



Our goal is to help teachers assess:

- [Statistical literacy](#)
- [Statistical reasoning](#)
- [Statistical thinking](#)

in first courses of statistics.

The ARTIST website provides a variety of assessment resources for teaching first courses in Statistics. Currently we provide assessment items, and articles and web links related to assessing student outcomes. Please see the other side of this flyer for a list of current resources at our site.

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Resources at the ARTIST Website

- 1. Assessment Builder: a collection of about 1100 items, in a variety of item formats, according to statistical topic and type of learning outcome assessed. This database can be used to generate files in RTF format that can be downloaded and then edited in a word processor by statistics instructors.**
- 2. Information, guidelines, and examples of alternative assessments (such as project, article critiques, and writing assignments).**
- 3. Implementation issues: questions and answers on practical issues related to designing, administering, and evaluating assessments.**
- 4. Copies of articles or direct links to articles on assessment in statistics.**
- 5. References and links for other related assessment resources.**
- 6. Copies of conference papers and presentation on the ARTIST project, and handouts from ARTIST minicourses.**
- 7. Information on upcoming ARTIST events.**
- 8. Ways to participate as a class tester for ARTIST materials.**

Assessment Builder Terms, Definitions, and Buttons

ITEM SET: An Item Set consists of several items that share the same context. The context is usually stated first, followed by each question in the item set. All questions for the same item set are displayed on a single page. The individual questions are numbered A, B, C, D, etc.

PERFORMANCE TASK: In the ARTIST database, a performance task is an item that gives students the opportunity to demonstrate their ability to integrate and apply statistical knowledge and skills in analyzing information. The problem challenges students to select an appropriate statistical procedure, use evidence to support a statistical conclusion, consider all relevant aspects of a statistical problem, or knowledgeably critique and evaluate a problem solution. These items are best scored using a holistic rubric that focuses on the overall approach and communication as well as the problem solution.


STATISTICAL LITERACY involves understanding and using the basic language and tools of statistics: knowing what statistical terms mean, understanding the use of statistical symbols, and recognizing and being able to interpret representations of data.

STATISTICAL REASONING is the way people reason with statistical ideas and information. This may involve connecting one concept to another or combining ideas about data and chance. Reasoning means being able to explain statistical processes, and being able to fully interpret statistical results.

STATISTICAL THINKING involves an understanding of why and how statistical investigations are conducted. This includes recognizing and understanding the entire investigative process, understanding how models are used to simulate random phenomena, how data are produced to estimate probabilities, recognition of how, when, and why existing inferential tools can be used, and being able to understand and utilize the context of a problem to plan investigations and draw conclusions.

Assessment Builder Navigation Buttons

DO NOT USE the BACK and FORWARD navigation buttons provided by your web browser. Use the Assessment Builder navigation buttons. These buttons have built in functions that update and keep track of information for your searches and for your assessment.

INFORMATION button: An INFORMATION button looks like this . When you click an INFORMATION button, a separate window pops up that contains a definition of a term or phrase, information on the function of a button, or tips for searching and building tests.

ITEM FEEDBACK button: Each item on the **Search Results** pages has an ITEM FEEDBACK button. A form is displayed for you to provide comments and suggestions for changing or improving the item. After you submit the form, you are returned back to the **Search Results** page.

BACK TO SEARCH RESULTS button: Click this button to go back to the **Search Results** page where you can view all items returned from the last search.

MANAGE ASSESSMENTS button: Click this button to go back to the **Assessment Manager** page to create a new assessment or select one of your other assessments.

NEW SEARCH button: Click this button to go back to the **Start Search** page where you can set new criteria to search for additional items to include in your current assessment.

VIEW ONLY INCLUDED ITEMS button: Click this button to review only the items that you have included in the current assessment. The Include button next to each item can be unchecked if you want to remove an item from the assessment.

Test Building Tips

Adding Items - To add items to an assessment, first conduct a search, then check the Include box next to an item. All items on a page with checked Included boxes are added to the assessment when you leave the page. We suggest that you select all items that you might want to consider for inclusion. You can decide later whether or not to keep an item in the assessment.

Removing Items - To remove an item, uncheck the **Include** box. The item is removed from the assessment when you leave the page.

Saving an Assessment - An assessment is automatically updated when you move from one page to the next (e.g., by clicking the **NEXT** or **PREVIOUS** buttons, or by using the navigation buttons to move to another page). Your assessments are not deleted when you leave the Assessment Builder and will be available for you to work with and modify the next time you log onto the Assessment Builder.

Several Topics - If a test includes more than one topic, we recommend the following for managing your search:

- Select only one topic at a time for searching. Check the topic box next to the first topic, set the other search parameters (e.g., only forced-choice items, only literacy and reasoning outcomes, etc.), then click the **SEARCH** button.
- On the **Search Results** pages, check the Include box next to an item to select it for the assessment. All items on a page with the Include button checked are added to the assessment when you leave the page.
- Once you have selected all of the items for a topic, click the **NEW SEARCH** button to return to the **Start Search** page. On the **Start Search** page, uncheck the previous topic and check the box for the next topic. Change the other search parameters if needed before clicking the **SEARCH** button.
- You can click the **VIEW ONLY INCLUDED ITEMS** button to review the entire set of items included in the assessment. To remove an item, uncheck the **Include** box. Once removed, you will need to conduct a new search to find the item and check its Include box.