

Type

Definition

Dublin Core - the nature or genre of the resource

Usage

- **NSDL usage** - the nature, function or typical use of a learning or teaching resource
- **Field usage** - strongly recommend; always include the broad-group term when using finer-level terms
- **Number of occurrences** - repeat the field as necessary

Controlled vocabulary terms and definitions

Terms are in bold italics. Definitions are included. The name/organization listed in brackets after a definition is the source of the definition. A hierarchy is implied in this vocabulary, with eight broad-group terms encompassing finer-level terms. When a finer-level term is used, repeat the type metadata field to include the corresponding broad-group term.

- **Assessment Material** - material that enables evaluation or measurement of progress, development, ability, skill, understanding, knowledge, aptitude, achievement, or an opinion/attitude (use for: webquest, building a concept map, lab report, survey, questionnaire, open-ended question, or take-home questions)
 - **Answer Key** - a correct solution or response to a question, problem or test
 - **Portfolio** - a collection of student work that demonstrates academic progress or knowledge acquisition over a period of time
 - **Rubric** - statements describing the abilities, knowledge, or understanding of a content area in order to reach a certain level of mastery
 - **Test** - an oral or written examination comprising questions, exercises, and/or problems that measure the skill, knowledge, capacity, or aptitude of an individual or group; may or may not include an answer key
- **Dataset** - visual, factual, or numerical information that comes from a sensing device, whether instrument-measured or human-observed; describes both unprocessed, "raw" information as well as information already organized into lists, tables, or databases
 - **Database** - information held electronically and organized for rapid search and retrieval by a computer
 - **List/Table** - factual or numerical information arranged for ready reference and interpretation by users
 - **Observed Data** - visual, factual, or numerical information generated from human observations or in-situ instrument measurements
 - **Remotely Sensed Data** - imagery generated from measuring devices that are not in direct contact with the medium they are measuring (use for: radar or satellite imagery)
 - **Trial** - one of a number of repetitions of an experiment
- **Event** - a non-persistent, time-based occurrence [Dublin Core]
 - **Award/Recognition/Scholarship** - monetary or honorary acknowledgement bestowed for merit, research, performance, study, writing, or other professional/educational endeavors (includes honorarium or stipends)
 - **Broadcast** - media presentation (audio, video and/or text) prepared and intended for a wide or specific audience, often with limited or controlled audience participation, occurring on a certain date and often archived for later use; may lose relevancy over time (use for: concert webcast, podcast, newscast, or talk show)
 - **Call for Participation** - time-sensitive invitation for contribution, involvement or input on a product, event, or project (use for: call for papers, call for input, testing, feedback, formative evaluations, or collaborations)
 - **Conference** - physical or virtual meeting of broad or tightly focused appeal targeted for a specific academic and/or professional community and typically sponsored
 - **Exhibit** - a non-permanent display of artifacts, images, or resources organized around a particular theme or topic
 - **Learning/Research Opportunity** - activity whose primary object is professional/academic development and practical research experience; may or may not include a stipend or honorarium (use for: field project, course, internship, mentoring, tutoring, exchange, or college credit opportunity)
 - **Job** - position for which participants receive remuneration (pay for work done but not a stipend or honorarium) (use for: postdoc, internship, fellowship, assistantship, or research associateship)
 - **News** - general information or announcement that loses its immediate relevancy after a short time (use for: newsletter, press release)
 - **Workshop** - short-term meeting or interaction, typically with a well-defined outcome like professional-skills development
- **Instructional Material** - resource or learning object intended to facilitate teaching or enable learning
 - **Activity** - non-laboratory material designed to stimulate learning and help students develop particular skills, specific knowledge, or reflexive habits of mind
 - **Annotation** - a comment, review, graphic, question, tip, or link associated with an existing resource and providing further explanation, expansion, and/or reaction
 - **Case Study** - resource offering intensive analysis of discrete, or a combination of, peoples, locations, environments, objects, time periods, or concepts
 - **Course** - a set of teaching materials (generally for instructors) or learning materials (generally for students) intended to achieve a range of objectives over an extended period of time
 - **Curriculum** - a program of study which may or may not include assessment material
 - **Demonstration** - a resource that exposes the nature and requirements of a procedure, process, or principle by manipulating real objects (term is distinct from **Simulation** in that demonstrations have real objects in them as opposed to representations)
 - **Experiment/Lab Activity** - a scientific procedure undertaken to make a discovery, test a hypothesis, or demonstrate a known fact [Compact Oxford English Dictionary]
 - **Field Trip** - excursion to a place to gain firsthand information, knowledge, or experience (use for: descriptions or plans for field trips, virtual field trips)
 - **Game** - an interactive environment in which participants compete, strategize, play, role-play, troubleshoot, or make decisions in order to learn a subject or skill
 - **Instructional Strategy** - a guideline, pedagogical description, or tip for effective teaching and learning
 - **Instructor Guide/Manual** - resource for teachers regarding the use of learning materials with respect to educational objectives, classroom management, materials development, assessment, and additional reference material
 - **Interactive Simulation** - a representation of a system, process or environment where learners control and manipulate variables or other objects to affect outcomes (use for: applet, mathlet)

