



Lesson Title	Unit
Growing Paperwhites	Seeds, Garden
Grade Level(s)	Common Core Standard(s)
Older preschool- ages 4-5, or kindergarten	
Objectives	Essential Questions
Students will understand growth over time Students will practice being able to translate what they see onto paper	What is a bulb? What does a plant need to grow?
Duration	Materials Needed
15 minutes per day. 4 days, one per week	Paperwhite bulbs, clear plastic container at least 6 inches deep, large rocks or gravel, watering can, printed bulb observation sheets , an example bulb observation sheet that a teacher has drawn on, brown, black, and green colored pencils, photos of fully grown paperwhites, Planting the Rainbow book (optional)
Background Information	Setup Required
	Print out bulb observation sheets



Procedure

Introduction: Tell the children that since it's too cold to work in the garden outside, we're going to grow a little garden inside. If you want, read [Planting a Rainbow](#) by Lois Ehlert. Show the children the paperwhite bulbs and let them pass them around. Point out the little sprout on top, and any roots that are growing out of the bottom. Explain that a bulb is kind of like a seed because it grows into a plant. Ask them if they can name the two things this bulb needs to grow: water and sun. If they guess that the bulb needs soil, explain that usually plants get their food from soil, but a bulb has all the food it needs in the brown part. Because of this we can grow it in rocks rather than soil! Show them how the container is clear, which will let us watch the roots as they grow through the rocks.

Week one: Let the children work together to fill the container $\frac{1}{2}$ - $\frac{3}{4}$ full with gravel, then have them gently place the bulbs on top. Use the watering can to fill the container until the water level just reaches the bottoms of the bulbs.

Show the children the example bulb observation sheet with week one filled in. Explain that we're going to draw the bulbs every week. Ask the children if they think the bulbs will look the same every week or if they will look different. Point out the numbers under each space in the worksheet, and explain that we're going to do number one today, number two next week, etc. Most preschoolers will need reminders while they work to only draw on the correct number.

Before they get started, help the children explain what they see when they look at the bulb. Ask them what color and shape the bottom of the bulb is- a brown circle! Ask them what color and shape the sprout is- a green point! If they get stuck while drawing, remind them of these descriptions.

Week two: Bring the container of bulbs back to the table and ask the children if they look different than last week. Show the children your example worksheet with number two filled in. Have them help you point out what's different about the bulbs this week. Hand out the bulb observation sheets from last week, and point out where they should draw their second observation. Give the bulbs some water if needed (it should always be just touching the roots).

Week three: Let the children draw their third observation. If the bulb has made buds, ask them what they think the buds will turn into. If there are enough, cut one off and let the children break it open to see what's inside.

Week four: Let the children draw their fourth observation. It should have flowers by this point!

Wrap up/ Assessment: Hold up one of the worksheets and point out how the bulb has grown bigger and bigger each week. Ask the children if they remember how small it was when we started, and now it's tall and has flowers! Let the children smell the flowers, and look at how many roots are growing on the bottom. Let each child take their bulb observation sheet home.



Extensions and Variations

Dissect a bulb to see what's inside