

THE ADVENTURES OF Spriggy & Twiggy

Spriggy and Twiggy are Sprowteez. They live with their Sprowtee friends on Sprout Island. They are clever, funny and kind little scientists and always very curious...

Winter, with its long, cold, dark days, has come to an end. Every day, the sun stays out longer and the days get a little warmer. Spring has come to the island of Sprout.



Spriggy and Twiggy pick juicy apricots off the tree and plop down on the soft, grassy field. As Spriggy bites into his yummy apricot, he comes across the pit inside. He picks up the pit and examines it closely. This makes him curious.

Have you noticed that the fruit is ripening now and not during the dark winter months? I wonder why? What do plants need to be able to grow?



Spriggy must find out!

Contents

- 1 Story
- 4 EXPERIMENT #1:
GROW AN HERB GARDEN
- 13 Level Up with Seeds
(Save your extra seeds)
- 15 Level Up Poem
- 18 EXPERIMENT #2:
CLIMBING WATER
- 21 Level Up with
Climbing Water
- 22 EXPERIMENT #3:
CELERY SCIENCE
- 26 EXPERIMENT #4:
BEANS PART 1: DISSECT
- 29 EXPERIMENT #5
BEANS PART 2: SPROUT
- 37 Engineering Challenge:
Create a Way to Travel
as a Seed

Glossary:

Adaptations: special body parts or behaviors that help a living thing survive in an environment

Biodegradable: able to get broken down and absorbed back into the natural environment

Biomimicry: people use ideas from nature to solve problems

Dormant: not active for the time being

Germinate: to start to grow (sprout)

Sow: plant

Transpiration: process by which plants lose water out of their leaves

Variable: changing different parts in an experiment

Xylem: tiny tubes that help move water inside a plant's stem



iSprowt.com

Copyright © 2022

All rights reserved.

Lexile: 720



Twiggy sees all of the plants in the forest. She gets curious and asks: "How do plants drink water? I wonder how they get water up their stems."



Spriggy has an idea and jumps up with excitement!



Just then, from behind a tree, Crabby (who isn't always excited to discover new things) starts throwing apricots at the Sprowteez.



The Sprowteez rush back to their village to get started.



Join Spriggy and Twiggy on their adventure as they ask lots of questions, imagine solutions, and create ways to test their ideas.

Yippity – Doo!
Spriggy and Twiggy want to begin an adventure with you!



GETTING READY TO GROW

GET READY



WHAT YOU NEED:

- ⊙ Biodegradable Pot
- ⊙ Expandable soil disc
- ⊙ Bowl
- ⊙ Cup: fill 3/4 full with water
- ⊙ Spoon
- ⊙ Basil herb seed packet

Keep your extra seeds for more Level Up experiments

DO NOT EAT SEEDS. SEEDS CAN BE POISONOUS IF INGESTED.



5 MINUTES TO PREP | 24 HOURS TO SOAK
20 MINUTES TO PLANT YOUR SEEDS

DID YOU KNOW? A biodegradable pot means that over time, the pot will break up into little tiny pieces and go back to being part of the Earth's natural materials. These pots are better for our planet!



DESCRIBE AND DRAW IT!

What do your seeds look like before soaking?

GROW WITH SPRIGGY!

STEP 1 ONE DAY BEFORE: Wake Up Your Seeds!

1. Right now your seeds are dormant. That means that they are resting.
2. Use your cup to soak seeds in warm water for 24 hours before you want to plant them. This will help "wake up" the seeds from their dormant state.



3. The seeds will soak up the warm water and get bigger – it's super cool. This helps improve your seeds' chances of growing.
4. After 24 hours of soaking, the seeds that are not floating on the top of the water will be the best to grow the strongest plants – so try to use those.



DESCRIBE AND DRAW IT!

What do your seeds look like after soaking?

STEP 2 EXPAND THE SOIL DISC (5 MINUTES):

1. Put soil disc in the bowl so that the soil disc is sitting flat on the bottom.
2. Slowly pour in up to **3/4 cup** of room temperature water around the edges of the soil disc in the bottom of the bowl.
3. Wait and observe the soil disc grow (about 2 minutes).
4. Check for any hard or unexpanded pieces.
5. If you have any unexpanded pieces, then add a little more water (about one tablespoon at a time).
6. **Take it slowly** You want your soil to have time to soak and expand.



DID YOU KNOW? Soil helps to anchor plants and provides them with nutrients that help them grow. Plants also absorb the water they need from the soil.



PREDICT IT!

I think the soil expanded because...

STEP 3 MAKE SURE YOUR SOIL DOES NOT LOOK LIKE SOUP (1 - 2 MINUTES)

1. If you do not have soupy soil... **Great job and move on to Step 4!**
2. If you do have soupy soil, it may get moldy. So let's fix it!
3. Over a sink or paper towels, use super strong hands to squeeze the extra water out of your soil.
4. You want your soil to be slightly moist (so that it feels like slightly wet grass in the morning).



STEP 4 PLANT YOUR SEEDS (5 - 10 MINUTES)

Yippee! Time to **sow** your seeds! **Keep extra seeds** for Level Up activity.

1. Time to get dirty! Mix up the soil with your fingers. Stick your fingers into the soil and break up all of the clumps.
2. Place the soil inside the biodegradable pot but keep about **2 teaspoons** of soil aside for covering the seeds later.
3. Use the spoon to scoop **basil** seeds and plant them in the pot.
4. Seeds want room to grow. Place approximately 20 basil seeds in the pot. Try to keep the seeds evenly spaced.
5. Sprinkle a tiny bit of soil to cover your seeds. Your seeds are really small so it is hard for them to grow if there is too much soil on top of them.
6. Gently even out the soil but do **NOT** push it down hard.
7. Remember, your little growing seeds need to get through the top layer of soil to get sunshine.
8. Place in a windowsill that gets at least **8 hours** of direct sunlight a day.



DRAW IT! Draw a model of what you think the plant will look like once it's grown up.

PREDICT IT! Will the adult leaves look different than the baby leaves?



💡 DID YOU KNOW?

Before you gave your **seeds** a warm bath, they were dormant. Lots of things, both living and nonliving, can go dormant.

With animals, instead of dormant, we say that they are hibernating. Some **bears** hibernate during the Winter and wake up in the Spring.

We also say that a **volcano** is dormant if it is not currently erupting, but we think that it will erupt again in the future.



NEEDS OF A PLANT

<http://tiny.cc/iSprowt-needs>



CHART YOUR PLANT'S GROWTH

SPRIGGY STYLE



Measure weekly and chart your plant's growth.
Draw what your plants look like each week in your journal.

I planted my seeds on: _____