- **Lecture/Presentation** - audio or text record of a speech or a unit of instruction organized and delivered by an instructor for the purpose of informing a group about a topic
- **Lesson/Lesson Plan** - resource to support students' learning of specific concepts, skills, or content; often includes teaching instructions, educational goals, learning objectives, and procedures
- **Model** - a mathematical or physical construct intended to study or represent a real-world system or phenomenon
- **Problem Set** - series of tasks or questions posed to the student, as in homework or other assignment (use for: worksheet)
- **Project** - individual or group activity or problem that supplements and applies classroom studies and often results in a product
- **Simulation** - imitative representation of a system, process, photo, setting, or principle (note that the imitative nature of **Simulation** distinguishes it from a **Demonstration**, which employs real objects)
- **Student Guide** - resource for learners to help facilitate learning and comprehension of subject matter content (use for: lab manual, study guide, workbook)
- **Syllabus** - plan showing the structure of a particular course, including course description and objectives, grading policy, materials, assignments, lesson sequence, and course calendar [iLumina]
- **Textbook** - resource providing comprehensive materials for specific topics (use for: chapters or other typical book components) [ENC]
- **Tutorial** - resource that provides guided information about a specific subject
- **Unit of Instruction** - a set of teaching materials, generally for instructors, or alternatively learning materials, generally for students, intended to achieve specific and focused objectives over a limited period of time such that units often constitute a **Course**
- **Reference Material** - specialized information intended to be used as an authoritative source or to stimulate topical research
 - **Abstract** - condensed version or summary of a larger piece of work outlining major points and conclusions [DLESE]
 - **Article** - generally nonfiction writing communicating ideas, concepts, results, or facts; often, but not always, part of a monograph, journal, magazine, or newspaper (use for: essays, information sheets, pamphlets, brochures, preprints)
 - **Bibliography** - a list, often with descriptive or critical notes, of writings relating to a particular subject, period or author [Merriam-Webster Online]
 - **Career Information** - resource describing specific science, technology, engineering, and mathematic (STEM) information and/or insight into STEM careers and requisite skills (use for: camps, internship programs, or informational programs which inform and support individuals interested in pursuing STEM careers)
 - **Classification Key** - resource providing guidelines or methods for identifying, sorting, or categorizing objects (use for: cloud chart, soil chart, taxonomic keys)
 - **Educational Standard** - level of achievement to which learners or educators are expected to aspire
 - **FAQ** - frequently asked questions about a topic, organization, or event that are intended to help users
 - **Fiction** - narrative or verse describing imaginary events, people, or objects (use for: prose literature, novels, poems)
 - **Glossary/Index** - a compiled or alphabetical list of words relating to a specific subject, situation, text, or dialect that variously include definitions, explanations, page references, or descriptions (use for: dictionary, table of contents)
 - **Outline** - set of preliminary ideas and thoughts, generally in a list-like format, about a project, paper, or other endeavor
 - **Nonfiction Reference** - writing describing facts, places, events, and things but not including instructional activities (use for: books, websites)
 - **Periodical** - materials in any medium issued under the same title with discrete parts or articles, appearing at regular or irregular intervals; may or may not describe materials with peer review (use for: journal, peer-reviewed journal, magazine, serial)
 - **Policy** - document containing statements or series of steps for a particular way of accomplishing a goal [DLESE]
 - **Proceedings** - collection of papers or abstracts presented at a specific meeting or event with defined outcomes
 - **Proposal** - a formal document detailing an intended or future project, recommendation, plan, or idea
 - **Report** - detailed account or statement, often outlining the results or events of a meeting, endeavor, activity, topic, issue, or study (use for: review, evaluation, monograph)
 - **Scientific Standard** - information regarding physical constants, units of measurement, expressing uncertainty of measurement, conversion factors, and equations
 - **Specimen** - an object from the natural world that is intended for study (use for: rock sample, lab sample, cultures, insect)
 - **Thesis/Dissertation** - research text written in partial fulfillment of the requirements for an academic degree (typically postgraduate)
- **Community** - a resource that facilitates communications and interactions
 - **Ask-an-Expert** - resource affording the ability to submit questions to a responsive individual or group possessed with specific expertise in the area of interest
 - **Forum** - meeting or medium (synchronous/asynchronous) enabling the exchange of views (use for: message board, chat)
 - **Listserv** - email-based communication that is usually topic-focused and distributed to a member-based group of individuals via a single email address and including the archive of the email list
 - **Weblog** - a web-based publication consisting primarily of articles or entries, written by one person or a group
 - **Wiki** - website that allows visitors to add, remove, edit, link, and change content, typically without the need for registration
- **Tool** - physical hardware or computer software that facilitates interacting with a resource or accomplishing a task
 - **Code** - set of computer instructions or scripts that enhance a resource; generally does not stand alone
 - **Equipment** - physical device or implement needed to interact with a resource
 - **Form** - formatted document containing blank fields that users populate with data (use for: calculator, online survey form)
 - **Numerical Model** - set of computer instructions intended to operate on a **Dataset** in order to understand the natural world by predicting current, past, or future situations given a set of initial conditions
 - **Search Engine** - mechanism by which the web or a sub-component thereof is searched, prompted by a specific query entered by a user
 - **Software** - stand-alone tool that provides access, interaction, and the ability to run resources; it does not enhance another piece of software and it is distinct from **Numerical Model** (use for: data analysis tools, content creation tools)
- **Audio/Visual** - representations other than text
 - **Graph** - visual representation of data with the purpose of providing meaning to the data (use for: pie charts, line graphs)
 - **Illustration** - visual material used to clarify or annotate pieces of text (use for: drawing, diagram)
 - **Image/Image Set** - visual material that is not in motion and is not intended to annotate pieces of text (use for: poster, digital image of a painting or print)
 - **Map** - representation of physical features or data of a discrete area, often done on a flat surface at a point in time (use for: topographic map, soil map, road map, bedrock map, or atlas)
 - **Movie/Animation** - in-motion, dynamic, audio/visual material played in a linear fashion and often not related to a specific date in time (use for: webcast about a science concept, podcast); (see **Broadcast** for concert, performance, newscast)
 - **Music** - vocal, instrumental, electronically-produced, or mechanical sound featuring rhythm, melody and/or harmony
 - **Photograph** - image produced by radiant energy, especially visible light (use for: photo, digital camera, or computer generated photograph, slide)
 - **Sound** - non-musical, non-vocal, recorded auditory material (use for: natural world, mechanical, noise, tones)

