NCTM Style Matters

Revised 2012
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Preface

This revision of *NCTM Style Matters* is simply that—a revising and updating of the original document developed at NCTM in 2000. The purpose of the guide, now available through the NCTM Intranet, remains the same as before—to serve as an introduction to and quick reference for usage questions that frequently arise in handling written material at NCTM. The revision recognizes the need for such a guide not only in the editing of NCTM publications, but also in the development, writing, and editing of material by other departments at NCTM, including Public Affairs, Online Resources, Professional Development Programs and Services, Member Services and Marketing, and Convention Services.

NCTM books and school journals customarily follow the latest edition of the *Chicago Manual of Style*. Reports on research, whether they appear in the *Journal for Research in Mathematics Education* or elsewhere, typically follow APA style, as detailed in the most recent edition of the *Publication Manual of the American Psychological Association*. NCTM position statements, news releases, and *Summing Up* usually follow AP style, as specified in *The Associated Press Stylebook*, but also rely on Chicago style for guidance on many issues. Marketing materials and Web materials use a combination of these and other styles and are often more casual and less committed to a single style than other NCTM material. The NCTM Web Style Guide, also available through the NCTM Intranet, provides specific advice for the preparation of content for NCTM’s website.

Thus, varieties of styles are in use and appropriate at NCTM. Nevertheless, fundamental consistency can and should be achieved in many elements of style across all types of NCTM material. Although this guide does not aim to impose one style on all NCTM communication, it does recognize that basic consistency and correctness are indispensable to all professional writing—including all writing for public dissemination at NCTM. Certain forms are correct, and certain others are incorrect, across all styles, regardless of type of material and audience.

This guide therefore attempts to present a sampling of items that cut across styles, with the intention of addressing questions that frequently arise for all who develop or polish print and online material at NCTM. Although the guide may not answer all questions, it aims to provide a universal reference point for those who write or edit for NCTM, clarifying styles and forms that are specific to NCTM and, as necessary, directing NCTM writers and editors to other sources for further information about grammar, style, and usage.

*NCTM Style Matters* is intended to be useful to new and experienced NCTM editorial staff, other NCTM staff members who prepare material for dissemination to members or the general public, and freelance copy editors or others who provide writing or editing services to NCTM. The guide is designed to be a living, evolving, and flexible document, to which material can be added or subtracted as NCTM staff members call attention to specific needs or as times and styles change.
Introduction: NCTM’s Goals for Written Communication

Successful writing is always a balancing act between preserving convention and correctness, on the one hand, and creating something original and fresh, on the other. The old saying about knowing the rules before breaking them very definitely applies. In all NCTM material, the primary goal is to be clear, direct, and concise, but achieving this goal involves being able to recognize and eliminate the errors and inconsistencies that otherwise distract the reader. In effective writing, the grammar, spelling, and punctuation should all be correct. Wherever possible, the treatments of words, numbers, headings, and so on should be consistent. With everything in its place, the reader can move quickly to the essential tasks of understanding, absorbing, and using what the writing is saying. In fact, NCTM writers and editors must keep the reader in mind at all times while they work, ensuring that the writing makes sense and that the ideas are expressed clearly and well.

All NCTM material should allow the voices of individual authors to be heard. The editing process should not transform authors’ voices to reflect a uniform NCTM mode of expression. Context and audience are always the best guides to appropriate levels of formality or informality in vocabulary, sentence structure, and other elements of expository writing. Editorial changes and choices will vary; language and tone can be casual in a column of tips for classroom teachers in e-Summing Up, but they must be formal in NCTM position statements, maximizing the authority with which the Council speaks on important and timely issues.

NCTM writers and editors should be cautious about allowing words that are currently popular but may become dated or not be easily understood by readers for whom English is not a first language. Writing in an NCTM publication from ten years ago should hold up well when scrutinized from an editorial perspective today.

Because NCTM is a mathematics education association, NCTM writers and editors have an additional responsibility to attend to the math and the pedagogy in their material, as well as the language. When points of grammar and style are at issue, consultation with any of NCTM’s copyeditors can be helpful. Likewise, when points of mathematics or classroom practices come into question, consultation with NCTM specialists in these areas is appropriate.

Ensuring accuracy in mathematics, fidelity to best classroom practices in mathematics education, and adherence to high standards of writing and editing is a big responsibility. This guide is intended to make the task more manageable by clarifying some of the common issues and decisions that confront all NCTM writers and editors.

Editorial rules cannot cover every situation. Writing and editing invariably involve many judgment calls about how to clarify ideas. No two writers will write the same piece, and no two editors will edit a piece in exactly the same way. Nevertheless, familiarity with basic elements of grammar and fundamental rules of style can enable all NCTM writers and editors to create material that is grammatically correct, stylistically consistent, and uniformly professional, while responding to varied audiences and reflecting the varied tones of individual authors’ voices.
**Style Guides, Usage Guides, and Dictionaries**

NCTM recommends and uses the following sources as style guides and authorities in writing and editing for NCTM:

- *The Chicago Manual of Style*, 16th ed., 2010
- *The Associated Press Stylebook*, 2010

Most NCTM books and the school journals follow Chicago style. *The Journal for Research in Mathematics Education* follows APA style (as do books that present or analyze research results). News releases and *e-Summing Up* follow a combination of AP and Chicago styles. Allowances should be made for appropriate differences in language, tone, and style for the different formats and audiences.

For style matters that these sources do not address, NCTM recommends consulting with the following print resources:

- *Words into Type*, 4th ed., 1999

The following sources, among many others, provide interesting discussions of usage and style:

- *Merriam-Webster’s Dictionary of English Usage*
- *The Oxford Dictionary of American Usage and Style*

Appendixes C and H identify useful online and supplemental print resources.

For spelling, NCTM publications generally use the preferred form in *Merriam-Webster’s Collegiate Dictionary*, 11th edition. NCTM is an American publisher; therefore, British authors’ spelling is routinely changed to American style for readers, except in quoted matter.

Dictionaries reflect common usage—not necessarily correct usage. Just because we can say, “It’s in the dictionary,” a word is not necessarily correct in a particular context.
**NCTM-Specific Terms**

In general, NCTM recommends capitalizing terms that refer specifically to NCTM or its organizational structure, programs, events, and publications, for the purpose of highlighting NCTM in all Council communications.

Do not use *the* before *NCTM* unless the abbreviation is followed by another noun.

*Incorrect:* In general, the NCTM recommends capitalizing terms that refer specifically to the Council.
*Correct:* In general, NCTM recommends capitalizing terms that refer specifically to the Council.

*But,* The NCTM Board of Directors will meet in Indianapolis this month.
*Or,* NCTM's Board of Directors will meet in Indianapolis this month.

**Governance**

**Council**
Capitalize in all instances referring to NCTM to distinguish the National Council of Teachers of Mathematics from other councils.

**Board of Directors; Board**
Capitalize in all cases referring to NCTM's Board of Directors to set it apart from other boards: “the NCTM Board of Directors”; “the Board of Directors”; “the Board.”

**Affiliate; Affiliates**
Capitalize when referring to the college and university groups officially affiliated with NCTM. Such groups are called simply “Affiliates” rather than “affiliated groups.” NCTM has Partner Affiliates, Associate Affiliates, and Student Affiliates.

**Delegate Assembly**
Always capitalize; refers to the regularly scheduled gatherings of the officers and representatives of NCTM’s Affiliates at the annual meetings for the purpose of sharing common concerns and proposing resolutions for action by the Board of Directors.

**president; president-elect; past president; member of the Board; committee chair**
NCTM style regarding titles of NCTM officers essentially follows Chicago style. That is, capitalize official NCTM titles (such as *president, president-elect, and committee chair*) when they appear before specific officeholders’ names.

*Examples:* NCTM President George Prime; President-Elect Angela Avogadro; President Archie Archimedes; EMC Chair Holly Hilbert.

Lowercase official NCTM titles when they appear after current or former officeholders’ names.
Examples: Jose Racine served as NCTM president for two years; Benny Riemann is a member of NCTM’s Board of Directors; Tabitha Gauss is the chair of the NCTM Educational Materials Committee.

Lowercase NCTM designations that the Council does not consider as official titles. Such designations are convenient to use at NCTM but do not have the status of official titles.

Past president is an official title only when it designates an outgoing NCTM president in the first year after his or her term as NCTM president. It is simply a descriptive label when it designates all other former NCTM presidents. In such cases, it is lowercased both before and after the name: “NCTM past president Lois Dolciani”; “Lois Dolciani, past president of NCTM.”

NCTM does not use Board member as an official title for members of the NCTM Board of Directors, so it is not capped before a name: “Board member Andy Fibonacci.” NCTM does not generally use the term Director for a Board member.

Lowercase NCTM official titles when they appear on their own, unattached to anyone’s name: “NCTM elects a new president every two years and several new Board members each year.”

Inserting a modifier (such as newly elected) in front of an official title that appears before a name usually causes the title to lose its official status (“newly elected NCTM president Desmond Fermat”).

Examples of these guidelines in use:

• During her year as NCTM president-elect, Angela Avogadro closely shadowed Felix Fraction, the current NCTM president.
• During the past year, NCTM President-Elect Angela Avogadro closely shadowed NCTM President Felix Fraction.
• NCTM President Mary Dedekind and Board member Andy Fibonacci testified on STEM education before the House Education and the Workforce Committee.

Committees and Panels
Use initial caps with the names of specific committees established by the NCTM Board of Directors—for example, Educational Materials Committee. In subsequent references, use either “the committee” (lowercase) or the committee’s initials (in all caps). Show the initials in parentheses after the first appearance of the committee name in full before using the initials in subsequent references: “the Educational Materials Committee (EMC)…. The EMC…."

Likewise, use initial caps with the names of editorial panels serving the NCTM Board. Italicize names of specific publications in the panels’ names: “Mathematics Teacher Editorial Panel” (after the first reference: “MT Editorial Panel,” “the Editorial Panel,” “the panel”).

Chair is preferred to chairman, chairwoman, or chairperson.
Ongoing Programs and Events

**NCTM Annual Meeting and Exposition**
Capitalize designations of particular NCTM annual meetings.

*Examples:* 2012 Annual Meeting in Philadelphia; 2011 Annual Meeting and Exposition in Indianapolis

Lowercase *annual meeting* in instances that do not refer to a specific meeting. The same guidelines apply in the case of NCTM regional meetings and expositions.

Themes of meetings and conferences should appear in roman type, in quotation marks.

*Example:* The theme of NCTM’s 2012 Annual Meeting in Philadelphia is “Technology and Mathematics: Get Connected!”

**NCTM Regional Meeting and Exposition**
See *NCTM Annual Meeting and Exposition* above. The same guidelines apply.

**Mathematics Education Trust (MET)**
Through gifts and endowments, MET offers financial support in the form of scholarships and other awards to qualified preservice and in-service teachers of mathematics. Capitalize the names of particular grants and awards.

**E-Seminars Anytime**
Online professional development sessions offered by NCTM. The capital *E* is an exception to NCTM’s general treatment of *e*- to mean *electronic*.

**Research ABCs**
Analyses, Briefs, and Clips. Posted on NCTM’s website or disseminated as news releases.

**Illuminations**
NCTM’s extensive Illuminations website, funded by Verizon’s Thinkfinity program, features Standards-based resources to improve the teaching and learning of mathematics.

**Illuminations Summer Institute**
Mathematics teachers and teacher educators are invited to NCTM each summer to collaborate on the development of problems, activities, and other resources for the Illuminations website.

**Interactive Institutes**
NCTM’s Interactive Institutes typically occur in the summer and provide professional development that may extend in online format over the next school year, with optional college credit. “Interactive Institute” is capped; “institute” appearing on its own is lowercased. The titles of specific institutes should appear in roman type, in quotation marks.

