

# OUSDK-12 ScienceFair

## Systematic Observation

### What is a systematic observation?

Systematic observations are a unique class of scientific investigation where the scientist is observing something change over time, rather than manipulating a single variable. In a Systematic Observation, you decide on a question (*what happens if...?*), make a plan or procedure for a situation you want to observe, set up the conditions, make a prediction based on your prior experience (*what do you think will happen...?*), and observe carefully over time as you follow the plan. You then use your observations to arrive at conclusions (*what do the results tell you?*), and build explanations from your evidence (*how can you explain the results?*).

### Where can I find systematic observations embedded in FOSS?

Grade	Systematic Observations Embedded (FOSS Module)
Kinder	<ul style="list-style-type: none"> <li>• Observe a single tree change through the seasons (<i>Trees</i>)</li> <li>• Observe the cutting of a spring twig change over time (<i>Trees</i>)</li> <li>• How do bulbs/flowers change over a season? A year? (<i>Trees</i>)</li> </ul>
First	<ul style="list-style-type: none"> <li>• Observe a lawn of various grasses grow from seed over time (and/or observe how the grasses react when uniformly mowed after X amount of time) (<i>Plants &amp; Animals</i>)</li> <li>• Observe how stem cuttings/potato chunks/bulbs change over time (<i>Plants &amp; Animals</i>)</li> <li>• Observe a terrarium with A, B &amp; C plants and X, Y and Z animals, noting how the terrarium components, both living and nonliving, change over time (<i>Plants &amp; Animals</i>)</li> <li>• Observe weather, air temperature, cloud patterns, and/or rain over time (<i>Air &amp; Weather</i>)</li> </ul>
Second	<ul style="list-style-type: none"> <li>• Observe mealworms/milkweed eggs/silkworm eggs/painted lady caterpillars change over time (<i>Insects &amp; Plants</i>)</li> <li>• Observe brassica seeds change over time (<i>Insects &amp; Plants</i>)</li> </ul>
Third	<ul style="list-style-type: none"> <li>• Observe the phases of the moon change over a 28 month period (<i>Sun, Moon &amp; Stars</i>)</li> <li>• Observe how the sun appears to rise, move and set in the day sky (<i>Sun, Moon &amp; Stars</i>)</li> <li>• Observe how the stars appear to rise, move and set in the night sky (<i>Sun, Moon &amp; Stars</i>)</li> </ul>
Fourth	<ul style="list-style-type: none"> <li>• Split open a rock and observe its weathering over the course of a year (<i>Solid Earth</i>)</li> <li>• How do different types of food or trash decomposing over time? (<i>Environments</i>)</li> </ul>
Fifth	<ul style="list-style-type: none"> <li>• Observe phase changes in water (ie condensation, evaporation, melting/freezing) (<i>Water Planet</i>)</li> </ul>