

My Group

Names

Our Task

Our Plan

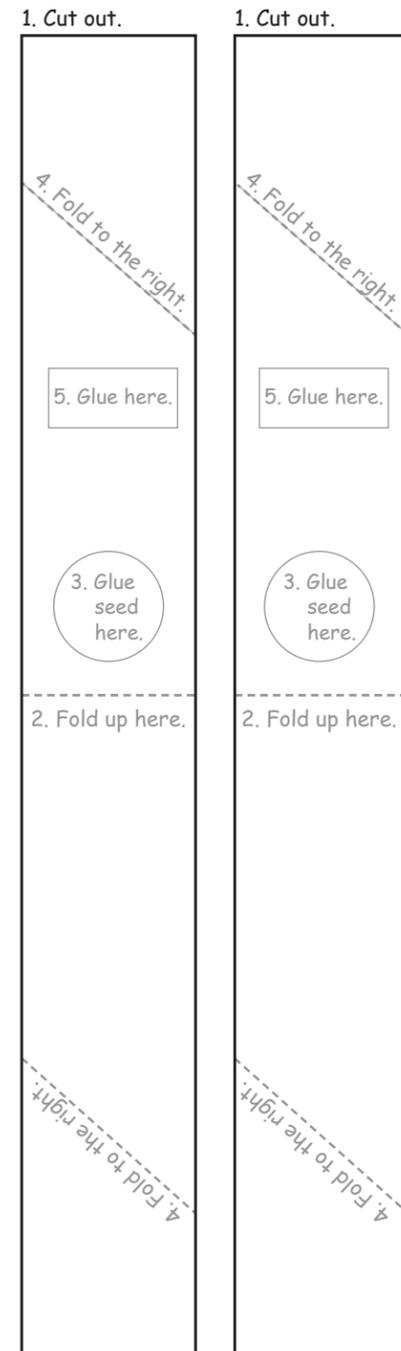
Tools We Used

Model We Made

How Did We Do?

Seed Helicopter Patterns

1. Cut out the strips.
2. Fold each strip in half. 
3. Insert a seed, and glue where indicated. Hold the strip together. 
4. Fold the top piece to the right. Flip the strip over and repeat on the other side. 
5. Glue the strip together where indicated. 



Really Good Stuff® Instructional Guide

STEM-tivity™ Class Kit - Plant Pals

WARNING
CHOKING HAZARD—Small parts.
 Not for children under 3 years.

This Really Good Stuff® product includes:

- 100 Pack of Assorted Pom-Poms
- 40 Hook-and-Loop Dots
- 50 Straws
- 1 Pack of Green Tissue Paper
- 4 Diecut Sheets
- 4 Write Again® Work Mats
- 12 Write Again® Task Cards, 4 each of three different tasks
- Storage Box
- This Really Good Stuff® Instructional Guide

Congratulations on your purchase of this Really Good Stuff® **STEM-tivity™ Class Kit - Plant Pals**—a hands-on kit utilizing the inquiry method to heighten your students’ imaginations and bring engineering skills to life with engaging activities about seed dispersal.

Meeting the Standards

The Really Good Stuff® **STEM-tivity™ Class Kit - Plant Pals** aligns with the Next Generation Science Standards below. For alignment with other state standards, please refer to our website’s Standards Match.

2-LS2 Ecosystems: Interactions, Energy, and Dynamics

Students who demonstrate understanding can:

2-LS2-2 Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.

K-2-ETS1 Engineering Design

Students who demonstrate understanding can:

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.

K-2-ETS1-3 Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

Displaying and Preparing the STEM-tivity™ Class Kit - Plant Pals

Before displaying the **STEM-tivity™ Class Kit - Plant Pals**, make copies of this Really Good Stuff® Instructional Guide, and file the pages for future use. Or, download another copy of it from our website at www.reallygoodstuff.com.

This Kit includes enough materials to divide your class into four working groups of up to four students each. The groups can work on the same *Task Card* at the same time, allowing them to compare and contrast their designs and models. Or, the groups can work on different *Task Cards* and then present their designs to the class. Divide the materials accordingly.

Each *Task Card* features a main activity on the front and extended activities on the back for each STEM component. Depending on your students’ level, you may need to lead the activities due to text complexity and task difficulty. In addition to the text on the back of each *Task Card*, the text on the front of the *Task Card* is color-coded to identify steps in the task as Science-based (blue), Math-based (red), or Engineering-based (green). Store all of the materials in the *Storage Box* once activities are completed.

Introducing the STEM-tivity™ Class Kit - Plant Pals

Gather students together and review the basics of plant seed dispersal. Present the following scenario background for why students will be working with the **STEM-tivity™ Class Kit - Plant Pals**.

Grandma Gertie loves her flower and vegetable gardens, but she is confused about how her plants keep multiplying. Let’s make some models to help Grandma Gertie understand how the seeds are being dispersed.

Explain to students that as they complete different tasks from the Kit, they will be working with the ways plants disperse seeds to help Grandma Gertie understand. Introduce new vocabulary to familiarize students with words they will encounter on the *Task Cards*:

- disperse: to spread or distribute
- environment: the conditions and forces around living things
- expulsion: to force out
- gravity: the pull of the Earth on objects

All instructional guides can be found online.

- *pod*: a casing or shell in which seeds grow
- *seed dispersal*: the process of spreading, or distributing, seeds by gravity, wind, water, animals, or expulsion

Rabbits in the Garden Task Card

Copy and distribute four copies of the *Plant Pals Reproducible* as well as the *Task Card* with the orange header, 4 *Hook Dots*, a *Work Mat*, a *Rabbit Diecut*, and 10–15 *Pom-Poms* of different sizes to each group.