*Example:* “Infusing the Classroom with Reasoning and Sense Making” is an upcoming Interactive Institute from NCTM.
Website and Online Presence

www.nctm.org
NCTM’s Web address should include “www” but in most instances does not need “http://.”

Illuminations website; http://illuminations.nctm.org
Offers materials to illuminate the vision for school mathematics set out in Principles and Standards for School Mathematics, Curriculum Focal Points for Prekindergarten through Grade 8 Mathematics, and Focus in High School Mathematics: Reasoning and Sense Making. Supported by the Verizon Thinkfinity program.

Calculation Nation® website; http://calculationnation.nctm.org
A part of the Illuminations website devoted to online number games for individual or team play. Always include the “registered” mark, as shown, to protect NCTM’s own trademark.

Figure This! http://www.figurethis.org
Offers problems to engage families in enjoying challenging, high-quality mathematics outside school.

www.nctm.org/more4u
Supplemental materials (activity pages, videos, etc.) for NCTM books, available to purchasers who go to the site and enter an access code for a particular title. Written in text as “More4U.”

Facebook

Twitter

Membership Categories

Individual Membership

e-Membership

Student e-Membership

PreK–8 School Membership
(Note that NCTM style generally prefers the form pre-K–grade 8.)

Emeritus Membership

Institutional Membership
**Headquarters**

**Headquarters office**
Capitalize *Headquarters* to designate NCTM’s Headquarters.

**Headquarters staff**
Collective noun; treat as singular.

**Intranet**
Capitalize to indicate NCTM’s network to disseminate information in-house to staff.
**NCTM Official Positions and Signature Publications**

NCTM's Mission Statement is the official statement of the Council's purpose, crafted and periodically reviewed and updated by the Board.

The Board also regularly considers and develops official positions to support teachers in securing resources to provide high-quality mathematics education for all students.

In addition, the Board occasionally determines the need for book-length presentations of the Council's official positions in certain areas of mathematics education, usually related to NCTM's Standards. The Board appoints writing groups and charges them with producing these signature publications.

**Mission Statement**

NCTM's Mission Statement appears on the copyright page of all NCTM books and on the masthead of all NCTM journals. The current wording of the statement, as updated in 2009, follows:

> The National Council of Teachers of Mathematics is a public voice of mathematics education, supporting teachers to ensure equitable mathematics learning of the highest quality for all students through vision, leadership, professional development, and research.

Use initial caps in all references to NCTM’s Mission Statement.

**Official Positions**

NCTM position statements are posted on the NCTM website. Each official position of the Council appears in a brief form, titled *NCTM Position*, and in a complete form, titled *NCTM Position Statement*.

Show the name of a particular position statement in quotation marks, with initial caps; identify it as an NCTM Position Statement; and give the date.


Use lowercase when referring to NCTM position statements in general.

**Signature Publications**

Publications that are official positions of the Council usually elaborate or clarify NCTM’s Standards, which identify goals and benchmarks associated with mastery of the content and processes of school mathematics. The following three publications articulate important interrelated official positions related to the Standards:

These three publications are often referred to in-house by their initials: FHSM, CFP, and PSSM, respectively. These abbreviations should be reserved for behind-the-scenes, unpublished communication and should not appear in any formal, public context. In all external communication, the titles should be given in full on their first appearance but may be shortened in subsequent appearances, as specified below.

A list of the members of the writing group that produced the publication appears in its front matter, but NCTM itself is considered to be the author of each of these books and should be so identified in all reference lists.

**Terminology related to signature publications**

**Standard; Standards**
Capitalize the S in a reference to an individual Standard or a group of Standards articulated by NCTM for mathematics learning. Use a lowercase s in a reference to a standard or standards established by other organizations.

**NCTM Standards publications; Standards publications**
Use one of these phrases, with the capitalizations shown, to refer to all or several of NCTM’s Standards-related publications. Do not italicize Standards and use it as a catch-all shortened title for NCTM’s Standards publications, as recommended previously.

**e-Standards**
Refers to the electronic version of Principles and Standards for School Mathematics, the Council’s most fully developed formulation of NCTM’s Standards.

**e-Examples**
The e-Standards are supported by a group of e-Examples that use interactive applets to illustrate learning and teaching aligned with the Standards.

**Other terminology.** In addition to the terms identified above, NCTM’s signature publications often introduce special terminology to identify important aspects of mathematics education. Such terms should be capitalized in other contexts when they appear in connection with the publications or specifically designate the concepts that NCTM articulates in these publications. The primary terms are identified below by publication:

• **Focus in High School Mathematics: Reasoning and Sense Making** (2009)
  
  **Shortened title**
  
  **Focus in High School Mathematics**
  
  For clarity, caution must be exercised in shortening this publication’s title, since a companion series, Focus in High School Mathematics, repeats the full title in each volume’s own title (Focus in High School Mathematics: Reasoning and Sense Making in Geometry, etc.). However, if the core publication, Focus in High School Mathematics: Reasoning and Sense Making, is unambiguously the subject of an extended discussion in a particular context, the title may be shortened to Focus in High School Mathematics without loss of meaning.

  **Key terms**
  
  **Reasoning Habits**
  
  **Key Elements**
• *Curriculum Focal Points for Prekindergarten through Grade 8 Mathematics: A Quest for Coherence* (2006)

Shortened titles

*Curriculum Focal Points for Prekindergarten through Grade 8 Mathematics*

*Curriculum Focal Points*

Key terms

Curriculum Focal Point; Curriculum Focal Points
Focal Point; Focal Points

• *Principles and Standards for School Mathematics* (2000)

This landmark publications updated and superseded NCTM’s earlier Standards publications:


Shortened title

*Principles and Standards*

Key terms

*Standard; Standards* (cap $S$ for a standard or standards articulated by NCTM)

*Expectation; Expectations* (cap $E$ for an expectation or expectations articulated by NCTM in relation to a Standard or Standards. Used almost exclusively in the phrase “Standards and Expectations.”)

Content Standards

- Number and Operations Standard
- Algebra Standard
- Geometry Standard
- Measurement Standard
- Data Analysis and Probability Standard

Process Standards

- Problem Solving Standard
- Reasoning and Proof Standard
- Communication Standard
- Connections Standard
- Representation Standard

*Principle, Principles* (cap $P$ in reference to a principle or principles established by NCTM)

- Equity Principle
- Curriculum Principle
- Teaching Principle
- Learning Principle
- Assessment Principle
- Technology Principle
**Electronic Terms**

The following list shows common terms associated with electronic technology and indicates how to treat them in NCTM material.

*Note that NCTM journals show the symbol ® or the symbol™ after the first mention of a product that is, respectively, a registered trademark or an unregistered trademark. Appendix I lists such products and identifies the appropriate symbol for each entry in the list.*

**app**

Short for *application*; generally used for software designed for a smartphone. Acceptable in informal contexts.

**applet**

A small, specific application; at NCTM, generally allows users to explore a particular mathematical concept by interactive experimentation.

**audio-**

Combining form; usually closed up in formations: *audiobook, audiocassette, audiotape.*

**BlackBerry**

Use the generic term *smartphone* if possible.

**browser**

A software application that enables a computer user to connect with the World Wide Web and traverse, interact with, and retrieve resources available on the Web.

**CD**

*Compact disc; do not spell out.*

**CD-ROM**

*Compact disc read-only memory; do not spell out.*

**cell phone; mobile phone; wireless phone**

Interchangeable terms. Use the complete phrase instead of the single word *cell or mobile.*

**cyber-**

Combining form; usually closed up in formations: *cyberattack, cybercafe, cybernetics, cyberspace, cyberwars.*

**DOI**

*Digital object identifier; do not spell out.*

**domain name**

**dot-com**
**download** (n., v., and adj. [as in *download speed*]); **downloadable** (adj.)

**dropdown** (adj.); **dropdown menu**

**DVD**
*Digital video disc*; do not spell out.

**e- or e**
Lowercase combining form meaning *electronic*. With common nouns, a hyphen usually follows *e* to ensure readability: *e-book, e-commerce, e-zine, e-publication* (sometimes shortened to *e-pub*). The exception is *email*, now generally accepted in closed form. With most proper nouns, including many product names, *e* is closed up to a capital letter, as in NCTM’s eBooks and eChapters. Note that as an exception to the lowercase *e*, NCTM’s professional development series *E-Seminars Anytime* uses a capital *E*. In titles of more than one word, *e* is followed by a hyphen instead of being closed up: *e-Summing Up*. At the beginning of a sentence, *e* is uppercase only when it is followed by a hyphen.

*Examples:* E-zines are gaining in popularity.
*Example:* eBooks are available for all NCTM publications.

**eBook; eChapter**
NCTM product lines; do not hyphenate.

**e-business; e-commerce**
Commerce conducted electronically over the Internet.

**e-reader**
*Electronic book reader*; do not spell out. Use the generic term *e-reader* instead of a brand name such as Nook, Kindle, Sony Reader, and so on.

**e-Standards**
*Principles and Standards for School Mathematics* in electronic format, supported by e-Examples.

**e-Summing Up**
NCTM’s electronic newsletter.

**e-TOC**
Electronic table of contents for an upcoming issue of an NCTM journal, disseminated to members in advance by email.

**E-Seminars Anytime**
NCTM professional development opportunities delivered online. Capital *E*.

**electronic mailing list**
Use this generic term instead of *Listserv*.

**Fax; facsimile**
*Fax* is much more common today than *facsimile*. 

16
FTP; FTP site
File transfer protocol. Do not spell out.

Google (v.)
Slang, meaning to seek information online by using a Web search engine. Avoid in formal contexts.

handheld (adj.)
Used to describe electronic devices held in a hand; do not use as a noun.

home page
Probably will become a single word but currently appears more often as two.

HTML
Hypertext markup language; do not spell out.

http
Hypertext transfer protocol. Include the protocol http in Internet addresses in references and running text. Do not capitalize even if it follows a period.

hyperlink (n. and v.)

Internet

Intranet; intranet
Capitalize in references to NCTM’s Intranet; lowercase in other instances.

iPad
Use the generic term tablet computer or tablet if possible.

iPod
Use the generic phrase portable media player if possible.

laptop

Listserv
A trademark for software that manages electronic mailing lists. See electronic mailing list.

login (n.); log in (v.)
Use log in to instead of log into.

logon (n.); log on (v.)
Use log on to instead of log onto.

Macintosh; Mac
Use a generic term such as personal computer if possible.
**metatag**
Element used to provide additional data in a Web page.

**More4U**
Additional material for NCTM books, accessible at www.nctm.org/more4u to purchasers who enter an access code keyed to a particular book.

**offline**

**online**

**Net**
Short for *Internet*. Informal, as in “surfing the Net.” In most contexts, use *Internet* instead.

**ON-Math**
An online-only school journal published by NCTM (2002–2009), featuring videoclips and interactive applets.

**palmtop computer**
A handheld digital device that serves as a personal information manager and connects to the Internet. See also **PDA**.

**PC**
Stands for *personal computer* but is closely associated in practice with a computer running on a Microsoft Windows operating system, as opposed to a Mac.

**PDA**
*Personal digital assistant*; do not spell out. A palmtop computer that stores information such as addresses and telephone numbers and performs simple word-processing and spreadsheet functions.

**PDF** (n. and v.)
*Portable document format*. Do not spell out.

**personal computer**
Use as a generic term in place of Mac or PC if possible.

**PowerPoint; PowerPoint presentation**

**QR code**
Abbreviation for “quick response code.” A matrix barcode that is readable by a smartphone and gives access to information on the Web.

