

# Cloudy with a Chance of Science!

## Week 3: Grades K-2

### Day 4: A Shelter for Peep - Improve

#### Teacher/Parent Background

Weather is the combination of sunlight, wind, snow or rain and temperature in a particular region and time. Weather has positive and negative impacts on living things. Scientists and engineers study weather and its effects in order to design, test and refine solutions to protect humans from severe weather conditions.

#### Overview

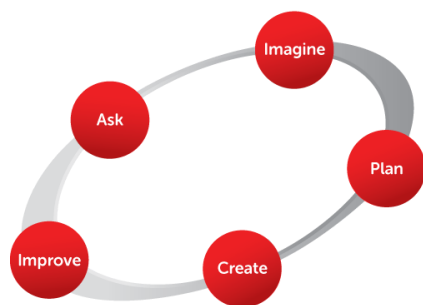
In this activity, young learners will apply their understanding of weather and engineering concepts to propose and implement improvements to a shelter for Peep that keeps him and his friends safe, comfortable and dry during a storm.

#### Related Standards

- **Analyze patterns** in weather conditions of various regions of the world and **design, test and refine solutions** to protect humans from severe weather conditions.

#### Key Terms

- weather - a mix of sunlight and clouds, wind, precipitation and temperature happening in a certain place at a certain time
- precipitation - any form of water that falls to Earth's surface such as rain, snow, hail and sleet
- engineers - people who design and/or build things to solve problems
- engineering design process - a set of steps engineers use to propose solutions to problems



Engineering Design Process

- blueprint - a design plan
- shelter - a place that protects you from bad weather or danger

## Materials List

- crayons/pencils
- shelter from Day 3
- building materials (tape, scissors, glue, etc.)
- shelter supplies (popsicle sticks, straws, cardboard, paper, pipe cleaners, cardboard tubes, empty containers, etc.)
- *Improve* handout

## Activity Description

1. Revisit the student's shelter design using the *Improve* handout. Guide the student in determining which improvements he/she wants to make. These improvements may be structural or aesthetic based on his/her responses to the reflection questions from Day 3.
  - What is the first thing you would like to change about your shelter design? How do you think this will improve your shelter?
    - The student should record (if able) his/her idea on the *Improve* handout using words, phrases and/or pictures.
  - What is another improvement you would like to make to your shelter? Why do you think this improvement is needed?
    - The student should record (if able) his/her idea on the *Improve* handout using words, phrases and/or pictures.
2. Once the student has communicated and recorded all of his/her proposed improvements, provide the student with time, space, additional materials and adult support (as needed) to recreate his/her shelter based on his/her revised plan.
  - Reminder you can:
    - build only what you drew (i.e., If the plan shows a rectangular structure, then the structure should resemble a rectangle).
    - use only the materials labeled in the plan (i.e., if the side of the shelter is labeled as popsicle sticks then straws or other material cannot be used).
    - build for \_\_\_\_\_ minutes (time allotment is flexible to your schedule/student's attention span).

## Closure

Once the student has finished recreating or the allotted time has elapsed, provide the student with time to retest the shelter. Assist him/her in recording the new results (i.e., video record using a phone, record on paper, etc.) Then

discuss successes and struggles that he/she experienced during the Improve stage of the engineering design process:

- How was your shelter's test results the same or different than last time? Why do you think this happened?
- What improvements did you find easy? Why?
- What improvements did you find difficult? Why?
- What did you most enjoy about improving your shelter? Why?
- What was your least favorite part about improving your shelter? Why?
- If you had more time/materials/space, what would you improve next?
- Were there any materials you wish you had but didn't? Why?
- Do you have any new advice to give another student who is trying to design and create a shelter? If so, what would you tell him/her?

## Extension

Share It! - Write a letter to Peep explaining how you created a new shelter for him and his friends. Point out all the great features of your design and include a drawing of the shelter for Peep to see.

## Improve Handout

Proposed Improvement	What Problem It Solves
<p style="text-align: center;"><b>Revised Plan with Improvements</b></p>	