

Shared Materials Codes	Description
Laboratory Experiment, Confirmation*	Shared material that includes a lab activity. Further specifications include materials that are a confirmation of a topic in science. Students are given a set procedure that will help to “confirm a principle”
Laboratory Experiment, Structured Inquiry*	Shared material that includes a lab activity. Specifications include materials where the instructor presents a question and a specific pathway to find the answer.
Laboratory Experiment, Guided Inquiry*	Shared material that includes a lab activity. This type of lab still contains a central question provided by the teacher but the pathway to find the answer is constructed by the students. However, this code can also include multiple procedures presented by the instructor, and the students choose which they feel will solve the problem.
Laboratory Experiment, Open Inquiry*	Shared material that includes a lab activity. This type of lab contains material centered around the students. Groups or individuals choose what they want to investigate, within reason, and a mean to do so based on prior knowledge of the discipline. Instructor guidance is also kept throughout but the activity itself is student centered. Coded different than a project as this typically only lasts 1-2 class periods.
PhET Simulation	Shared material that includes a link to a PhET simulation directly. Does not include pages that have supplemental activities with the simulation.
PhET simulation with worksheet/support	Shared material that includes a link to a PhET simulation with supplemental materials. Link provided does not go directly to the simulation.
Other Simulation	Shared material that includes a link to a simulation. This can be online simulations where students can explore content in a 2D or 3D manner. Common examples include simulations from AACT or similar websites. This is coded differently than a “PhET simulation”.
Other Simulation with worksheet/support	Shared material that includes a link to a simulation. This can be online simulations where students can explore content in a 2D or 3D manner. Specifically, this code includes shared material that provides support for the online simulation. This can include a worksheet for students to complete during the simulation or supplemental material for the instructor to help facilitate the simulation.

Manipulative/Hands-on Activity	Shared material that includes an activity where students are to complete task by themselves. This could include materials with kits or other items where students can physically change the perimeters, within reason, to explore the question being asked. Material of this nature is not to be coded the same as Laboratory Experiment Guided or Open Inquiry, as these activities are often not a laboratory.
Worksheet/Homework	Shared material that includes a link or document to an assignment that can be given to students. This can include material such as a quizlet or POGIL activity. This code does not include extra activities/worksheets attached to a PhET or other simulation.
Reading/literature assignment/source	Shared material that includes links to specific websites that describes certain content for further explanation. This can be resources for students to read and then describe at a later time. Further, this can be a source that serves as a reference for course material.
Projects	Shared material that includes content based around multiple days. This material describes a “project” where students can choose a topic and work to solve an issue. Typically, these materials are designed to last multiple days and students can work individually or in groups. Instructors are available for help, but students lead the work. This is not to be coded the same as a Laboratory Experiment Guided/Open Inquiry, as these are often not lab experiments.
Teacher Supplemental-Teaching tips/methods	Shared material that includes a link or document to sites specifically for development of skills. Includes material on improving teaching of content or new methods to approach a topic.
Teacher Supplemental-Content resources	Shared material that includes a link or document to sites specifically for curriculum-based development. Materials include resources for teachers to give students for further exploration of a topic. This does not include specific worksheets, but rather sites or documents that outline multiple resources for instructor use.
Video	Shared material that include a link to a non-specific YouTube or other video. Does not include materials that are demonstrations or laboratory experiments through a video medium.
Demonstration	Shared material that includes a link to a video or written explanation of a demonstration. Categorized

separate from a “Video” as the content of the video is specifically a demonstration that can be used in the classroom. Written explanations include links to website with explicit instructions on how to complete the demonstration in front of students. Generally, material with teacher led activities with some student support.

