

### Activity 1: Growth Log

After your seedlings emerge, keep track of how tall they are getting! How long does it take for them to grow taller than this ruler!? How tall are your seedlings on...

DAY 7	DAY 10	DAY 11
DAY 12	DAY 13	DAY 14

### Activity 2: Seed Lesson

Many types of seeds can stay dormant for years! In order to bring these seeds to life, they need 3 things:



#### WATER

seeds need water to soften their protective shell and tell them to start growing



#### AIR

while plants use carbon dioxide (CO<sub>2</sub>) to grow, they actually need oxygen for energy in order to germinate



#### SUNLIGHT

once your seedlings have sprouted, they use sunlight as fuel to keep growing



Freezing temperatures keep the seeds dormant so they can be stored for years!

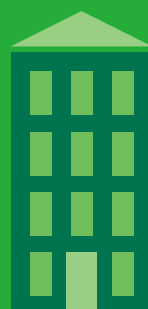


### FUN FACT!

The world's largest collection of seed varieties is stored at the Global Seed Vault on the Norwegian island of Svalbard.

### FUN FACT!

The tallest bean plant ever grown was in Mississippi and measured over 46 feet tall! That's the size of a 4 story building!



## START HERE!

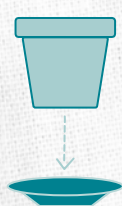


### Planting (Day 1)

**EXPAND THE SOIL:** Place the soil puck in a separate bowl and add 1/3 cup of water. Wait 30 seconds as the soil expands (pretty cool, huh?!), then add it to your garden pot. **Save a small amount of soil and set aside.**

**PLANT SEEDS:** Sprinkle 3-4 seeds onto your soil, and cover them with 1/4" of soil that you'd set aside earlier.

**ADD WATER:** Add 1-2 tablespoons of additional water to settle the soil.



**Take care!** Your garden pot has a drainage hole in the bottom, so place it on a small dish to catch any extra water.



### Germination & Growth (Days 2-10)

**KEEP SOIL MOIST:** Your seeds will need about 1 week to start growing. Keep the soil moist during the first week by adding 2-3 tablespoons of water whenever you see the soil's top layer dry out.



**TIP:** Cover your pot with a note card or wet paper towel to increase the humidity and help your seeds germinate faster!

**PROVIDE SUNLIGHT:** Check for growth daily. When seedlings poke out from the soil, uncover your pot and place it in a windowsill. Your plants should get 6-8 hours of direct sunlight per day.

**KEEP WATERING:** Continue to check on your plant as it grows! When you see the top layer of soil begin to dry out, add 2-3 tablespoons of water.

### Moving Day

When your plants sprout their second set of leaves you are well on your way to growing your new beans – congrats! But now your seedlings are ready to be moved into the ground or a larger pot to continue growing – this is called transplanting. Your starter pot can come too – it's plantable!

For a full transplanting guide, just scan the code below with a phone camera or text SCIENCEKIT to 29071.



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### Activity 3: Find a Bean Farmer

Beans are one of the oldest crops that humans grow, dating back almost 10,000 years. Today there are over 40,000 bean varieties grown throughout the world!

The special type of beans we call "green beans" are grown so that the whole pod can be eaten – not just the beans inside.



Head to your local farmers market and talk to a bean farmer. Find out what kinds of beans are grown in your community! Scan this code with a phone camera to find a farmers market near you.



### Activity 4: Learn as You Grow

Download the FREE STEM curriculum at [backtotheroots.com/curriculum](http://backtotheroots.com/curriculum)



### We're here for you!

Have any questions as you're growing? Get in touch with our team – we'd love to help! [backtotheroots.com/contact](http://backtotheroots.com/contact)