



POWERUP
WHAT WORKS

powerupwhatworks.org

Lesson in Action

AT A GLANCE

Before Prewriting

- Review the day's instructional goal.
- Elicit background knowledge.
- Review with students previously learned prewriting strategies.
- Model what a completed sample lab report should include on the interactive whiteboard.
- Review the sample lab report template listed on the class website.

During Prewriting

- Display a list of images with plant life vocabulary as a visual reference.
- Have students use at least one of three prewriting strategies previously learned.
- Have students review notes and observations.
- Using a model on the whiteboard, quickly review and re-explain how to create a T-chart.
- Have students discuss the experiment, brainstorm, and map their ideas.
- Have students transfer information from their map to the online report template.

After Prewriting

- Ask students to review their graphic organizers, note cards, notes, and other tools.
- Have students fill out a self-assessment checklist for each section of the report template.
- Have students conduct a peer review of the checklist.

Prewriting: Start Writing

Context

Mrs. Cleary, a Grade 4 teacher, challenges her 24 students to “think and work like scientists.” Her class includes students with a range of diverse learning styles and needs, including several with language and writing difficulties.

Common Core State Standards

- ▶ [CCSS.ELA-Literacy.W.4.2](http://www.corestandards.org/ELA-Literacy/W/4/2) (<http://www.corestandards.org/ELA-Literacy/W/4/2>)
Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
- ▶ [CCSS.ELA-Literacy.W.4.4](http://www.corestandards.org/ELA-Literacy/W/4/4) (<http://www.corestandards.org/ELA-Literacy/W/4/4>)
Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.
- ▶ [CCSS.ELA-Literacy.W.4.5](http://www.corestandards.org/ELA-Literacy/W/4/5) (<http://www.corestandards.org/ELA-Literacy/W/4/5>)
With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.

Lesson Objective

Students will write about the experimental process by using a lab report template and will practice using prewriting strategies previously learned.

Technology

- ▶ Interactive whiteboard to demonstrate and model
- ▶ Document camera to demonstrate and model
- ▶ Online note cards containing information about experiment notes and observations
- ▶ Tablets so that students can work with classmates to write, find images, and create documents
- ▶ Pixlr (<http://www.pixlr.com/>) to create images

Assessment

- ▶ Teacher review of lab report template
- ▶ Observations of student work during peer collaboration

Mrs. Cleary's Class in Action

Before Prewriting

Mrs. Cleary says, "Today you will begin writing your lab reports using the notes and observations you have written on your tablet in your science notebooks." She explains that writing the science lab report is a way for students to explain what they learned during their experiments.

Mrs. Cleary asks, "How is writing a lab report, or any kind of informative writing, the same—or different from—narrative writing?" Student responses include, "Science reports tell you facts without your opinion," and "They each have a different purpose." She writes their responses on the whiteboard.

Continuing on the whiteboard, she models how to use the strategies they learned yesterday. She will review the strategies again with three students who ask for more help.

On her whiteboard, Mrs. Cleary displays a template that lists what needs to be included in each section of a student lab report. The class discusses the format and content of each section.

Template for Student Lab Report

Section	What Needs to Be Included
Problem	The question I want to answer is:
Hypothesis	I predict that:
Materials	I used these materials:
Procedure	Steps in my experiment were:
Data/Observation	This is what I observed:
Conclusion	After the experiment I found out that:

The class looks at the lab report template that Mrs. Cleary has posted on the class website, reviewing the format and expectations for each section. Mrs. Cleary asks students to copy the template into their online portfolio and use headphones to hear it read aloud.

During Prewriting

Drawing on the work the class did over the past week, Mrs. Cleary displays images of plant life vocabulary on the whiteboard (e.g., pollen, fertilize, germinate, pollination, temperature, light, space, fertilizer, water, seed, pods, seed leaves, flower buds, cross-pollination, life cycle). Using the document camera, Mrs. Cleary shows examples of three prewriting strategies learned yesterday. She reminds students again that the examples also are located on the class website. She tells them to make sure to use at least one of those prewriting strategies today.

Mrs. Cleary re-explains and models how to create a T-chart (two or more columns in which students can visually compare and contrast experiment notes).

She circulates around the room and notices students generating images with Pixlr or using Google to search for images that show the sequence of the experiment, using online note cards to list ideas, and using a laptop internal microphone and camera to record themselves verbalizing the steps of an experiment. She checks in to make sure that at least one of the prewriting strategies is being used.

Mrs. Cleary reminds students to review the requirements for each section of the report. The students then transfer information from their graphic organizers to the online report template, using bulleted text or online notes to write their ideas.

After Prewriting

Mrs. Cleary explains, "It's important to make sure you didn't leave anything out when you moved information from your notebook to the templates. Share your prewriting notes and templates to double check your work." She reminds students to use the online lab report checklist to make sure they've included everything in their report.

Lab Report Checklist

Term	What It Means	Y or N in Report
Problem	The question I want to answer	
Hypothesis	Something not true but assumed to be true for my investigation	
List of Materials	Names of materials used in my experiment	
Steps in Procedure	Steps followed to carry out my experiment	
Data I Collected	Facts about flowers used in experiment	
Written Observations	Sentences I wrote about my experiment	
Conclusion	What happened after I carried out my experiment?	
Picture	Picture of my flower that includes details about what my flower looked like on Day 1 and Day 2	
What additional information should I include?		

Circulating around the room, Mrs. Cleary checks in with students to guide them in discussing and sharing feedback about their lab reports. She hears comments such as "Recheck the materials we used," "Did you include all of the data from January 23?", and "We need one more detail."

Reflection

Mrs. Cleary is pleased with how the lesson went. Having reviewed their online lab report templates, she can tell that most of her students made good progress. The reports gave her some insight into students' learning and helped identify which students need more support and practice with informative writing. Using her tablet, she creates a chart identifying the strengths and needs of each student. Now, as she has time to reflect, she notes the kinds of more focused support she will provide to each student.