engineering Design Quick Challenges and Story Grammar

## Story Grammar includes .....

The various integral components or elements of a **story** and the relationships among these parts. Typically, they include the character, setting, problem/conflict, plot, and resolution. **Story grammar** elements support the essential text structure for most narratives.

The **grammar** of the **story** is how the **story** is told and includes such things as plot, suspense, climax, and characters.

A framework including the basic elements of a **story** and the rules that explain the relationship between these elements.

A framework including the basic elements of a **story** and the rules that explain the relationship between these elements.

## Cam Jansen

- Uses clues to solve mysteries.
- Cooperates with others and likes to help.
- Has a photographic memory.



## Clifford the Big Red Dog

- Loves to play with his friends.
- Doesn't realize how his size can get him into trouble at times.
- May need items that are more specialized than other pets
- Eats a lot!



# Character Cards

## Curious George

- His curiosity often gets him into trouble.
- Visits many places in town with his friend The Man in the Yellow Hat.
- George likes to be helpful.
- Sometimes he forgets to follow the rules.





# Fred and George Weasley

- Brothers to Ron and Ginny (and Charlie, Bill, and Percy)
- Friend of Harry Potter
- Members of Gryffindor House
- Mischievous twin wizards
- Enjoy pranks and practical jokes
- Co-founded the Weasleys' Wizard Wheezes joke shop
- Members of Dumbledore's Army and the Order of the Phoenix

# Character Card Quick Challenges

## Home

- Design a home, hideout, or space to relax for the character.

## Recreation

- Design an item or place that the character could play, exercise and have fun.

## Accessories

- Design an accessory that might enhance the look or comfort of your character.

## Transportation

- Design a mode of transportation that would work for your character.

## Tools

- Design a tool or gadget that would help your character solve a problem.

## Free Choice

- Design any of the above items.