Comment Codes (Prompting and Shared)	Description
General Discussion*	Comments that include a search or reference to shared materials that the Chemistry teacher identified as part of a general discussion. No specific code was identified with these materials, not necessarily a material that was meant to be used in class, but often provided information as a background. Also included material that was unrelated to the course all together. Examples include “This concept reminds me of a fun article I saw online”.
Unprompted Sharing*	Comments that include a comment with shared materials that the Chemistry teacher shared without being prompted. Samples looked for random responses to other comments. Examples include “Great idea! Have you ever tried this...” or discussions where the teacher shared, they felt inclined to share new material they found online in the recent past.
Tips/Methods/Aids for Teacher and PD*	Comments that include a search or reference to shared materials that the Chemistry teacher identified as ways to specifically improve teaching ability. Specifically, teachers looked for or prompted discussion as to ways to develop new skills. This also included discussions of different methods for implementing materials in the classrooms and subsequent resources.
Materials with Student Growth*	Comments that include a search or reference to shared materials that the Chemistry teacher identified as ways that helped promote student growth. Examples include discussions of materials that helped students connect one concept from the course to another.
Labs and Demonstrations*	Comments that include a search or reference to shared materials that the Chemistry teacher identified as labs or demonstrations. Did not include materials such as PhET simulations(see online resources code). Included discussion of materials on how to run a demo or lab. Also

	included discussions of searches for improvements to labs. More specific than just general solutions problems with materials.
Cross Curricular*	Comments that include a search or reference to shared materials that the Chemistry teacher identified as ways to use materials between different courses. Teachers searching for materials that can relate to other curriculums and shared materials that connect more than one class is one example.
General Solutions to Problems with Materials*	Comments that include a search or reference to shared materials that the Chemistry teacher identified as a solution to problems they had with the material. Mainly concerned with comments that have discussions of ways to fix problems that some teachers have had with materials in the past. Can include a response that has shared material with suggestions for fixing said problems.
Need to Engage Students*	Comments that include a search or reference to shared materials that the Chemistry teacher identified as a material that would help to engage students. This code identifies comments that were targeted as discussion of materials that kept student's attention. Discussion was more detailed than a "favorite", but still something that held interest.
Lesson Plan Material*	Comments that include a search or reference to shared materials that the Chemistry teacher identified as looking for ways to improve lesson plans and curricular content. This included any discussion prompting or sharing of different lesson materials that were for more than one activity. Must be specifically commented and identified as a search/share for "lesson plan" or "curriculum". Examples include discussion of lesson plans from the AACT website.
Online Material**	Comments that include a search or reference to shared materials that the Chemistry teacher identified as technology-based learning. These discussions included searches for videos, online simulations, different online tools such as virtual reality, or even PheT activities. The comments in this code also included resources for the teachers to use to remind themselves of different concepts and information of certain topics.
Need for Student Led Material**	Comments that include a search or reference to shared materials that the Chemistry teacher

	identified as activities or worksheets that were led by the students. Discussions of POGIL worksheets in the comments are one example. Typically, only referenced or searched for if they were short term activities and did not last more than one class period.
Old Material with New Improvements**	Comments that include a search or reference to shared materials that the Chemistry teacher identified as an old activity but had been updated. A comment that looks for improvements to old material that has updates with new enhancements that improves the resource.
Need for Student Led Experiences**	Comments that include a search or reference to shared materials that the Chemistry teacher identified as a need for activities that students led. This is a bit different than the code "Need for student led material". References in this code included more project based or different experiences that the students could lead. Not just one specific material was included, but more encompassing activities that generally lasted more than one class period.
General Classroom Questions**	Comments that include a search or reference to shared materials that the Chemistry teacher identified as a general classroom question. This included comments discussing classroom management, set up, and policies.
Addressing Student Misconceptions**	Comments that include a search or reference to shared materials that the Chemistry teacher identified as a way to address a student misconception. Specifics included comments discussing ways to combat students' misconceptions with different topics. (e.g. addressing bond breaking and energy concepts)
Ease of Grading**	Comments that include a search or reference to shared materials that are identified as an easier way of grading. The chemistry teacher must specifically identify that they were looking for materials or methods that generally made grading more efficient.
Favorite Materials**	Comments that include both a search or reference to sharing of anything that the chemistry teacher identified as resources they or the students had enjoyed. This could be any type of material but had to be directly identified as being a "favorite" in the comment.

*Appears in more than one course

**Appears only in one course