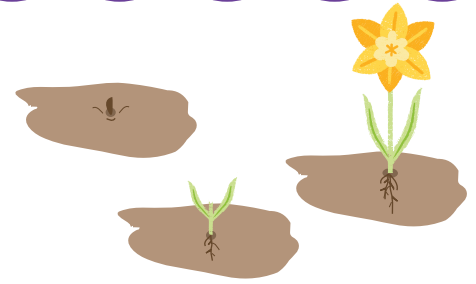


Kindness Helps Plants Grow

Kindness Every Day



RESPOND to plants' needs by first imagining that you are a plant growing from a seed. Use creative movement to dramatize the steps from a newly planted seed to a seedling and then to a full-grown plant. Crouch down as if you were immersed in the soil taking in nutrients and water beneath your toes. Stretch out your legs as if your roots were branching out and growing deeper into the soil. Imagine the sun shining from above. Slowly raise your body to a standing position to represent the growing stalk. Then extend your arms and fingers to represent emerging shoots, branches, leaves, and flowers.

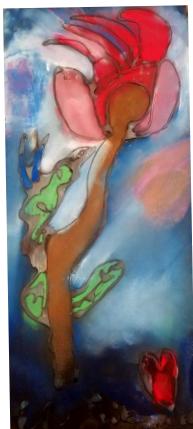


CONNECT your creative movement with real plants' needs. Plant the same type of seeds in two equal-sized pots with the same soil, planting conditions, and sunlight exposure.

Consider how kindness, shown to any living being, means providing care above and beyond basic survival needs. Scientists don't know how closely connected humans and plants are in their responses to kindness, so it is fun to make your own predictions and design an experiment to test your hypothesis.



Alexis H.



Erik L.



Annie L.



Fairouz A.

Do you hypothesize that kindness will help a plant grow?_____

If you think kindness will help plants grow what acts of kindness, beyond the basic needs of soil, water, and sun, could improve the plant's life?

How do you think plant growth would be affected by talking to them gently vs. yelling at them, singing or playing quiet music vs. playing frighteningly loud music or not talking, playing music, or singing to them?

What other acts of kindness could be shown towards a plant besides observing closely for bugs, gently dusting the leaves, checking for dry soil, and removing dead leaves?

How could turning a plant towards the light impact its growth?

Write your hypothesis and experiment plans here:

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CREATE an experiment sketch log to illustrate changes and document how the two plants were treated and grew. To test your hypothesis, treat both plants with the same basic care. Provide additional acts of kindness to one of the plants. Record growth observations to see if kindness made a difference.

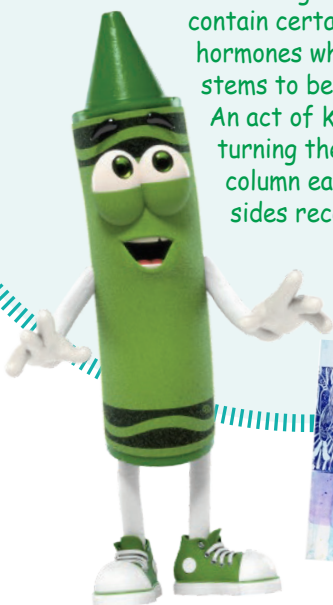


DIRECTIONS: Draw the changes you observe in the two plants several times a week for 8-12 weeks. **Extend this chart** on another piece of paper by adding boxes for additional weeks' data.

In the 1st column, write the date and conditions that both plants experienced which might impact their growth, such as room temperature, whether it is a sunny or cloudy day, etc. In the 2nd and 3rd columns sketch the plants, documenting your observed comparisons, and write in column 3 the acts of kindness performed for that plant. Did you talk or sing to the plant? Did you remove bugs or dead leaves?



As you observe the plant's growth, don't be fooled by **phototropism**, which explains why plants grow toward a light source. Plants contain certain proteins and hormones which cause the stems to bend toward the light. An act of kindness could be turning the plant in the 3rd column each day so that all sides receive direct sunlight.



Date and Environmental Conditions	Sketch Plant #1 <i>Receives basic needs only</i>	Sketch Plant #2 <i>Receives basic needs + acts of kindness (Write the kindness provided.)</i>



PRESENT your hypothesis and research findings to classmates and families. Discuss how the experiment was designed and what acts of kindness you added to the basic plant care. Show the illustrations you made over the past 8 to 12 weeks. Was your hypothesis supported or not? What about classmates' hypotheses?

Discuss how students are like plants. People have basic needs, and they flourish more strongly when they receive kindness. How does this compare to your experience in being kind to plants? How could you explore your hypothesis more fully? Would you use a different type of seed, try the experiment outdoors, or compare the plants' flower or fruit production?