**real time** (n.); **real-time** (adj.)

**search engine**

**SGML**
Standard generalized markup language, do not spell out.

**smartphone**
Use as a generic term (in lieu of a brand name such as iPhone or BlackBerry) for a wireless phone with Internet capability.

**software programs**
Show the names of specific software programs in roman type with initial caps and the manufacturer’s spacing (e.g., PowerPoint, The Geometer’s Sketchpad, Excel).

**tablet computer; tablet**
A microcomputer that accepts data directly on an LCD screen by means of a stylus or the touch of a finger. Use as a generic term (in lieu of a brand name such as iPad).

**URL**
Uniform resource locator; do not spell out. Include the protocol (http, ftp, etc.) with URLs provided in text or references. Do not capitalize a URL even if it follows a period. If it is necessary to break a URL at the end of a line, break it in a way that helps to signal that it continues—after a colon or a double slash, or before a period, single slash, tilde, comma, hyphen, underscore, question mark, number sign, or percent sign. (URLs may be broken either before or after an equals sign or an ampersand [see Chicago 14.12].)

**username**

**videoconference**

**videoclip**

**videocassette; videotape**
Somewhat outmoded video technologies.

**Web; website**
Capitalize Web to differentiate it from web used in any sense and clearly indicate the World Wide Web, but lowercase website and show it as one word.

**web-**
As a combining form, web- is generally closed up to the noun that follows: webinar, webmaster. But web page.

**website**
Show as one word, lowercased.

**World Wide Web (www)**

**XML**
Extensible markup language, do not spell out.
Education Terms

The following list has three sections. The first is a general section, showing how to treat terms that are used across disciplines in education. The second gives guidance on terms that are particular to mathematics education. The third shows how to treat a sampling of terms for specific equipment or materials that are used in mathematics classrooms.

Note that NCTM journals show the symbol® or the symbol™ after the first mention of a product that is, respectively, a registered trademark or an unregistered trademark. Appendix I lists such products and identifies the appropriate symbol for each entry in the list.

General

achievement gap

activity sheet
Page supplied for students’ use in working on a task; use instead of worksheet.

adequate yearly progress (AYP)
Benchmark in the No Child Left Behind Act.

ACT
Formerly known as American College Testing. A national standardized assessment used in college admissions, developed as a competitor for the SAT and sometimes taken in place of or along with it. Pronounced as initials and identified only by them.

Advanced Placement (AP)
Capitalize when spelled out; proprietary name of an internationally recognized program. Capitalize names of specific Advanced Placement courses: Advanced Placement Calculus; AP Calculus; AP Calculus exam. Similar treatment for International Baccalaureate (IB).

aha moment; eureka moment
Quotation marks are unnecessary.

assessment
More commonly used today than evaluation to denote a measurement of students’ learning. Assessments are of different types, including formative assessment, summative assessment, and diagnostic interview.

attention deficit disorder (ADD)

attention deficit hyperactivity disorder (ADHD)

benchmark (n. and v.); benchmarked (adj.)

board
Use instead of blackboard, whiteboard, chalkboard (or, depending on context, even SMART Board).

**brainstorm** (v.); **brainstorming** (adj.)

**child care** (n.); **child-care** (adj.)

**children with challenges**
All children face challenges. Do not use as a description of children who struggle to learn mathematics; use *students with special needs, high needs students, or students with disabilities.*

**Common Core State Standards (CCSS); Common Core Standards**
**Common Core State Standards for Mathematics (CCSSM)**
K–12 standards for college and career readiness, released in 2010 by the state-led Common Core State Standards Initiative, spearheaded by the National Governors Association Center for Best Practices and the Council of Chief State School Officers. Developed to bring coherence to curricula across the United States in the teaching of mathematics (CCSSM) and English language arts.

Show in roman type in regular text when specifying the standards themselves, in total or in part, rather than the publication, but italicize in all citations, to indicate the publication. The full bibliographical citation for CCSS and CCSSM follows:


CCSSM includes Standards for Mathematical Practice and Standards for Mathematical Content, which address core mathematics processes and content, respectively. CCSSM’s Standards for Mathematical Practice are closely related to NCTM’s Process Standards (Principles and Standards for School Mathematics) and Reasoning Habits (Focus in High School Mathematics: Reasoning and Sense Making).

Show the names of these two classes of standards within CCSSM with initial caps.

**complex instruction**

**coursework**

**critical thinking; critical thinking skills**
No hyphen; do not substitute synonyms for *critical*, which has particular meaning in this phrase.

**curriculum** (sing.); **curricula** (pl.; not curriculums); **curricular** (adj.)

**data**
Always plural. If a singular noun is desirable, use *information.*
data-driven (adj.)

decision maker; decision making (n.); decision-making (adj.)

diagnostic interview
One-on-one formative assessment.

differentiated instruction
Specific, individualized instruction.

education association
An education association is an association focused on education; do not use educational association.

Elementary and Secondary Education Act (ESEA)
Far-reaching federal education legislation, continually revised and reauthorized since its enactment in 1965 as part of Lyndon Johnson’s War on Poverty. Called the No Child Left Behind Act in its reauthorization during the presidency of George W. Bush. Currently in the reauthorization process.

elementary school (n. and adj.)
No hyphen in any position. Today, elementary school usually designates kindergarten–grade 5; previously, it commonly meant education through grade 6. Sometimes the adjective phrase elementary school is clearer in context than the single word elementary. For example, the phrase “elementary school learning” denotes a specific level of education in a neutral way, whereas “elementary learning” may be interpreted as a basic level of achievement, possibly in a disparaging or derogatory sense.

English as a foreign language (EFL)

English as a second language (ESL)

English for speakers of other languages (ESOL)

English language learner (ELL); English language learners (ELLs)

faculty
Collective noun; treat as singular; same for staff.

field test (n.); field-tested (adj.); field-test (v.)

formative assessment
Open in any position.

general education
Use instead of regular education in differentiating from special education.

gifted; gifted and talented
Use only as adjectives (*gifted students, gifted and talented education*); no hyphens in *gifted and talented*. Do not use as nouns (*the gifted, education for the gifted and talented*). Gifted and talented education is sometimes referred to by the initialism *GATE* or as *GT education*. See also *learning disabled gifted and talented (LDGT) students*.

**grade; grade level (n.); grade-level (adj.)**
The school grades are conventionally the *numbered* levels 1–12; kindergarten (K) and prekindergarten (pre-K) are not, strictly speaking, *grades*. The phrase “pre-K–grade 12” is therefore preferable to the phrase “grades pre-K–12.” To denote a particular grade level, use a cardinal number after *grade* (e.g., grade 2) or an ordinal number (spelled out) before *grade* (e.g., second grade). Use a hyphen between an ordinal number and *grade* in an adjectival phrase (e.g., second-grade students), but *grade* followed by a cardinal number should be open in such a phrase (e.g., grade 2 students).

**hands-off; hands-on (adj.)**

**high-needs (adj.)**
A student or students with special needs: *high-needs student; high-needs students*.

**high school**
Grades 9–12. Also called *secondary school*. Not hyphenated in any position.

**holistic**
Do not use the variant *wholistic*.

**homeschool (n., adj., v.); homeschooler or homeschool student**

**incentivize**
Jargon; do not use. Substitute “provide an incentive for.”

**individualized education program; individualized education plan (IEP)**

**in-service (adj.); preservice (adj.)**
*Preservice* and *in-service* both appear in *Webster’s*, the first closed up, and the second with a hyphen. Thus, the adjectives that we customarily use to designate, respectively, those who are preparing to enter the teaching profession and teachers whose careers are under way are not parallel in form.

**Individuals with Disabilities Education Act (IDEA)**
An updated version of an earlier law, the *Education of All Handicapped Children Act of 1975*.

**International Baccalaureate (IB) program**
See Advanced Placement.

**Iowa Tests of Basic Skills (ITBS)**

IRE
Common questioning pattern: a teacher *initiates* a question, a student *responds*, and the teacher *evaluates* the student’s response as either right or wrong.

**Kindergarten (K)**
See grade.

**KWL**
A three-part instructional framework for helping students consider (1) what they *know*, (2) what they *want* to know (or learn), and (3) what they have *learned*.

**Learning**
Singular; not *learnings*. Same for *understanding*.

**Learning disabled gifted and talented (LDGT) students**
No internal punctuation. Also known as *twice exceptional children*.

**Limited English proficiency (n.); limited-English-proficient (adj.)**

**Mentor (n. and v.); mentoring (adj.); mentee**

**Middle school; middle grades**
Usually designates grades 6–8; sometimes refers to grades 5–8. Not hyphenated in any position.

**Multiple choice (n.); multiple-choice (adj.)**

**Multiple intelligences (n.); multiple-intelligences (adj.)**

**National Assessment of Educational Progress (NAEP)**

**National Board certification (n.); National Board–certified (adj., with en dash); National Board Certified Teacher (NBCT); National Board Certified Teachers (NBCTs)**

**National Merit Scholar**

**NCATE standards; National Council of Accreditation for Teacher Education (NCATE) standards**

**No Child Left Behind Act (NCLB)**
See *Elementary and Secondary Education Act*.

**Outcome-based education (OBE)**

**On task, off task (adv. or adj. not followed by a noun); on-task, off-task (adj. preceding a noun). “He remained on task.” “Her off-task discussion was distracting.”**

**Paper-and-pencil test; paper-and-pencil activity**
(Or the reverse: pencil-and-paper test; pencil-and-paper activity.)

**policy maker; policy making** (n.); **policy-making** (adj.)
Chicago style formerly recommended closing up *policy maker* as one word, but recent editions have backed away from this departure from Webster's.

**prekindergarten (pre-K)**
The shortened form *pre-K* is preferred to *PK* or *preK*. See also **grade**.

**preservice**
See **in-service**.

**Postsecondary** (adj.)
Usually means formal study after high school.

**pretest; posttest** (n. and adj.)

**primary grades; lower grades**
Generally, kindergarten–grade 2. Not hyphenated in any position. **Primary grades** is more common than **lower grades**.

**prioritize**

**problem-based learning (PBL)**

**problem solver; problem solving** (n.); **problem-solving** (adj.)

**professional learning community (PLC)**

**pull-out program**

**read aloud** (n.)

**real world** (n.); **real-world** (adj.)

**regular education**
Use **general education**.

**results-based**

**risk taking** (n.); **risk taker** (n.); **risk-taking** (adj.)

**role-play** (v.); **role playing** (n.); **role-playing** (adj.)

**SAT; SAT Reasoning Test (SAT I); SAT Subject Tests (SAT II)**
Originally, the test devised by the College Board and referred to as the *SAT Reasoning Test* (or *SAT I*) was called the *Scholastic Aptitude Test* (or later, the *Scholastic Assessment Test*). The *SAT*
Subject Tests (also known as SAT II) were formerly known as the Scholastic Achievement Tests. The College Board website does not currently attach words to the initials SAT.

SATs; SAT scores

scaffold (n., v.)
Has a particular meaning in education and is widely used; however, providing a brief description can be helpful in some contexts. To scaffold learning is to erect a structure that allows students to advance with maximum independence from the level that they have mastered to the next level that they are capable of attaining.

School Improvement Program (SIP)
Title I School Improvement Program.

school-based management (SBM)
Sometimes site-based management.

school-age children
Not school-aged children.

schoolchildren

schoolwide

scope and sequence (n.); scope-and-sequence (adj.)

seatwork

secondary school

sense making (n.); sense-making (adj.)

