

Strand: <b>8.3</b>	Standard: <b>8.3.1</b>	Episode 1	<b>Big Idea:</b> When given the right resources, plants grow.
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<b>Title:</b> plant growth Time-Lapse Video Phenomenon	<b>Time:</b> 15 - 30 min	CCCs: <u>Energy and Matter</u>	Practices: <b>Asking questions or defining problems</b>
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### Summary of episode:

Choose a short time-lapse video of a seed growing into a plant. As students view the video they will come up with observations using the words “matter” and “energy” that they will record on the left side of a T-chart. Briefly share observations with a partner (think-pair-share). Watch video a second time. This time record **questions** using the words “matter” and “energy” about each observation on the right side of the T-chart.

### Gather:

Students will watch a short time lapse video of a seed growing into a plant. On a piece of paper have the students create a T-chart. Have them write down while watching the movie observations that deal with the words “matter” and “energy” on the left side of the chart. Have them do a Think Pair Share with the observations. Have them talk about the things they noticed happening and the observations they made.

### Reason

Watch the video a second time. This time have the students record **questions** they have dealing with the words “matter” and “energy” on the right side dealing with each of the observations they made.

Discuss elements of a testable **question**. Have each group review the written questions.

### Figure 3.

#### Checklist for evaluating questions.

##### Is this question a good science classroom investigation question?

- Good investigation questions are interesting.**  
*Am I interested in finding out the answer to this question?*
- Good investigation questions are those I do not already know the answers to.**  
*Do I already know the answer to this question?*
- Good investigation questions lead to a “plan of action” (a plan for what I need to do to answer the question, including the evidence I need to collect).**  
*Is this question written in a way that clarifies what I need to do (observe, measure, change, etc.) to answer it?*
- Good investigation questions are those that can be answered with available material.**  
*Will I be able to find the material I need to answer this question?*
- Good investigation questions are those that can be completed in a reasonable amount of time.**  
*Will I have the time I need to answer this question?*

### Communicate

As a class compile a list of testable **questions** regarding the growth process of plants.

**Assessment:** Students will select a testable **question** from the compiled list to conduct an experiment.

**Materials, resources, handouts, etc:**

Time-lapse video of a seed growing into a plant (teacher selected)

As a teacher reference on running student guided inquiry based experiments see the following documents.

[Guided Inquiry Learning](#) **Teacher reference**  
[Student Driven Lessons](#)