

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.

SEP 8	Obtaining, Evaluating, and Communicating Information: 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.		
Components of SEP	Present? Y/N	What teacher actions were taken to facilitate this component for students?	What are the students doing?
In this lesson/unit plan, it is clear that <i>students</i> have a structured opportunity to:			
1) Read, summarize, and/or compare grade-appropriate scientific texts and/or other reliable media			
2) Describe and/or integrate information within and across multiple written texts, media, and/or formats (e.g., diagrams, tables, charts)			
3) Synthesize and evaluate scientific information from appropriate sources			
4) Communicate scientific and/or technical information clearly and persuasively in written and/or oral forms			

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

Science & Engineering Practices		
<p>SEP 8: Obtaining, Evaluating, and Communicating Information: 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><i>By the end of the grade band students will have had a structured opportunity to develop an understanding of each of these. Individual lessons or units should include opportunities for students to practice one or more of the following components</i></p>		
	K-2 Grade Band	3-5 Grade Band
1) Read, summarize, and/or compare grade-appropriate scientific texts and/or other reliable media	Students, with teacher prompts and support, read grade-appropriate texts and/or use media to: <ol style="list-style-type: none"> a. obtain scientific and/or technical information b. determine patterns in and/or evidence about the natural and designed world(s) 	Students: <ol style="list-style-type: none"> a. read and comprehend 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 b. compare and/or combine across complex texts and/or other reliable media to support the engagement in other scientific and/or engineering practices
2) Describe and/or integrate information within and across multiple written texts, media, and/or formats (e.g., diagrams, tables, charts)	Students use prior experiences and observations to describe how images (e.g., a diagram showing how a machine works, 3D Media, manipulatives) support a scientific or engineering idea, with prompts and support from the teacher.	Including K-2 skills, students combine information in written text with that contained in corresponding tables, diagrams, and/or charts to support the engagement in other scientific and/or engineering practices
3) Synthesize and evaluate scientific information from appropriate sources	Students, with teacher prompts and support: <ol style="list-style-type: none"> a. obtain information (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 b. identify which sources of information are likely to provide scientific information (e.g., versus opinion) 	Students obtain and combine information from books, and/or other media from a credible source to explain phenomena or solutions to a design problem
4) Communicate scientific and/or technical information clearly and persuasively in written and/or oral forms	With appropriate scaffolds and teacher support, students: <ol style="list-style-type: none"> a. orally communicate information or design ideas and/or solutions with others (including video) b. use models, drawings, writing, or numbers to provide detail about scientific ideas, practices, and/or design ideas 	Students communicate scientific and/or technical information: <ol style="list-style-type: none"> a. in written formats, including various forms of media and may include tables, diagrams, and charts b. using literature to give an example of how science is communicated