SMART Board
Interactive whiteboard developed by SMART Technologies. Use interactive board if possible.

socioeconomic status (SES)
The abbreviation SES is often modified by the adjective low (e.g., low SES students) in reports examining disparities in achievement among students grouped by demographic, ethnographical, cultural, or economic characteristics. In some contexts, the meaning of SES can be assumed to be clear to the audience, but in most contexts, the term should be spelled out on the first appearance.

special education
See general education.

special needs (n.); special-needs (adj.)
standardized test; standardized testing

Standards of Learning (SOLs)

STEM; STEM education
Acronym for science, technology, engineering, and mathematics education. In some contexts, the meaning of STEM can be assumed to be clear to the audience, but in most contexts, the term should be spelled out on the first appearance.

strategize

student teacher
Not hyphenated in any position.

students with disabilities; students with special needs

subject area (n.); subject-area (adj.)
Lowercase school subjects unless they are proper nouns (e.g., geometry, history, English), but capitalize the names of particular courses.

subject matter (n.); subject-matter (adj.)

summative assessment

teachable moment
Quotation marks are unnecessary.

teacher leader
A teacher leader has professional responsibility that exceeds that of a classroom teacher, contributing his or her time and talents to the educational community or to special interest groups in that community. Do not hyphenate in any position.

Third International Mathematics and Science Study (TIMSS)

turnaround school
Federal designation for a low-performing school that has made dramatic improvement.

twice exceptional children
Do not hyphenate.
See learning disabled gifted and talented students.

understanding
Use the singular, rather than understandings. See learning.

upper elementary grades; upper grades
Generally, grades 3–5.
Western Civilization

worksheet
Activity sheet is preferable.

yes-or-no questions

Mathematics Education

AAA
Similarity theorem for triangles, sometimes written as “angle-angle-angle.” Letters are roman.

AAS; ASA; SAS; SSA; SSS

box-and-whisker plot

box plot

Cartesian; Cartesian plane; Cartesian grid

“chunking” numbers

data set

distributive property of multiplication over addition; distributive property
Give whole name the first time. All properties of numbers and operations are lowercase.

dot plot

double count

equals sign
Use instead of equal sign. This equals that.

fundamental theorem of arithmetic; law of large numbers; as so on.
Lowercase laws, theorems, and the like, according to Chicago style (see Chicago 8.147).

greatest common factor (GCF)
The initials GCF are customarily roman.

least common denominator (LCD)
The initials LCD are customarily roman.
least squares line of best fit; least squares line of fit; least squares regression line
Some NCTM publications have hyphenated “least squares”; leaving the phrase open is more conventional.

line $A$; segment $AB$; point $P$; angle $ABC$; and so on.
See Appendix D, Geometric Symbols and Terminology. In general, italicized letters used for lines, segments, angles, and so on, appear either after a word descriptor, such as line or angle, as above, or in association with a symbol (e.g., $AB$, $\angle ABC$). Using both words and symbols is redundant.

line of best fit

mathematical discourse community (MDC)

mathematize (v.)

mental math

$N$, $n$
In statistics, capital $N$ refers to population size, and lowercase $n$ refers to sample size.

ordered pair
Show in parentheses, with a comma followed by a space: $(x, y)$, $(4, 52)$

part-whole relationship

Pascal’s triangle; Pythagorean theorem; and so forth.
Capitalize only the proper names, which often appear in possessive or adjectival forms.

place value (n.); place-value (adj.)

relatively prime numbers

regression equation

scatterplot

skip-count (v.); skip counting (n.)

stem-and-leaf plot

story problem
Used more frequently today than word problem.

$x$- and $y$-values; $x$- and $y$-axis

$xy$-plane
zeros
Use instead of zeroes.

Materials in the Mathematics Classroom
base-ten blocks
blackline; blackline master
counters
connecting cubes
Cuisenaire rods
dot paper
five-frame
flip chart
geoblocks
geoboard
geodot paper
The Geometer’s Sketchpad
GPS
Global positioning system; no need to spell out in most contexts.
grid paper
Use instead of graph paper.
hundred chart; hundred board
isometric dot paper; isodot paper
math manipulative; manipulative aid
Mira
A small plastic product that creates a reflection of a figure.
number cube
pan balance
Or just balance.

pattern blocks

place-value blocks

random number generator

semilog graph paper

ten frame

**TI-84**
Identify calculators by the maker and model number. *TI* is widely known to stand for *Texas Instruments* and may be used with the model number.
Guidelines for Style and Usage

Abbreviations

- Restrict the use of most abbreviations to parentheses, tables, or other locations where space is at a premium.

- **U.S.**
  Show with periods, and use only as an adjective. Spell out “United States” as a noun.

- **Academic degrees:**
  
  Bachelor of Arts (BA); bachelor’s degree; bachelor’s  
  Master of Arts (MA); master’s degree; master’s (master’s thesis)  
  Doctor of Philosophy (PhD); doctorate; doctoral degree (PhD dissertation; doctoral dissertation; doctoral thesis)  
  Doctor of Education (EdD)

  Show abbreviations without periods, as above. In general, NCTM does not include degrees with authors’ or members’ names.

- **Acronyms and other abbreviations formed from initials** (*initialisms*): Show in parentheses after the first appearance of a fully spelled-out name—for example, “National Council of Teachers of Mathematics (NCTM).” If the abbreviated form is not used subsequently in text, introducing it is unnecessary, and it should usually be omitted. Note that *the* does not ordinarily precede acronyms or initialisms and that these short forms are customarily treated as singular, even if the full names are plural:

  *Example:* The Common Core State Standards (CCSS) were released in the summer of 2010. Forty-five states have plans to implement CCSS.

  Some acronyms or initialisms form the plural by adding a lowercase *s*—for instance, *SOLs* to refer to Standards of Learning in the state of Virginia; *ELLs* to refer to English language learners.

  Many organizations are currently registering initials as their legal names—for example, AOL (formerly, *America Online*); NPR (formerly, *National Public Radio*); the Y (formerly, *YMCA, Young Men’s Christian Association*). Identify such organizations in reference lists and most text by the initials alone. However, such an identification occasionally represents a loss in meaning in text or a list; in such a case, it can be helpful to reverse the convention described above by giving the abbreviated form first, followed by the former full name in parentheses, preceded by *formerly or formerly known as*—for instance, ASCD (formerly, the Association for Supervision and Curriculum Development).

- **State abbreviations:**
  
  NCTM books use the traditional state abbreviations (e.g., Calif.) in reference lists.  
  NCTM journals and conference program books use the two-letter abbreviations (e.g., CA) to conserve space.  
  *Summing Up* and news releases use the traditional abbreviations for parenthetical references—for example, “Harry Reid (D-Nev.).”

  Spell out the names of states in running text.
• **Units of measure:** Metric abbreviations appear without periods (e.g., cm, mg, dL; abbreviate liter as L instead of l for readability). Metric abbreviations for time differ from customary (English) abbreviations for the same units (e.g., s vs. sec.). Abbreviations of customary units take periods (e.g., ft., yd.).

  **NCTM books** omit the periods in mathematical expressions involving operations—for example, “2 ft + 3 ft” instead of “2 ft. + 3 ft.” “ft/sec” instead of “ft./sec.”

  **NCTM Journals** retain the periods in all expressions using customary abbreviations.

Units of measure are usually spelled out in running text.

• **Types of files:** In text referring to a file type, use all caps (e.g., PDF, JPEG, TIFF).

• **Saint; St.**

  In text, capitalize and spell out saint in the names of saints. However, follow customary practice or known preferences in the names of people, places, organizations, or publications (e.g., St. Louis, Missouri; St. Mary’s College of Maryland). If you are unable to determine common practice or personal preference, spell out Saint in the name. (See *Chicago* 10.26 and 10.27).

• **Eras:** Use BCE (before the Common Era) and CE (of the Common Era) instead of BC and AD, respectively. Both BCE and CE should appear without periods and follow the year (e.g., 513 CE). NCTM books sometimes show BCE and CE in small caps, but such treatment is unnecessary.

**Active Voice**

Sentences with verbs in the active voice are generally stronger and more direct than sentences with verbs in the passive voice. In active constructions, the subject of the verb is the *doer* rather than the *receiver* of the action of the verb, as in passive constructions.

  *Passive voice:* Larry was tagged out by Mary after he was waved home by Jeanne.

  *Active voice:* Mary tagged Larry out after Jeanne waved him home.

Recast sentences and clauses that appear in the passive voice as constructions in the active voice when doing so is possible and effective. Try to minimize the use of passive constructions.

**Campuses of Universities**

To determine how to represent the names of colleges and universities, check their websites. Clicking on “About” on the home page is often a useful way to find an official name. The Association of American Colleges and Universities maintains an extensive list of member institutions of higher education. The list has links to each member’s website and can be bookmarked for quick reference:

  [http://www.aacu.org/membership/list.cfm](http://www.aacu.org/membership/list.cfm)

Some institutions use a comma to set off a place name (e.g., California State University, Northridge). If such a name appears in the middle of a clause, a second comma should follow the place name. Other institutions use a dash to set off a place name; use an en dash
in these cases (e.g., University of Wisconsin–Madison) with no punctuation after the place name (see *Chicago* 6.46 and 6.81). Some universities retain “at” in their names, such as the University of Texas at Austin. Do not use the word *The*, with a capital *T*, as the first word in the name of a university or college unless the institution’s website clearly indicates that *The* is part of the official name (Penn State is an example of one such university—the website gives “The Pennsylvania State University” as the official name).

**Capitalization**

- Entities within NCTM: See NCTM-Specific Terms for words that are capitalized when they refer to NCTM entities (e.g., Council, Board, Affiliate, Standard).

- Names of committees: Use initial caps, but lowercase the word committee when it is used alone to refer to the committee (see NCTM-Specific Terms).

  *Example*: We will meet with the Regional Services Committee tomorrow. Members of the committee will furnish the names of volunteers.

- Titles of persons: Capitalize when they precede the name; lowercase when they come after the name (see NCTM-Specific Terms).

  *Example*: NCTM President Jane Taylor will speak on fractals. James Prime, NCTM president-elect, will preside at the meeting.

- In titles of works, always capitalize the first and last words; capitalize all other words except *a*, *an*, *the*, prepositions, and coordinate conjunctions.

- School subjects and courses: Lowercase general subjects (e.g., algebra, geometry, trigonometry), except for proper nouns (e.g., Euclidean geometry, American history, French). Treat first-year algebra and second-year algebra (often called *algebra 1* and *algebra 2*, respectively) as generic subjects and use arabic numerals to designate the year. Capitalize course names that identify a special topic for study (e.g., Problem-Solving Strategies in Geometry). Capitalize Advanced Placement (AP) and International Baccalaureate (IB) and the names of specific AP and IB courses (e.g., AP Calculus AB).

- **OK**

  Use the two-letter form with no periods instead of *okay*.

- Laws, theorems, principles, and the like: Capitalize only associated proper names (e.g., Moore’s law, Avogadro’s theorem, law of cosines). (See also Titles below.)

- The initial letter in a quotation: It is permissible to change an initial letter in the first word in quoted material to a capital or lowercase letter to conform to the surrounding text. If a quotation that is only part of a sentence in the original forms a complete sentence as quoted, an initial lowercase letter may be changed to a capital where the structure of the text suggests it. (See *Chicago* 13.13.)

- Conference themes: Capitalize and show in quotation marks.

  *Example*: The theme of NCTM’s 2011 Annual Meeting was “Geometry: Constructing and Transforming Perspectives.”
• Seasons: Lowercase in ordinary use in running text; uppercase in reference citations.

• state

Capitalize state when it appears as part of a proper noun: New York State.

Constructions

NCTM publications almost always spell out pronouns plus forms of to be rather than using contractions such as be’s, we’re, you’re. However, these and other contractions are acceptable and conventional in marketing and Web copy and in copy for e-Summing Up.