- **Essential Question:** Read the header at the top of the *Task Card* to create a setting before asking the essential question of *How do animals disperse seeds?* Read the instructions on the *Task Card* aloud to students. Answer any questions students may have about their task.
- **Available Tools:** Introduce the groups to the *Hook Dots*, *Work Mat*, *Rabbit Diecut*, and *Pom-Poms*, explaining that they are to use these tools to complete the task. Have them fill in the *Tools We Used* section on their reproducibles.
- **Make a Plan:** Tell each group to discuss a plan for showing how a rabbit might disperse the seeds. Ask groups to draw or write their plan on the *Plant Pals Reproducible*. Circulate and check the plans as students begin the task.
- **Conduct the Task:** Instruct each group to use the materials to create the rabbit and seed demonstration model on the flower-garden side of the *Work Mat*.
- **Evaluate:** Direct each group to fill in the *Model We Made* section on the *Plant Pals Reproducible* with a drawing or photograph of their model. Ask them to evaluate their task by writing or telling what worked and what didn't work in the *How Did We Do?* section. For young students, have them draw a simple smiley or frowny face to evaluate. Have each group compare and contrast their model with other groups.

- **Share Ideas:** Have students present their finished task to the class and talk about what worked and what they might be able to do better.

Choose other Science, Technology, Engineering, and Math activities on the back of the *Task Card* to enhance your students' learning.

A Windy Day Task Card

Copy and distribute four copies of the *Plant Pals Reproducible* as well as the *Task Card* with the green header, a permanent marker, *Hook Dots*, a *Work Mat*, a *Flower Diecut*, a *Wind Diecut*, 2 *Straws*, and 4–5 of the same size *Pom-Poms* to each group.

- **Essential Question:** Read the header at the top of the *Task Card* to create a setting before asking the essential question of *How are seeds dispersed by the wind?* Read the instructions on the *Task Card* aloud to students. Answer any questions they may have about their task.
- **Available Tools:** Introduce the groups to the *Hook Dots*, *Work Mat*, *Flower Diecut*, *Wind Diecut*, *Straws*, and *Pom-Poms*, explaining that they are to use these tools to complete the task. Have them fill in the *Tools We Used* section on their reproducibles.
- **Make a Plan:** Tell each group to discuss a plan for showing how the wind might disperse seeds. Ask them to draw or write their plan on the *Plant Pals Reproducible*. Circulate and check the plans as students begin the task.
- **Conduct the Task:** Instruct each group to use the materials to create the *Flower*, *Seed*, and *Wind* demonstration model on the flower-garden side of the *Work Mat*. Direct students to use the permanent marker to write their names on the *Straws* before completing the task, so students take a turn with their own straw.
- **Evaluate:** Have each group fill in the *Model We Made* section on the *Plant Pals Reproducible*

with a drawing or photograph of their model. Ask them to evaluate their task by writing or telling what worked and what didn't work in the *How Did We Do?* section. For young students, have them draw a simple smiley or frowny face to evaluate. Have each group compare and contrast their model with other groups.

- **Share Ideas:** Tell students to present their finished task to the class and talk about what worked and what they might be able to do better.

Choose other Science, Technology, Engineering, and Math activities on the back of the *Task Card* to enhance your students' learning. Copy and distribute the *Seed Helicopter Patterns* to students along with *Pom-Poms*, scissors, and glue sticks for the first *Let's Investigate* activity. Have students cut out, assemble, and try out the *Seed Helicopters* for a fun indoor or outdoor activity.

Pea Pods Task Card

Copy and distribute four copies of the *Plant Pals Reproducible* as well as the *Task Card* with the purple header, a glue stick, scissors, one sheet of *Tissue Paper*, and 20 *Pom-Poms* of the same size to each group.

- **Essential Question:** Read the header at the top of the *Task Card* to create a setting before asking the essential question of *How are seeds dispersed by expulsion?* Read the instructions on the *Task Card* aloud to students. Answer any questions they may have about their task.
- **Available Tools:** Introduce the groups to the *Tissue Paper*, *Pom-Poms*, scissors, and glue sticks, explaining that they are to use these tools to complete the task. Have them fill in the *Tools We Used* section on their reproducibles.
- **Make a Plan:** Tell each group to discuss a plan for showing how a dried pea pod would disperse the seeds by expulsion. Ask them to draw or write their plan on the *Plant Pals Reproducible*. Circulate and check the plans as students begin the task.

- **Conduct the Task:** Instruct students to use the materials to create a pea pod demonstration model. Make sure that students tightly squeeze the pods together and twist each end in order to twist the pod and expel the seeds.

- **Evaluate:** Direct each group to fill in the *Model We Made* section on the *Plant Pals Reproducible* with a drawing or photograph of their model. Ask them to evaluate their task by writing or telling what worked and what didn't work in the *How Did We Do?* section. For young students, have them draw a simple smiley or frowny face to evaluate. Have each group compare and contrast their model with other groups.

- **Share Ideas:** Have students present their finished task to the class and talk about what worked and what they might be able to do better.

Choose other Science, Technology, Engineering, and Math activities on the back of the *Task Card* to enhance your students' learning. You may want to expand the first *Let's Investigate* activity by having students use the *Flower Diecuts* and *Pom-Poms* to demonstrate gravity dispersal. Have students assemble the *Flowers*, attach the *Pom-Poms*, and use their fingers to make the seeds drop.