

seed TO sprout



VIRTUAL
Field Trip
to the California Science Center

FOCUS QUESTION:
HOW DO ORGANISMS FUEL THEMSELVES TO SURVIVE?

BUZZWORD:
energy

THE SITUATION:

Luis and Kiana just learned that all living things need energy and matter as fuel to help them to grow.

- **Kiana** thinks seeds only use air and water as fuel to sprout.
- **Luis** thinks seeds also need soil as fuel to sprout.



Who do you agree with?



HYPOTHESIS:

I agree with _____ because...

Write your answer in this text box, or on a separate sheet of paper (such as in a notebook).



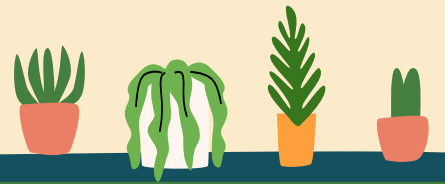
MATERIALS:

- A seed*
- Plastic Bag with a seal closure
- Paper Towel
- Water
- Tape

See the Extra Information on Page 5 for suggestions about food items that contain seeds to sprout in this experiment!



EXPERIMENT!



1. Collect your seed. Clean the seed and let it dry.
2. Wet the paper towel and wring out the excess water. The paper towel should be damp, but not dripping.
3. Place the seed in the center of the paper towel. Fold the paper towel in half, and in half again, so the seed is surrounded by the paper towel.
4. Place the seed and paper towel into the plastic bag. Be sure to seal the bag!
5. Tape the plastic bag to a place that gets a lot of sunlight, such as a window.
6. Observe your seed every day for seven days. Record your findings into a data chart.

Use the Seed Growth Log on page 4, or copy one onto a separate sheet of paper or notebook.



WHAT'S GOING ON?



1. After observing your seed for 7 days, who do you agree with now: Luis or Kiana?
2. Using the data you collected, explain why you think Luis or Kiana was correct.
3. Where did the energy and matter come from that fueled the seed to grow?



Write your answer in this text box, or on a separate sheet of paper (such as in a notebook).



seed GROWTH LOG



Record your observations using words or drawings with labels.

Day	Your Observations	Measure Your Sprout
Day 1		
Day 2		
Day 3		
Day 4		
Day 5		
Day 6		
Day 7		

EXTRA INFORMATION



While pit fruits such as peaches, plums, apricots, and avocados *DO* contain a seed, the large pit is not ideal for growing in our experiment.

LOOKING FOR a seed TO SPROUT?

These popular food items ARE seeds!

- Popcorn Kernels (unpopped)
- Dried Beans - Lima, Pinto, Kidney, Garbanzo/Chickpeas, etc. (uncooked, not-canned)
- Raw Sunflower Seeds (uncooked, unshelled, unsalted)

Look **INSIDE** these foods for their seeds!

- Apples
- Seeded Grapes
- Citrus - Oranges, Lemons, Limes, Grapefruit, etc.
- Peppers - Bell, Pimento, Jalapeño, etc.
- Gourds - Melon, Pumpkin, Squash, Cucumber, etc.

EXTENSIONS

- Repeat this experiment with a different type of seed. What differences and similarities do you notice?
- Repeat the experiment with another seed - but this time - remove all the air from the bag before sealing it. Does this change the growth of the seed?

Additionally, the seeds of berries may be too small for our experiment.