NCTM publications usually spell out not in cannot, should not, do not, and the like, rather than using a contraction such as can’t, shouldn’t, don’t, and so on. The complete forms give emphasis to the not while maintaining a more formal tone. However, contractions that shorten not to n’t are permissible when they are appropriate to the tone and context. Contractions appear often in dialogue in NCTM materials and should not be changed.

he’s; she’s; it’s

Note that an apostrophe followed by an s forms a contraction for is, not has.

Incorrect: He’s run for president twice in the past. For years, it’s been his fondest wish to hold a high office.

Correct: He has run for president twice in the past. For years, it has been his fondest wish to hold a high office.

let’s

The contraction let’s is common in NCTM publications; let us would seem stiff.

Dates

Use the conventional month, day, year style (September 3, 2003) rather than an inverted style (3 September 2003).

Write out the month instead of using a number: October 11, not 10/11 or 10-11.

Use a cardinal number rather than an ordinal number in a date: May 15, not May 15th.

Do not use a comma between month and year in a date given in month-year form (September 2003), but use a comma after the year in a date given in month-day-year form if the date appears in running text: “On September 3, 2003, Maria announced her decision.”

Ellipsis Points

Use three dots to indicate an omission within a quotation. A three-dot ellipsis may indicate an omission within a sentence or a longer passage. When the last part of a sentence is omitted in a quotation that continues beyond that sentence, use four dots to indicate the end of the sentence and the omission. The first word of the sentence following the four dots may be capitalized even though it is not the first word of the sentence in the original. Do not
mark an omission at the beginning or the end of a quotation with an ellipsis. A three-dot ellipsis may also be used to indicate faltering speech or speech that trails off.

**Hyphens and Related Matters**

Compound words that are not hyphenated cannot be hyphenated (e.g., audiotapes and videotapes; *not* audio- and videotapes).

**Closed-up words**

- blackline
- classwork
- coursework
- eBook, eChapter (*for NCTM product lines*)
- guideline
- login (n.)
- nonprofit
- ongoing
- online
- prealgebra, precalculus
- schoolchildren
- schoolteacher
- schoolwork
- socioeconomic
- timeline (usually appears as one word, according to Webster’s)
- timetable
- toolbox
- website

**Hyphenated words**

- box-and-whisker plot
- CD-ROM
- child-care (adj.): *child-care center*
- e-reader
- e-Standards
- fourth-grade (adj.): *fourth-grade students*
- health-care (adj.): *health-care reform*
- middle-grades (adj.): *middle-grades students*
- off-site (adj. and adv.): *off-site training, day care, off-site*
- on-site (adj. and adv.): *on-site registration, printed on-site*
- second-year (adj.): *second-year algebra*
- self-aware (*similarly, self-conscious, self-assessment*)
- skip-count (v.)
- ten-frame (*similarly, ten-bar, hundred-square, etc.*)
toll-free call (*but* “call toll free”)
two-year-old (n. and adj.)
warn-up (n. and adj.)

Adjectives modified by *well, lesser, and so forth*, are hyphenated before the noun (e.g., a well-educated public) and open after a noun (e.g., the public was well educated).

**Open phrases**
- African American student (in general, do not hyphenate descriptions of people)
- algebraic thinking activities
- blackline master
- child care (n.)
- cooperative learning groups
- count on (v.; e.g., “To solve the problem, we count on from seven”)
- cross multiplication
- decision maker; decision making (n.)
- early childhood education
- fourth grade, fourth graders (n.)
- game board
- group work
- health care (n.)
- hundred board, hundred chart
- log in (v.)
- mathematics education community
- mathematics teaching force
- Native American student
- peer assessment
- policy maker; policy making (n.)
- professional development program
- reform mathematics movement
- road map (n.)
- skip counting (n.)
- special education class
- staff development seminar
- teacher education programs
- tool kit
- under way
- warm up (v.)
- whole number system

**Dual nouns**
Chicago style hyphenates noun-noun phrases in which the nouns designate different roles, with both roles equal (e.g., philosopher-king). In education, such phrases are often open by
custom. For example, although *student teacher* designates a student who is also a preservice teacher fulfilling a classroom-training requirement, *student teacher* is customarily open. Likewise, *teacher leader*, designating a teacher whose responsibilities go beyond classroom duties to roles of leadership in other areas, usually appears open.

**Italics**

- Italicize words used as words and letters used as letters (e.g., “Authors tend to overuse *provide*”), but show letter grades in roman (e.g., “He received an A on his geometry test”).
- Italicize mathematical variables. However, when variables appear in an italic context, they should not be reversed into roman.
- Italicize letters used for sets (e.g., set $A$), $P$ (or $p$) for probability, $C$ for combination.
- Use italics to mark the titles of books, periodicals, published reports, plays, movies, major musical works, television programs, and so on. The titles of individual poems are usually shown in quotes unless they are very long.

**Lists**

All entries in lists should be parallel in form. This rule also applies to second- and third-order subheads in books and articles, since these subheads represent lists in outline form. Lists can be vertical or horizontal, depending on length, complexity, and desired visual impact.

**Horizontal, run-in lists**

Short, relatively simple lists can be “run in” horizontally with regular text. Introduce each item by an arabic numeral or a lowercase italic letter enclosed in parentheses if doing so increases clarity.

*Example:* The three ideas that the students needed to understand were (1) that an isosceles triangle has two equal sides, (2) that a triangle that has two equal sides also has two equal angles, and (3) that if an isosceles triangle is a right triangle, then each of the two equal angles measures 45 degrees.

**Vertical lists**

Longer lists are often more effective in vertical arrangements. Use a bullet, a number (followed by a period), or a letter (lowercase italic, enclosed in parentheses) to introduce entries in vertical lists. Vertical lists are of two types, depending on their syntactical relationship to the sentence that introduces them:

*A vertical list following a colon.* A vertical list follows a colon only if the sentence that introduces it forms a complete thought (is an independent clause, with a subject and a verb). Such a list has the following characteristics:

- The first letter of each item is capitalized.
- No punctuation appears at the end of any item, including the last, unless the item is a complete sentence, which takes a period.
A vertical list following an em dash. A vertical list follows an em dash if its items are syntactically necessary to complete the sentence that introduces it. In such a list—

- the first letter of an item is lowercase;
- a semicolon appears at the end of each item except the last, which has a period; and
- the inclusion of and is permissible before the last entry, after the semicolon at the end of the next-to-last item.

When a list follows an em dash, the syntax of the sentence that includes the list frequently calls for and before the last item.

Note that any list, whether vertical or run in, must enumerate the items if the text that precedes it specifies the number of items. However, any list may be enumerated for clarity, even if the text that precedes it does not specify the number of items.

Mathematics and Symbols

- If it is necessary to break an equation at the end of a line in running text, make the break after an operation sign or relation symbol (×, =, >, <, etc.).

- If it is necessary to break an equation that is displayed (set off from the regular text), make the break before an operation sign or a relation symbol.

- By convention, no punctuation follows a displayed equation that is preceded by a colon. In such a case, the sentence that introduces the equation forms a complete thought (it is an independent clause, with a subject and a verb). In contrast, when a displayed equation is syntactically part of the sentence that introduces it, it is followed by any punctuation (e.g., comma, period) that the syntax requires.

- In general, spell out percent after a numeral in text. The symbol % can be used some contexts: in parentheses, in problems presented to students, and in tabular and other close-set matter. It can also be used instead of the word percent in math-intensive material where the symbol is more conventional than the word.

- By convention, the shortened forms of metric units are regarded as symbols, not abbreviations, and thus do not take periods (e.g., cm, k, g, L).

  NCTM books omit the periods after the abbreviations of customary English units in operations (e.g., 2 ft + 3 ft = 6 ft; 10 mi/5 sec).

  NCTM journals retain the periods in operations (e.g., 2 ft. + 3 ft. = 6 ft.).

- Use a bold italic lowercase letter or an arrow over a regular italic letter to designate a vector.

- By convention, when a decimal fraction cannot be greater than 1, such as a probability, correlation, or proportion, it is reported without a leading zero.

- The measure of an angle—say, \( \angle ABC \)—is represented symbolically as \( m\angle ABC \), with an italic \( m \).
• Do not use a Greek delta (Δ) to stand for a triangle. If a triangle symbol is not available, write “triangle ABC” instead of “ΔABC.”

**Numbers**

• NCTM material follows various styles in the treatment of numbers. Copy that follows AP style (e.g., *e-Summing Up*, news releases) or APA style (e.g., *JRME*) spells out numbers from one through nine and represents larger numbers by numerals. Copy that follows Chicago style (NCTM books and school journals) generally spells out whole numbers through ninety-nine as well as most round numbers.

• Spell out numbers at the beginning of a sentence.

  *Example:* Forty-five states have adopted the Common Core State Standards.

  But rewrite when spelling out a number requires a long phrase or results in a sentence that treats numbers in different ways, making comparisons challenging:

  *Example:* Two hundred fifty-six students graduated with honors, with 137 planning to go to college.

  *Possible revision:* Out of 256 students graduating with honors, 137 students were planning to go to college.

• Chicago style spells out round numbers or approximations; AP and APA styles do not:

  *Chicago style:* About thirty thousand students participated in the World’s Largest Math Event last year.

  *AP and APA styles:* About 3,000 students participated in the World’s Largest Math Event last year.

  However, if copy that follows Chicago style is highly numerical or focuses the reader’s attention specifically on numbers, round numbers should appear as numbers.

  *Example:* On the basis of the numbers that the students are using, a good estimate for the population of fish in the lake is 900.

• Spell out numbers for grades if they appear before the word *grade*; show them as numerals if they appear after it (e.g., fourth grade, grade 4).

• In mathematical problems or text discussing problems or focusing directly on numbers, operations, or numerical results, numerals are often more effective than words.

• Throughout a paragraph or problem statement, numbers that count the same type of items should be treated consistently (all numerals or all spelled out), regardless of their size.

  *Example:* In the survey, 153 students chose basketball, 30 students chose lacrosse, and 9 students chose racquetball.

• Sometimes an author may wish to vary the treatment of numbers within a sentence or paragraph for readability or for a specific mathematical or pedagogical purpose.
Example: After the students had counted by twos and fives, one student observed that two 5s and five 2s are the same.

When two numbers appear next to each other, as in the previous example, spelling one out and showing the other as a numeral can help the reader.

- In activity sheets for students, it is usually better to represent numbers by numerals than to spell them out.
- Numerals should always be used with a metric symbol (e.g., 2 cm, 10 dL).
- Numerals should always be used before the word percent or a percent symbol (e.g., 37 percent, 37%). Copy that follows Chicago or AP style uses the word percent after a numeral; copy that follows APA style uses the symbol %. However, Chicago style makes an exception for scientific or statistical copy, in which the symbol is more common; see Chicago 9.18.
- Be consistent in expressing ranges of numbers: Use, for example, “from 1956 to 1967,” not “from 1956–67.”
- In abbreviations of ordinal numerals (1st, 2nd, 3rd, 4th, 5th, etc.) use full-size characters in the endings -th, -nd, and so on. Do not allow Word to “autocorrect” these characters to small superscripted forms. Observe this practice of using full-size characters with expressions such as “8th” and “zeroth.”
- Title I; Chapter 1
  Use a roman numeral and an arabic numeral, respectively, for these government programs. Capitalize the noun before the numeral in these and other such designations of parts of legislation. (This is an exception to the general rule about lowercase nouns before numerals.)
- Spell out the plural form of a number in an expression such as “count by ones,” but use a numeral in an expression such as “multiply by 5.”
- In designations of place value, spell out ones, tens, hundreds, and so on in phrases such as “ones digits” and “tens place,” using the plural with no possessive.
- In expository text, use base-ten numeration system, or base-ten system, but in copy that focuses on numbers, use numerals in phrases such as “base 2” and “modulo 7.”
- In expository copy that follows Chicago style (NCTM books and school journals), four-digit numbers are closed up (e.g., 5280) unless they appear in the same paragraph with larger numbers, which are separated in groups of three in the conventional way by commas. In copy that follows AP or APA style, four-digit numbers show a comma.
- No commas should be used in solidus fractions.
  Example: 12345/3456789
- Displayed fractions can use customary spacing.
• Show calculator commands in a different font (perhaps a sans serif if the body text is a serif font) or give the type a different treatment (perhaps small caps or boldface).

