Scaffolding Students' Written Explanations

Based on research findings across 76 assessment tasks and 707 samples of student work (Kang, Thompson, & Windschitl, 2014)

Tasks that prompt students to show their reasoning are great for formative assessment purposes, but only if they help you delve deeply into what students are thinking! The following questions are useful to consider when asking students to write evidence-based explanations.

Using contextualized phenomena (greatest impact on quality of student work)

- ❑ Are students asked to reason about a *specific* phenomenon or event (in a particular time, place, etc.)?
- ❑ Does this phenomenon or event bring together multiple ideas? Is it accessible for students – can they start reasoning about the phenomenon or event from their own experiences?

Providing rubrics

- ❑ Does the task prompt students to include aspects of high-quality evidence-based explanations (e.g., to cite supporting evidence, consider alternate explanations, etc.)?

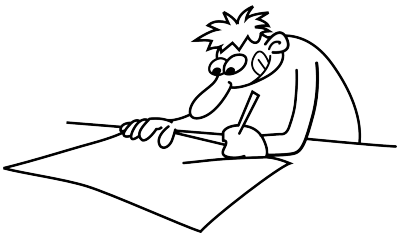
Providing checklists

- ❑ Does the task include a checklist of key ideas for students to consider and include in their explanations?
- ❑ Does the checklist prompt students to consider relationships among ideas, observations, and patterns?

Providing sentence frames

- ❑ Does the task include sentence frames that provide students with linguistic lead-ins?
- ❑ Do the sentence frames prompt students to connect elements of a scientific explanation, such as claims and evidence?

Facilitating drawing in addition to writing



- ❑ Does the task provide designated spaces for drawing (boxes, zoom-ins, etc.)?
- ❑ Are students prompted to illustrate unobservable parts of what they think is happening?
- ❑ Are students asked to consider changing conditions (over time, at different concentrations, etc.)?
- ❑ Are students asked to show their thinking at an appropriate scale (molecular, organismal, etc.)?