

Curricular Unit Template

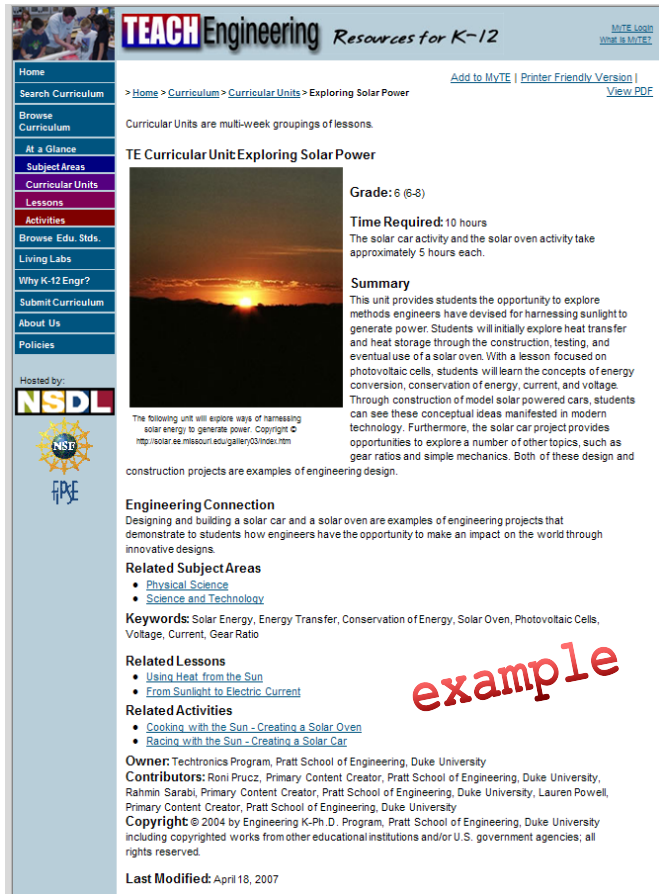
A published unit on *TeachEngineering* might look like this example →

The curricular unit template is the shortest one. It is basically a shell that ties together associated lesson(s) and activity(ies) into a curricular unit.

Information in the unit document (→) provides teachers with key information to quickly review the unit to see if it meets their needs, before they look at the unit's lessons and activities.

From this point on, this template describes the **required** and optional components for all units published in the TE digital library collection.

Visit <http://TeachEngineering.org> > Browse Curriculum > Curricular Units to see examples of unit content and how they render on the website.



The screenshot shows the TeachEngineering website interface. The main content area displays the title 'TE Curricular Unit: Exploring Solar Power' and a sunset image. To the right, it lists 'Grade: 6 (6-6)', 'Time Required: 10 hours', and a 'Summary' section. Below the summary are sections for 'Engineering Connection', 'Related Subject Areas', 'Keywords', 'Related Lessons', 'Related Activities', 'Owner', 'Contributors', 'Copyright', and 'Last Modified'. A large red 'example' watermark is overlaid on the right side of the page.

Curricular Unit Title

[Provide the title of the unit. No formatting, such as italics or bold, permitted.]

Header

[(optional) Use Header to add an image or text at the top of the unit document.]

<p style="text-align: center;">Image 1</p> <p>ADA Description: Photo shows a female pilot reviewing a checklist while sitting in an airplane cockpit.</p> <p>Caption (optional): Engineers design the control systems and human interfaces for flying airplanes.</p> <p>Image file name: cub_airplanes_unit_image1.jpg</p> <p>Source/Rights: Copyright © 2004 Microsoft Corporation, One Microsoft Way, Redmond, WA 98052-6399 USA. All rights reserved.</p>



Grade Level __ (__ - __)

[What grade(s) is (are) targeted in this unit? “It is targeted for grade __, but could work for grades __ to __.” Example: 8 (7-9) or 8 (8-8) for just eighth grade, or 8 (5-9) if it also works for lower-grade students.]

Summary

[Provide a brief paragraph summarizing the unit and the topics covered. Must be one paragraph of plain text, no images or formatting. Write in present tense, not future.]

Engineering Connection

[Provide 60-100 words or ~3 sentences clarifying how the scientific and mathematical concepts being studied in this lesson pertain to real-world engineering. Do not recap the unit. It often works to associate big concepts to particular fields of engineering. Must be one paragraph of plain text, no images or formatting.]

Engineering Category

[(required for activities; optional for lessons and units) Indicate which of the following four engineering categories best describes this curricular document's amount or depth of engineering content:

1. relates science concept to engineering,
2. relates math concept to engineering,
3. provides engineering analysis or partial design
4. provides complete engineering design process.