   \textit{Example:} Press \textbf{ENTER}.

\textbf{Parallelism}

Parts of a sentence that are parallel in meaning should be parallel in structure. Examples of this principle occur often in series or in lists.

\textit{Incorrect:} Do you suggest that I act now or to wait until tomorrow?
\textit{Correct:} Do you suggest that I act now or wait until tomorrow?

\textit{Incorrect:} Hunting, fishing, and to tell a joke well were his greatest pleasures.
\textit{Correct:} Hunting, fishing, and telling a joke well were his greatest pleasures.

\textit{Incorrect:} This plan is quick, easy, effective, and makes good sense.
\textit{Correct:} This plan is quick, easy, and effective and makes good sense.

\textit{Incorrect:} She is not only intelligent but she is also pretty.
\textit{Correct:} She is not only intelligent but also pretty.

\textbf{Parentheses}

Use parentheses to set off text that has no necessary connection to the rest of the sentence or discussion in which it appears.

Use parentheses to set off letters (in italics) or numbers that identify items in a series in a sentence—for example, “The study identified (a) the causes, (b) the manifestations, and (c) the consequences of the students’ confusion.”

Use parentheses to group mathematical expressions.

\textbf{Possessives}

• Avoid using an apostrophe with the name of an organization or program consisting of more than one word.

   \textit{Incorrect:} The National Council of Teachers of Mathematics’s goal was simple.
   \textit{Incorrect:} Educators recognize Race to the Top’s importance in U.S. education policy.

Recast such sentences:

   \textit{Example:} Educators recognize the importance of Race to the Top in U.S. education policy.

It is acceptable to use an apostrophe with the acronym of an organization or program if the full name has been introduced previously in the text.

   \textit{Example:} NCTM’s goal was simple.

• Possessives are formed by adding ‘s to a singular name or word. Plurals add just the apostrophe. (\textit{Examples:} Charles’s manuscript; the girls’ toys)
• students’ work; student work

Work by students may be identified as either student work or students’ work, depending on which is smoother and clearer in context. Work for students (prepared for and assigned to students) is student work.

Punctuation and Grammar

• A comma does not customarily precede a clause introduced by because. An exception occurs in sentences containing a negative in the main clause. For example, “They did not marry, because her health was precarious.” In such a case, the comma eliminates ambiguity. The reason that they did not marry was that her health was precarious. If the sentence omitted the comma (“They did not marry because her health was precarious”), it could be read to mean that they did get married but for some other reason besides her precarious health.

• Use that to introduce a restrictive clause; use which to introduce a nonrestrictive clause. A restrictive clause provides information that is essential; a nonrestrictive clause provides extra information. A comma always precedes which in a nonrestrictive clause but never precedes that in a restrictive clause.

  Nonrestrictive: My favorite tree, which I often climbed when I was young, is the red oak in our backyard. (Clause gives extra information about the favorite tree.)
  Restrictive: The tree that I climbed most often is the sugar maple in our backyard. (Clause gives information that is essential for identifying the tree in question.)

• Use the serial comma—a comma before the conjunction in a series—to give equal syntactic status to each item in a series and eliminate possible ambiguity:

  Incorrect: The tulips bloomed in profusion: yellow, orange, pink and white.
  Correct: The tulips bloomed in profusion: yellow, orange, pink, and white.

The serial comma sorts the tulips clearly into four groups by color. Omitting the serial comma allows the possibility of just three groups of tulips: yellow, orange, and pink and white.

• Use a comma before a coordinating conjunction that joins two independent clauses in a compound sentence unless the clauses are very short and closely connected.

  Examples: Arne Duncan discussed his department’s priorities for education, and his deputy focused on the administration’s Race to the Top program.
  Mary ran and Jack skipped.

This guideline also applies to compound sentences with imperative verbs.

  Examples: Discuss the Council’s plans for professional development, and be sure to focus on the upcoming summer institutes.
  Run for ten steps and skip for five.

Do not use a comma before a conjunction in a clause with a simple subject and a compound verb.
Incorrect: Secretary of Education Arne Duncan discussed his department’s priorities, and focused on the Obama administration’s Race to the Top program.

- In most cases, do not use a comma before an internal adverbial clause that precedes a clause on which it depends. An example can simplify what otherwise seems to be a complicated guideline:

  Example: Smith pored over the documents, and if Jones had not intervened, he would undoubtedly have discovered the forgery.

Note that no comma comes before *if*.

- Do not use the pronoun *their* to refer to a singular antecedent. Be especially careful in the case of antecedents like *audience, group, company,* and other singular nouns that represent collections.

  Incorrect: The group presented their solution to the problem.
  Correct: The group members presented their solution to the problem.
  Or, The group presented its solution to the problem.

- *Then* is an adverb; it does not serve a dual function as a conjunction. It is incorrect to use *then* without a coordinating conjunction to connect compound predicates:

  Incorrect: We’re going to discuss it, then decide what to do.
  Correct: We’re going to discuss it and then decide what to do.

Similarly, *then* cannot join two independent clauses without a coordinating conjunction:

  Incorrect: The students worked with base-ten blocks, then the teacher talked about place value.
  Correct: The students worked with base-ten blocks, and then the teacher talked about place value.

The incorrect sentence above is an example of a *comma splice*—the use of a comma to hold together two independent clauses instead of a comma plus a coordinating conjunction.

- *Just as … so* is a correlative conjunction (like *not only … but also*). Both parts of the conjunction must be used.

- The adverb *only* should be placed so that it clearly modifies what it is intended to modify.

  Incorrect: Funding only plays a role when the project is well funded.
  Correct: Funding plays a role only when the project is well funded.

- A split infinitive is permissible, but avoiding such a construction is advisable when doing so is simple and effective.

  Example: This approach enables the teacher to again reinforce the algorithm.
  Simple revision: This approach will enable the teacher to reinforce the algorithm again.

However, when a change results in phrasing that is awkward or forced, leaving the split infinitive is the better choice.
Quotation Marks

- Use quotation marks to set off the titles of exhibits; the themes of meetings, institutes, and conferences; and the titles of the units or modules in a curriculum.

- Use quotation marks to set off the titles of journal articles, chapters, individual poems, and the like.

- Use quotation marks to set off coined words (such as “guizzinta” for goes into) or words used in unconventional ways (such as “unpack” in relation to ideas, as in “Students need to ‘unpack’ these ideas”). (Note, however, that this use of unpack is gaining acceptance in education, much as the use of scaffold has done in phrases like “scaffold the students’ learning.”)

- For a coined phrase or for an unusual use of an adjectival phrase, use either hyphens or quotation marks but not both (e.g., “rich get richer” pattern or rich-get-richer pattern).

- Use single quotes inside of double quotes to set off quoted text within a longer quotation.

References and Citations

NCTM books use the reference list style outlined in “Documentation I: Notes and Bibliography” (Chicago Manual, chapter 14). See the examples in Appendix B, Style for References in NCTM Books.

NCTM journals follow the style set out in “Documentation II: Author-Date References” (Chicago Manual, chapter 15).

The primary difference between the two reference styles is the location of the date in a reference list or bibliography. The style followed by NCTM books places the date at or near the end of a citation; the style used by NCTM journals places it immediately after the author’s name, near the beginning of a citation.

- For entries in reference lists, use the first and last names of all authors and editors and the middle names or initials if given in the publication. Use the full names of publishers. (See Appendix F, Selected Publishers and Cities of Publication.)

- To cite a work in text (and signal to readers that they can find a full bibliographical entry in the reference list), use “author-date” style. Author-date citations identify scholarly work in text only by the author’s surname and the date. Usually both surname(s) and date appear in parentheses:

  Chicago style: (Smith, Jones, and Brown 2001)
  APA style: (Smith, Jones, & Brown, 2001)

However, the surnames are sometimes given directly in the text, and in such cases, only the date appears in parentheses:

  Example: Smith, Jones, and Brown (2001) show that….

In cases of more than three authors, Chicago style uses “et al.” after the first surname, but only in parenthetical citations. In direct text, phrases such as “and others” or “and
colleagues” follow the first surname. By contrast, in cases of more than five authors, APA style uses “et al.” after the first surname both in direct text and in parentheses. (See also Appendix G, Chicago Style vs. APA Style at a Glance.)

- When checking citations and references, make sure that the author and date given in the citation exactly match those given in the reference-list entry (e.g., the form and spelling of a name should be the same in both). In the editing process, it is often useful to note beside each entry in the reference list the page or pages on which that entry is cited.

- In a reference list, arrange publications by the same author in ascending chronological order.

- In a reference list, if only the first author is the same in multiple entries by two or more authors, arrange the entries alphabetically according to the coauthors’ last names.

- Cite page numbers when scholarly work is quoted directly or discussed in close detail. Page numbers are required for direct quotations, but they should also be supplied even if a passage only paraphrases scholarly work or draws particular elements from it without quoting directly. Providing the page numbers is a courtesy both to the readers, who may want to locate the original passage, and to the scholars who first produced the work.

- In author-date citations for direct quotations or close paraphrases of scholarly work, use p. before a page number.

  Example: (Lopez 1958, p. 234)

NCTM style departs from Chicago style in the use of p., which Chicago style omits.

**Sexism and Racism**

NCTM material should reflect an appropriate mix of genders, races, and cultures in photographs, names, and content. The APA manual offers an excellent discussion of reducing bias in language. As this discussion stresses, it is important to be sensitive to labels, often putting the person first (e.g., learner with disabilities) and never equating the person with the condition (e.g., the LDs). It is also important to avoid hyphens in modifiers of more than one word for racial and ethnic groups (e.g., Asian American students) to give equal importance to all descriptors.

In matters related to gender, problems with pronoun agreement can often be resolved by changing the referent to a plural or by recasting the sentence. Otherwise, use his and her, her and his, or—when they apply to different referents—his and her alternately. Never use they or their to refer to a singular referent.

  Example: One student gave her answer, and a classmate offered his alternative solution.

  Correct but perhaps slightly awkward: Each student had his or her own pencils.

  Better: All students had their own pencils.

  Never: Each student had their own pencils.

Use gender rather than sex: gender issues, gender differences, gender studies. Gender refers to role and is cultural; sex refers to biology.

Use be or she, or she or he, not (s)he.
Software Programs

NCTM books show the names of software programs and packages in the regular text font with initial caps (no quotes or ital) and the manufacturer’s capitalization and spacing (e.g., PowerPoint, The Geometer’s Sketchpad, Cabri II Plus).

NCTM journals show the symbol ® or the symbol ™ after the first mention of software that is, respectively, a registered trademark or an unregistered trademark. See Appendix I for names and appropriate symbols.

Subject-Verb Agreement

• The phrase more than one is singular (Words into Type, p. 350).
  
  Example: More than one source has been cited.

• The title of a book always takes a singular verb.
  
  Example: Principles and Standards for School Mathematics issues a call for all students to engage in more challenging mathematics.

• The word data is plural.
  
  Example: The data show an increase in productivity.

• The word mathematics is singular.
  
  Example: The mathematics of this situation is more complex than one might think.

Substitutes for Overused Words and Phrases

• case: situation, example, instance

• critical; crucial: necessary, indispensable, unavoidable, fundamental, vital, cardinal, essential, basic, inherent, intrinsic, urgent, pressing, severe, serious

• given: because, since, as a result of, depending on

• inform: indicate, guide, affect, modify, adjust, influence (decisions about or the development of), impinge on, benefit, inspire, animate, enlighten, serve as a basis for, shape, take into account, direct; informed by: permeated by, based on, characterized by, relied on, used elements of.