- **Voice Recording** - recorded material that tends to be descriptive in nature; may or may not be drawn from written texts (use for: audio book, oral history, interview, podcast)

Cataloging best practices

- Use Type for describing the nature or function of a resource and its general intended use.
- Choose the dominant type(s) that best describe or fit the resource.
- If a resource is composed of multiple dominant resource types, repeat the Type field to describe them.
- However, if a resource appears to have many different resource types (generally five or more), consider cataloging the resource as separate multiple objects (i.e., consider creating multiple metadata/catalog records).
- When selecting Type(s), choose terms to the finest level of granularity appropriate for the resource. For example, if a resource only applies to a **Rubric**, then use that. If a resource applies to a few more types in the broad-group **Assessment Material**, select as many assessment materials as appropriate (along with the broad-group term) or simply select **Assessment Material**.
- When using the finer-level terms, like **Rubric**, include the broad-group term as well (e.g., for **Rubric**, also include **Assessment Material**).
- For large resources, do not choose every resource type encompassed by the resource, choose the representative ones.
- Do not use Type to describe every way a resource may be used. Focus on the general intended use of a resource.
- Do not use this field to describe file format (e.g., .pdf, .txt, .mov), physical medium, or dimensions of the resource, use the **format** element instead.
- Do not let URL extensions like .com, .org, etc. be a primary influence on the choice of a resource type.
- Use at least one NSDL Type term. It is good practice to use other terms, from **Dublin Core (DCMI) Type** list or local collection vocabularies, as well.
- If the DCMI term **Collection** is used to describe portal-like resources, collections or sets, use an NSDL term to refine the nature or function of the collection (e.g., a set of images would use **Audio/Visual** and **Image/Image Set**; a set of maps would use **Audio/Visual** and **Map**; a set of biographies of well-known scientists would use **Reference Material** and **Nonfiction Reference**; a digital library would use **Tool** and **Search Engine** and possibly several other broad-group terms).
- If a **Curriculum** includes an assessment, do not use the broad-group term **Assessment Material** because most curricula by their nature include assessment material. (Do, however, use the broad-group term **Instructional Material** alongside **Curriculum**, per best practices outlined above.)
- Items and articles within newsletters may be cataloged separately.
- For project-like resources that are used primarily as assessments, use the term **Assessment Material**.