Anecdotally, categories 1 and 2 are primarily science/math with some engineering, category 3 items are primarily engineering with some science/math, and category 4 presents full engineering design. For more complete descriptions of each category, ask to see the TE Engineering Categories Description document. In most cases, lessons and units will either not have a category or use the category of the most relevant lessons and activities below them. In rare instances, activities will work as a whole, in terms of their level of engineering design content, so that the lesson or unit will actually have a different category than the activities below it. For example, a unit might be category 4 because its lessons and activities contain all of the steps in the engineering design process even though none of those individual lessons and activities is categorized as providing the complete engineering design process.

Subject Area(s)

[Identify subject area(s) that are in common for every lesson and activity of the unit. Choose from: algebra, biology, chemistry, computer science, data analysis & probability, earth & space, geometry, life science, measurement, number & operations, physical science, physics, problem solving, reasoning & proof, science & technology. TE users can browse for curricula based on these subject areas.]

Keywords

Example: biomedical, biotechnology, body, human body

[(optional) Provide 0-10 keywords. They should be words the layperson and a K-12 teacher would know and might use to search for the unit. They should apply to all lessons/activities in the unit, which means there might be few keywords. List in A → Z order, lower-case unless proper nouns. Usually, make nouns singular. Avoid highly technical or lingo words. It is likely you have used these words in the summary. Even though TE provides a full text search capability, often these become the few keywords that are seen by other websites that search the *TeachEngineering* collection.]

Educational Standards

[(optional) List any educational standards common to every lesson and activity of the unit from the state and national standards available at the online ASN viewer at

<http://www.jesandco.org/asn/viewer/default.aspx>. These should be **specific standards, not just the broader objectives of the standards**. Please include the source, standard number(s) and text of each standard. *Example:*]

North Carolina, science, 2004, 1.01: Identify and create questions and hypotheses that can be answered through scientific investigations.

[Special note for Massachusetts: The middle school science standards are written in the same format except that instead of a “strand” there is a number: 1 for Earth and Space Science, 2 for Life Science and 3 for the Physical Science strand. For example, 1.12 stands for the “Relate the extinction of species to a mismatch of adaptation and the environment” standard in the earth and space science strand.]

Related Lessons & Activities

[To make sure that all the associated lessons and activities of a unit are linked together in the *TeachEngineering* collection, list every one of them in this section. For each, provide its title.]

Related Lessons

- Lesson titles here in 1, 2, 3 order...

Related Activities

- Activity titles here...

Time Required __ minutes, hours, days or weeks *Example:* 6 hours

[(optional) To help in teacher planning, provide an estimate of time to complete entire unit and its lessons and activities. Cannot be a time range, however you may include an optional text note for a brief explanation, such as: *Spread over six, one-hour class periods*. If summing up a total unit time does not make sense, add a note, such as: *See individual lessons and activities*.]

Unit Overview

[(optional) If it helps explain the unit, provide an overview to describe the parts and/or steps within a unit.]

Unit Schedule

[(optional) If it helps explain the unit, provide a suggested schedule or describe how the various lessons build upon or relate to each other.]

Summary Assessment

[(optional) If you want, provide summary assessment tools to help the teacher gauge students’ comprehension of the unit topic(s), such as pre-/post-unit quizzes and tests.]

Attachments

[(optional) If the unit has any attachments, such as a test or quiz, list them here. In addition to PDF versions, provide original format versions (Word, Excel, PowerPoint) so teachers can modify. In listing the attachment names, include the file format (see example, below), to help teachers choose what to download/print. When naming files for attachments, use lower-case letters only – no caps! This includes file extensions: jpg, .doc, pdf, ppt, etc. Also, leave no spaces in the file names; use underscores instead. On TE, attachments listed will be hot-linked directly to the file.]

Examples:

[Flying Solo Unit Pre/Post Quiz \(pdf\)](#)

[Flying Solo Unit Pre/Post Quiz \(doc\)](#)

[Flying Solo Unit Pre/Post Quiz Answers \(pdf\)](#)

[Flying Solo Unit Pre/Post Quiz Answers \(doc\)](#)

Other

[(optional) This component is available for information that doesn't seem to fit in anywhere else.]

Redirect URL

[(optional) If the unit is also available at a non-TE/originator website, such as the Adventure Engineering curricula, list the alternate URL at which users may find this curricular write-up, often presented in a non-TE/originator format.]

Owner

[Briefly provide the name and organization of the source/owner of this curricular content.]

Example: Integrated Teaching and Learning Program, College of Engineering, University of Colorado at Boulder

Contributors

[(optional) List the name(s) of who contributed to developing, testing, reviewing and editing this unit. We usually list the primary creator first. Role and organization may be included, too.]

Example: Jay Shah, Malinda Schaefer Zarske, Janet Yowell

Copyright

[(optional) To include a brief copyright citation for the source/owner of this curricular content, provide a copyright year and owner name. Check with your institution for the appropriate copyright text. Further description may be included, as well.]

Example: Copyright © 2009 by Regents of the University of Colorado. This digital library content was developed by the Integrated Teaching and Learning Program under National Science Foundation grant no. 0338326.

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