• key: important, essential, fundamental, vital, primary, pivotal, strong, notable

• lens, in such phrases as use as a lens; take as a lens: bring into focus, provide a useful vantage point, give a frame of reference, offer a new perspective; sharpen the focus on
• **motivate**: inspire, stimulate, generate, introduce, provoke, produce, prompt, influence, induce, suggest, enhance, assist, encourage

• **provide**: furnish, supply, produce, offer, yield, present, propose, suggest, submit, afford, give, reveal, demonstrate, support, create, maintain, facilitate, serve as, promote, foster, pose, outfit, forge, formulate, examine, guarantee, act as, lend, allow, generate, set, establish, compose, develop

• **springboard**, in such phrases as **act as a springboard**: introduce, provide an entry point, serve as a bridge, lead (into)

## Tables and Figures

**NCTM journals** follow the guidelines on their respective style sheets.

**NCTM books** follow the guidelines outlined below:

- Abbreviate *figure* in a figure caption: Fig. 8.1.
- Use a period after a figure caption only when it is a complete sentence.
- If a figure reference appears in parentheses in the text, use the abbreviation—for example, “(fig. 1)”—otherwise spell out *figure*.
- The words *figure* and *table* are not capitalized in references to tables and figures in text, even if they are not in parentheses.
- Treat as tables only those elements that really are tabular matter. Other elements consisting of text should be treated as figures.

## Technology

*See Electronic Terms.*

In brief:

- email (closed) *not* e-book (hyphenated) and eBook (for NCTM’s product line)
- Internet (cap *I*); in most contexts, do not refer to as “the Net.”
- Web, website
- World Wide Web

Web addresses should be checked for accuracy in copy editing and rechecked in proofing.

Show calculator commands in a different font (perhaps a sans serif if the body text is a serif font) or give the type a different treatment (perhaps small caps or boldface).

*Example:* Press **ENTER**.

## Telephone Numbers

NCTM shows the area codes of telephone numbers in parentheses: (202) 365-0226; (1-800) 977-8000. Extensions follow the number as shown: (703) 620-9840, ext. 2278.
**Time**

Both Chicago style and AP style recommend the use of *noon* and *midnight* without a number. Use numerals in standard form (e.g., 4:35) with a.m. or p.m. for all other times of the day or night.

**Titles and Forms of Names**

*See also Capitalization.*

- For a person in religious life, use either the title (Sister, Father, Brother) or the designation of the order, but not both.

  *Example:* Sister Miriam P. Cooney or Miriam P. Cooney, csc

- Do not set off *Jr.* or *Sr.* with commas; similarly, do not use commas with *I, II, III, IV*, or the like.

  *Examples:* John Doe Jr. is not a member of NCTM.
  John Doe III is a lifetime member of NCTM.

Inverted forms in bibliographical references use commas.

  *Example:* Doe, John, Jr.; Roe, George, III.

- Most abbreviations for titles end in periods. The abbreviations for the French Madame and Mademoiselle, however, do not use a period: Mme Valmont, Mlle de Montpelier (but Monsieur does use a period: M. Jean-Claude Rampail).

**Titles of games**

- **tic-tac-toe**
  
The name of this traditional game has many variants. NCTM prefers the form above.

- A widely known and long-established game that is not trademarked is lowercase.

  *Example:* The family played rummy during the storm.

- A trademarked game is uppercase.

  *Example:* The family played Monopoly during the storm.

  NCTM journals show the symbol ® or the symbol ™ after such a game.

- **NCTM books** show a made-up game, often invented by a teacher, in quotation marks and with initial caps.

  *Example:* To help her students understand place value, Ms. Wilson devised a counting game that she called “Hens and Chickens.”

- NCTM journals show invented games with initial caps but do not set off any games with quotation marks.

**Titles of problems**
• Lowercase the titles of well-known problems (treat in the same way as laws and theorems).

  *Example*: He was intrigued by the four-color problem.

• Use initial caps for the title of a particular problem that is stated and discussed at length in text. Lowercase the word *problem* when it follows the title in running text.

  *Examples*: Students studied the Road Ahead problem to calculate distances.
  The students enjoyed solving Decimal Dilemma.

**Titles of works**

• Use headline-style caps and set in quotation marks the titles of folk tales, fables, and so on.

• Themes (e.g., of conferences) and titles of sections (heads) in a chapter, of workshops, and of meeting sessions are capitalized and shown in quotation marks.

• The titles of projects are capitalized and set in roman type, with no quotation marks (for instance, Connected Mathematics Project, Team Learning in Schools project). (Note that *project* is sometimes part of the title and capitalized and sometimes is not part of the title and lowercased.)

• The titles of regular departments in a magazine or journal have headline-style capitalization but no quotation marks (*Chicago*, 8.175 and 14.202).

  *Example*: Delving Deeper is one department in *Mathematics Teacher*.

**Word Usage and Terminology**

• *above*
  Adverbial use is acceptable, even if *above* does not indicate a location that is directly up in layout. Adjectival use is not permissible.

  *Incorrect*: The above example involves a quadratic equation.
  *Correct*: The example above involves a quadratic equation.

Alternatives to an adjectival *above* include *previous*, *preceding*, and *earlier*.

• *afterward*; *backward*
  Not *afterwards*, *backwards*

• *affect*; *effect*
  *Affect* and *effect* are both verbs, and both are also nouns. However, *affect* usually functions as a verb, meaning to influence or have an impact on—and is much more likely than *effect* to be the correct verb to choose.

  *Example*: Working in groups can affect students’ regard for their classmates.

By contrast, *effect* usually functions as a noun, meaning *result*—and is much more likely than *affect* to be the correct noun to choose.
Example: Research has examined the effects of group work in the classroom.

As a noun, affect appears primarily in the context of psychology, where it indicates emotion or a range of emotions that someone expresses (e.g., a flat affect, a blunted affect). As a verb, effect appears rather infrequently and means to bring about (e.g., to effect a change).

- all- (combining form)
  all-around, all-out, all-clear, all-time

- all of
  Delete of if possible. Use, for example, “all the students” in place of “all of the students.”

- alternate; alternative
  The verb alternate indicates that two things occur in turn, first one and then the other. Similarly, the noun alternate usually indicates the other one of two possibilities. Alternative often simply indicates another choice—one of two or more possibilities—and is often the better word to use.

- altogether; all together
  Altogether means entirely, wholly, or in total.
  
  Example: Showing two beans in her left hand and another two in her right, the kindergartner announced that she had four beans altogether.

  All together indicates a collecting or gathering of a set of people or things in one place at one time.

  Example: When the students were all together, the teacher led them out of the museum and onto the bus.

- and/or
  Avoid and/or; use one or the other. (A simple or is inclusive—that is, it means “one or the other, or both.” Thus, or usually covers the options that writers intend to present by using and/or.)

- as
  Do not use as to mean since or because.

- author
  Do not use author as a verb; substitute write.

- based on; on the basis of
  Use based on phrases adjectivally. The two sentences below include nouns (book and report, respectively) modified by participial phrases beginning with based on.

  Correct: I always enjoy a book based on actual experience.

  Correct: Based on incomplete results and faulty methods, team A’s report was worthless.
Do not use *based on* phrases adverbially. In the following two sentences, *based on* is used incorrectly because it points to the action of the verbs *decided* and *changed*, respectively:

Incorrect: Based on what the students said, the teacher decided that the test was unfair.
Incorrect: The driver suddenly changed direction based on information from her GPS.

Substituting the adverbial phrase *on the basis of* for *based on* can repair the problem in these and many similar sentences:

Correct: On the basis of what the students said, the teacher decided that the test was unfair.
Correct: The driver suddenly changed direction on the basis of information from her GPS.

- **between; among**
  Use *between* when two people, things, or ideas are in question.
  
  Example: The relationship between the *x*-value and the *y*-value was unclear.

  Use *among* in cases of more than two.
  
  Example: The relationship among the areas of the three triangles was one of similarity.

  *Between* can also be used with multiple objects considered as two groups.
  
  Example: The research examined the relationship between the ninth graders’ scores and the tenth graders’ scores.

- **black; white**
  In general, do not capitalize these words when using them as descriptors of race. However, Chicago style permits uppercase if a particular author strongly prefers it, and APA style uppercases all designations of race.

- **board**
  The word *board* can be applied to a chalkboard a whiteboard, or, depending on the circumstances, even a SMART Board.

- **case**
  *Case* is sometimes used formally for a legal or medical situation or a mathematical case: “case 1,” “case 2.” However, it can also be used in less formal contexts, in phrases like “in such a case” or “in this case.” Although it should not be overused, *case* can be a useful substitute for *example, instance, situation* in contexts where these words are overused.

- **compared to; compared with**
  Use *compared to* when looking specifically for similarities.
  
  Example: Patrick compared the earth to an orange.

  Use *compared with* when looking for both likenesses and differences.
  
  Example: Ms. Davis compared Jenny’s solution with Michael’s.
• **comprise, compose**
The whole *comprises* the parts; the parts *compose* the whole. The passive construction *is comprised of* is incorrect; substitute *consists of, is composed of, is made up of, or is constituted by.*

• **couple of**
Include *of* before a noun (for example, *a couple of students*; not *a couple students*).

• **data**
Always plural.

• **due to**
Use *due to* only as an adjective, not as an adverb:

  *Incorrect:* He won the race due to his amazing surge in the last lap.
  *Correct:* Her success was due to her hard work and good relations with others.

Possible repairs for the incorrect adverbial use of *due to* in the first sentence include the following:

  *Change to adjectival “due to”:* His win in the race was due to his amazing surge in the last lap.
  *Replace “due to” with “because of”:* He won the race because of his amazing surge in the last lap.

• **e- or e**
Lowercase combining form meaning *electronic.* With common nouns, a hyphen usually follows *e* to ensure readability: *e-book, e-commerce, e-zine, e-publication* (sometimes shortened to *e-pub*). The exception is *email,* now generally accepted in closed form. With most proper nouns, including many product names, *e* is closed up to a capital letter, as in NCTM’s eBooks and eChapters. Note that as an exception to the lowercase *e,* NCTM’s professional development series E-Seminars Anytime uses a capital *E*. In titles of more than one word, *e* is followed by a hyphen instead of being closed up: *e-Summing Up.* At the beginning of a sentence, *e* is uppercase only when it is followed by a hyphen.

  *Examples:* E-zines are gaining in popularity.
  eBook are available for all NCTM publications.

• **each other; one another**
Use *each other* when two people, things, or ideas are involved; use *one another* when more than two are involved.

  *Each other:* Pablo and Tanya talked to each other about their solutions.
  *One another:* The students in the class looked at one another when the teacher wrote the wrong answer on the board.

• **elementary; secondary**
Consider the context to decide whether *school* should be inserted after these adjectives. For example, would it be better to say “elementary school teachers” and “secondary
school teachers” than to say simply “elementary teachers” and “secondary teachers”? Sometimes adding or omitting school makes a significant difference; consider “elementary mathematics” vs. “elementary school mathematics.” However, in other contexts, the meaning is clear without school, and the longer phrase is unnecessary.

- **enough; sufficient**
  After adjectives of sufficiency, use an infinitive, not a subordinate clause.

  *Incorrect:* Provide students with enough knowledge that they can solve problems.
  *Correct:* Provide students with enough knowledge to enable them to [or for them to] solve problems.