Use and resource examples

- **Simulation** - [Teachers Domain: The Jet Stream and Horizontal Temperature Gradients](#)
- **Project** - [Down the Drain: How Much Water do You Use](#)
- **Tool** and **Search Engine** - [Digital Library for Earth System Education \(DLESE\)](#)
- Include the broad-group terms for all the following examples.
- Use **Voice Recording** and **Fiction** or **Nonfiction Reference** for an audio book.
- Use **Student Guide** for lab manual, study guide, or workbook.
- Use **Map** for topographic maps, soil maps, road maps, weather maps, bedrock maps, or atlas.
- Use **Form** for calculator or survey form.
- Use **Forum** for message board or chat.
- Use **Simulation** for applet or mathlet.
- Use **Broadcast** for webcast, podcast, newscast, or talk show that occur on specific date in time.
- Use the terms **Remotely Sensed Data** and **Animation/Movie** for satellite or radar imagery.
- Use **Annotation** for a teaching tip, comment, or formal review of a resource.
- Use **Assessment Material** for non-examination like materials like a webquest, building a concept map, lab report, survey, questionnaire, open-ended question, or take-home questions.
- Use **Fiction** for prose literature, novels, or poems.
- Use **Periodical** to represent an entire journal.
- Use **Article** to represent a single article within a journal.
- Use **Article** to represent essays, information sheets, pamphlets, or brochures that are non-career information oriented.
- Use **Career Information** for information sheets, pamphlets, or brochures that provide career information.
- Use **Image/Image Set** for a poster, digital print, or painting.
- Use **Problem Set** for a worksheet.
- Use **News** for newsletters and press releases

XML tips and examples

- For the best search and discovery, use terms from the NSDL controlled vocabulary.
- When using the finer level terms, like **Rubric**, include the broad-group term as well (e.g. for **Rubric**, also include **Assessment Material**).
- When using the NSDL vocabulary, indicate it in XML documents by using the 'nsdl_dc:NSDLType' refinement on the attribute xsi:type.
- When using the DCMI vocabulary, indicate it in XML documents by using the 'dct:DCMIType' refinement on the attribute xsi:type.
- When using non-NSDL or non-DCMI vocabulary terms, do not use 'nsdl_dc:NSDLType' or 'dct:DCMIType' refinements in XML documents.
- When mapping between this vocabulary and another vocabulary, attempt to use the finest level of terms first and then use the broader terms like **Instructional Material**, **Reference Material**, **Audio/Visual** etc. if a distinction can not be made to the finer level.
- Repeat the XML element as necessary.

Example 1: The resource is an online *cloud chart*.

```
<dc:type>Cloud Chart </dc:type> (using own term)
<dc:type xsi:type="dct:DCMIType">Image</dc:type> (using Dublin Core term)
<dc:type xsi:type="nsdl_dc:NSDLType">Reference Material</dc:type> (using NSDL term)
<dc:type xsi:type="nsdl_dc:NSDLType">Classification Key</dc:type> (using NSDL term)
```

Example 2: The resource is an *online, college-credit, weather course for K-12 teachers*. The site also has *real-time weather data*. This course is called [Data Strengthened Atmosphere](#)

```
<dc:type xsi:type="dct:DCMIType">Text</dc:type> (using Dublin Core term)
<dc:type xsi:type="dct:DCMIType">MovingImage</dc:type> (using Dublin Core term)
```

<dc:type xsi:type=" nsdl_dc:NSDLType">**Instructional Material**</dc:type> (using NSDL term)
<dc:type xsi:type=" nsdl_dc:NSDLType">**Course**</dc:type> (using NSDL term)
<dc:type xsi:type=" nsdl_dc:NSDLType">**Dataset**</dc:type> (using NSDL term)
<dc:type xsi:type=" nsdl_dc:NSDLType">**Observed Data**</dc:type> (using NSDL term)
<dc:type xsi:type=" nsdl_dc:NSDLType">**Remotely Sensed Data**</dc:type> (using NSDL term)

Example 3: The resource is a *portal site that has lesson plans, worksheets, and activities for Geometry*

<dc:type>**Worksheet**</dc:type> (using own term)
<dc:type xsi:type="dct:DCMIType">**Collection**</dc:type> (using Dublin Core term)
<dc:type xsi:type="dct:DCMIType">**Text**</dc:type> (using Dublin Core term)
<dc:type xsi:type=" nsdl_dc:NSDLType">**Instructional Material**</dc:type> (using NSDL term)
<dc:type xsi:type=" nsdl_dc:NSDLType">**Activity**</dc:type> (using NSDL term)
<dc:type xsi:type=" nsdl_dc:NSDLType">**Problem Set**</dc:type> (using NSDL term)
<dc:type xsi:type=" nsdl_dc:NSDLType">**Lesson/Lesson Plan**</dc:type> (using NSDL term)

Credits

This controlled vocabulary was approved June 8, 2007.