

## ASET Science & Engineering Practices (SEP) Tool: Obtaining, Evaluating, and Communicating Information

**Name or ID:**

**Lesson/Unit Title:**

**Intended Grade:**

### Directions for use

Indicate if a component is present using Y (yes) or N (no) and then, if it is present, fill in the right 2 columns.

A single lesson will most likely not address each of the components below.

The numbering of these components is not meant to indicate they should be used in sequence, they are simply for reference.

<b>SEP 8</b>	<b>Obtaining, Evaluating, and Communicating Information:</b> Scientists and engineers must be able to communicate clearly and persuasively the ideas and methods they generate. Critiquing and communicating ideas individually and in groups is a critical professional activity. Communicating information and ideas can be done in multiple ways: using tables, diagrams, graphs, models, and equations as well as orally, in writing, and through extended discussions. Scientists and engineers employ multiple sources to obtain information that is used to evaluate the merit and validity of claims, methods, and designs.		
<b>Components of SEP</b> In this lesson/unit plan, it is clear that students have a structured opportunity to:	Present? Y/N	<b>What teacher actions were taken to facilitate this component for students?</b>	<b>What are the students doing? What sensemaking or intellectual work are students doing?</b>
1) <b>Read, summarize,</b> and/or <b>compare</b> grade-appropriate <b>scientific texts</b> and/or other reliable media			
2) <b>Describe</b> and/or <b>integrate</b> information within and <b>across</b> multiple written texts, media, and/or <b>formats</b> (e.g., diagrams, tables, charts)			
3) <b>Synthesize and evaluate</b> scientific information from appropriate <b>sources</b>			
4) <b>Communicate</b> scientific and/or technical information clearly and persuasively in written and/or oral forms			

### ASET Grade Band Criteria (Grade Bands: K-2, 3-5)

<b>Science &amp; Engineering Practices</b>		
<p><b>SEP 8: Obtaining, Evaluating, and Communicating Information:</b> Obtaining, evaluating, and communicating information in K-2 builds on prior experiences and uses observations and texts to communicate new information. In 3-5 they build on K-2 experiences and progress to evaluating the merit and accuracy of ideas and methods.</p>		
<p>By the end of the grade band <b>students</b> will have had a structured opportunity to develop an understanding of each of these. Individual lessons or units should include opportunities for <b>students</b> to practice one or more of the following components .....</p>		
	<b>K-2 Grade Band</b>	<b>3-5 Grade Band</b>
1) <b>Read, summarize, and/or compare</b> grade-appropriate <b>scientific texts</b> and/or other reliable media	Students, with <b>teacher prompts and support</b> : <ol style="list-style-type: none"> <li>a. <b>read</b> grade-appropriate texts and/or use media to:</li> <li>b. <b>obtain</b> scientific and/or technical information</li> <li>c. <b>determine patterns</b> in and/or evidence about the natural and designed world(s)</li> </ol>	Students: <ol style="list-style-type: none"> <li>a. <b>read and comprehend</b> grade-appropriate complex texts and/or other reliable media to summarize and obtain scientific and technical ideas and describe how they are supported by evidence</li> <li>b. <b>compare and/or combine</b> across complex texts and/or other reliable media to support the engagement in other scientific and/or engineering practices</li> </ol>
2) <b>Describe</b> and/or <b>integrate</b> information within and <b>across</b> multiple written texts, media, and/or <b>formats</b> (e.g., diagrams, tables, charts)	Students use <b>prior experiences</b> and observations to: <ol style="list-style-type: none"> <li>a. describe how images (e.g., a diagram showing how a machine works, 3D Media, manipulatives) <b>support scientific ideas</b></li> <li>b. or <b>engineering idea</b>, with prompts and support from the teacher.</li> </ol>	<b>Including K-2 skills</b> , students <b>combine information</b> in written text contained in <ol style="list-style-type: none"> <li>a. corresponding tables, diagrams, and/or charts <b>to support</b> the engagement in other scientific</li> <li>b. and/or <b>engineering practices</b></li> </ol>
3) <b>Synthesize and evaluate</b> scientific information from appropriate <b>sources</b>	Students, with <b>teacher prompts</b> and support: <ol style="list-style-type: none"> <li>a. <b>obtain information</b> (or evidence) using various texts, text features (e.g., headings, tables of contents, glossaries, electronic menus, icons), and other media that will be useful in answering a scientific question and/or supporting a scientific claim</li> <li>b. identify which <b>sources of information</b> are likely to provide scientific information (e.g., versus opinion)</li> </ol>	<b>Building K-2 skills</b> , students: <ol style="list-style-type: none"> <li>a. <b>obtain and combine information</b> from books, and/or other media from a credible source to explain phenomena</li> <li>b. or solutions to a <b>design problem</b></li> </ol>

<p>4) <b>Communicate</b> scientific and/or technical information clearly and persuasively in written and/or oral forms</p>	<p>With <b>appropriate scaffolds</b> and teacher support, students:</p> <ul style="list-style-type: none"> <li>a. <b>orally communicate</b> information or design ideas and/or solutions with others (including video)</li> <li>b. <b>use models, drawings,</b> writing, or numbers to provide detail about scientific ideas, practices, and/or design ideas</li> </ul>	<p><b>Students communicate</b> scientific and/or technical information:</p> <ul style="list-style-type: none"> <li>a. in <b>written formats</b>, including various forms of media and may include tables, diagrams, and charts</li> <li>b. using <b>literature</b> to give an example of how science is communicated</li> </ul>
--	---	---