- **etc.; i.e.; e.g.**
  The abbreviations etc., i.e., and e.g. are permissible only in parentheses. In text, change i.e. to *that is*, change e.g. to *for example*, and change etc. to *and so on*, or *and so forth*, or *and the like*. Reserve the abbreviations e.g. and i.e. for formal scholarly or research-oriented contexts, giving preference elsewhere to the English equivalents.

- **first, second, third…**
  These ordinals are correct to use in enumerating points in text; it is incorrect to use *firstly, secondly, thirdly…*

- **grade levels**
  Use grades before a range of grade levels:

  *Incorrect:* 9–12 teachers
  *Correct:* Teachers of grades 9–12

  Strictly speaking, prekindergarten and kindergarten are not grades. The school grades are the numbered levels 1–12. Shorten kindergarten as K and prekindergarten as pre-K.

  *Incorrect:* Teachers of grades pre-K–2
  *Correct:* Teachers of pre-K–grade 2

- **hopefully; thankfully**
  Avoid using hopefully and thankfully colloquially, as sentence openers that serve to modify the sentences in a general way rather than to modify the verbs in a clear and specific way.

  *Incorrect:* Hopefully, we will have enough money to get by until payday.
  *Incorrect:* Thankfully, the river stopped rising before it reached our door.

  In such situations, substitute *I hope, we hope, it is hoped* for hopefully; substitute *fortunately, we are thankful, we are grateful* for thankfully.

  *Correct:* We hope that we will have enough money to get by until payday.
  *Correct:* We are thankful that the river stopped rising before it reached our door.

  It is permissible to use hopefully and thankfully to modify the verb in a specific and meaningful way:
Correct: With his diploma in hand, he stepped hopefully into the future.
Correct: When the floodwaters receded, we stumbled thankfully toward our house.

AP style now accepts the colloquial, general use of hopefully; NCTM style does not.

- **if; whether**
  Use *if* in conditional statements.
  
  *Example:* We will go *if* the weather holds.

  Use *whether* in statements that include indirect questions to which the answer is yes or no.
  
  *Example:* He wondered whether the answer was 2.

  It is usually unnecessary to follow *whether* by *or not.*

- **impact**
  Avoid using *impact* as a verb. Substitute *affect* or *influence.*

- **index**
  Use the plural *indices* when *index* refers to an *indicator.* Use the plural *indexes* when *index* refers to a list at the end of a book. See also *vertex.*

- **inform**
  Along with “to give information to,” one of the long-standing meanings of *inform* is “to give form or character to” or “be the formative principle of.” A particular vision of mathematics education can, for example, *inform* a mathematics curriculum. This usage should not be considered education jargon or discounted out of hand. Nevertheless, in some cases, an alternative such as *shape, guide,* or *influence,* may communicate the meaning to readers more clearly than *inform.*

- **in order to**
  Substituting *to* or *so that* often tightens a sentence in which *in order to* appears.

- **in-service**
  The hyphenated form is an adjective and must modify a noun (e.g., in-service program, in-service activity, in-service teacher); the counterpart *preservice* is closed up, not hyphenated.

- **in terms of**
  Minimize the use of this phrase, reserving it primarily for mathematical contexts (e.g., “Express *x* in terms of *y*”). Use *about* or another apt word or phrase in most other situations.

- **key**
  *Key* can mean leading, prominent, or essential; it doesn’t have to refer to something that metaphorically opens or unlocks.

- **less; fewer**
Use *less* with mass amounts (e.g., less sugar, less oil, less oxygen); use *fewer* with countable things (e.g., fewer children, fewer purchases, fewer miles). However, *less* is sometimes appropriate in phrases involving countable objects that are associated with mass amounts, such as time, money, and distance—for example, “with less than ten days remaining before the election,” “with less than ten dollars in his pocket,” “he needed to travel less than ten miles.”

- **likely**
  Use as an adjective to indicate that an event is probable. Do not use adverbially, as a synonym for *probably*.

  *Incorrect:* She will likely win the all-school mathematics competition.
  *Correct:* She is likely to win the all-school mathematics competition.

- **man-made**
  Use *manufactured*.

- **math**
  In many formal contexts, spell out: *mathematics* or *mathematical*. However, NCTM journals use *math*, as do *e-Summing Up* and NCTM marketing materials. *Math* appears in such phrases as “math lab,” “math anxiety,” and “mental math,” as well as in department heads in NCTM’s school journals (e.g., *Math by the Month*).

- **may; might**
  *May* suggests what is possible or likely; *might* suggests what is hypothetical or uncertain.

- **more important**
  Use *more important*, not *more importantly*, to introduce a more important point.

  *Example:* More important, the students understood *why* the triangles were congruent.

- **motivate**
  *Motivate* means “give a motive to” or “stimulate an interest in or an enthusiasm for.” Thus, it is possible to motivate *animate* beings, but it doesn’t make sense to suggest that something that is inanimate can be motivated. Sometimes authors assert that a particular idea “motivates the curriculum,” or “motivates the lesson.” NCTM regards this use of *motivate* as nonstandard. Often a change from *motivate* to *drive* or *move forward* is sufficient.

- **OK**
  Use instead of *okay*.

- **on-site; off-site**
  Webster’s now hyphenates these phrases as adverbs as well as adjectives.

  *Adverbial use:* The books were printed on-site.
  *Adjectival use:* The company had scheduled off-site training.
• **on the other hand**  
  Use only when completing a pair with *on the one hand*.

• **over**  
  Use *more than* in place of *over* when referring to number or quantity (e.g., more than two weeks, more than 750).

• **percent; percentage**  
  *Percent* means “per, or out of, one hundred.” Strictly speaking, *percent* is not a noun but always follows a number in a phrase (e.g., 17 percent) indicating how many out of one hundred. The phrase gives the *percentage*, and *percentage* is the noun form.

  *Example:* In the study, 17 percent of the subjects developed high blood pressure.
  
  This percentage was higher than expected.

  In copy that is heavily statistical, it is sometimes preferable to use the percent symbol % instead of the word *percent*.

• **rather than; instead of**  
  *Rather than* takes the infinitive; *instead of* takes the gerund. (Note that *to* in the infinitive is customarily suppressed in constructions with *rather*.)

  *Examples:* Rather than take a chance on the weather, we purchased indoor tickets for the Wolf Trap concert.
  
  Instead of taking a chance on the weather, we purchased indoor tickets for the Wolf Trap concert.

• **reference**  
  Avoid using *reference* as a verb. In a sentence such as, “He referenced Smith and Stein’s research,” substitute *cited* or *referred to* for *referenced*.

• **scaffold (n., v.)**  
  *Scaffold* has come to have a particular meaning in education; providing an explanation is helpful in some contexts. To *scaffold* learning is to erect a structure that allows students to advance with maximum independence from the level that they have mastered to the next level that they are capable of attaining.

• **sense making (n.); sense-making (adj.)**  
  NCTM uses *sense making* to mean *the process of making sense of*. Webster’s gives the closed form *sensemaking* as an adjective meaning *sensible, reasonable, practicable*, as in “a sensemaking proposal.” NCTM’s use of *sense making* shades off in a different direction. A “sense-making activity” is not a sensible or practicable activity but one that engages students actively in the process of *making sense of* mathematics. Hyphenating adjectival instances communicates NCTM’s particular meaning more clearly than the one-word adjective.

• **since**
Consider the sentence, “Since it rained, the wood has been too wet to burn.” Does since have a temporal meaning (since the time when it rained), or does it have a causal meaning (because it rained)? To avoid ambiguity of this sort, follow the convention of using since only in a temporal sense at the beginning of a sentence:

Example: Since 1989, NCTM has released a number of documents outlining the Council’s Standards.

Change a causal since at the beginning of a sentence to because:

Example: Since he had the flu, he stayed home.

Like because, since can be substituted within a sentence for as used in a causal sense. (See as).

Example: Any reauthorization of the Elementary and Secondary Education Act faces many challenges since disagreement about the federal role in education is widespread.

- **text; textbook**
  Use text when referring to the main body of a printed work. Use textbook when referring to a book used in the study of a subject.

- **There is; There are; It is**
  If possible, recast sentences to omit these formulaic and often weak openers.

  Example: There are now forty-five states that have adopted the Common Core State Standards.

  Simple revision: Forty-five states have now adopted the Common Core State Standards.

- **toward; towards**
  Use toward, not towards.

- **upon; on**
  In general, use on for brevity, simplicity, and directness. However, upon is permissible in the formula “once upon a time” and to mean “on the occasion of” in such phrases as “Upon his arrival in England.”

- **U.S.**
  NCTM uses the abbreviation U.S. (with periods, closed up) as an adjective but spells out United States as a noun.

- **using**
  Authors often misplace participial phrases that begin with using. Consider the following sentence: “The students solved the problems using reasoning strategies.” Who or what is using reasoning strategies? The placement of the participial phrase unfortunately suggests that using modifies problems instead of students. Several editorial repairs are possible in such a situation. Often, a simple solution is to insert by before using: “The students solved the problems by using reasoning strategies.” Another solution is to move the participial
phrase closer to the noun that it modifies: “Using reasoning strategies, the students solved the problems.” Inserting a comma before using will sometimes solve the problem.

- **utilize**
  Do not use utilize, which sounds pretentious. Substitute use or another apt word.

- **various vs. variety of**
  Either is grammatically correct. A variety of is more effective than various to indicate a representative sample; various often means just different or of an indefinite number. In some circumstances, it may be preferable to substitute several or different for various.

- **via**
  Use only in a geographical sense, to indicate a route of travel between two points in space. Do not use in the more general sense of by means of.

  *Incorrect:* We communicated via email.
  *Correct:* We traveled to Saint Paul via Chicago.

- **vertices**
  Use vertices as the plural of vertex. Likewise, use indices as the plural of index, but only when using index to mean indicator. In the context of books, use indexes as the plural of index and appendixes as the plural of appendix.

- **while**
  Use while only to show that the action in two clauses is simultaneous. Otherwise, use although or whereas.
Guidelines for Handling Copy

NCTM follows the following procedures in the copyediting and proofing stages.

Preparing Copy for Layout and Checking Page Proofs

Specify the order of all heads. Do not start a chapter with a subhead. At least one paragraph of text should intervene between the title and the first subhead.

Convert MathType expressions to expressions in Word wherever possible.

Paragraphs form coherent units of related ideas. Paragraphs are not broken simply to reduce the length. They should, however, be broken appropriately if more than one set of ideas is discussed.

If the author’s meaning is unclear, feel free to query him or her. Occasionally, an author will use an inappropriate word or an incorrect form of a word—for example, “multiculturism” instead of multiculturalism. Sometimes it is helpful to suggest a word or a phrase that might express the intended meaning.

Some authors are not native English speakers. If an idea is expressed awkwardly, the phrase should be recast in standard English. You may have to query the author if the meaning is not clear.

NCTM avoids using footnotes and endnotes. The information in footnotes should be incorporated into the text, perhaps in parentheses.

All entries in a reference list must have been cited in the text. If an author has included a source that has not been cited, ask if he or she wishes to cite it; if not, options include (1) eliminating the entry, (2) calling the list a “bibliography,” or (3) creating a second list with the heading “For Further Reading.”

Check all quotations from NCTM publications for accuracy. Also check all bibliographic entries (forms and spellings of names, page numbers, etc.) for NCTM publications. (NCTM will check quotations if the editor is a freelancer working off-site.)

Check all URLs to be sure that they are working.

If displayed mathematics concludes a sentence, it should be followed by a period. If displayed mathematics follows a colon, it has no end punctuation.

At page-proof stage, check for bad breaks in the mathematics as well as at the foot of each page.

Epigraphs
Epigraphs (quotations at the beginning of a chapter) are set in reduced type, usually indented on both sides, with no quotation marks. The name of the author (last name only for very well-known authors) is set on a separate line, preceded by an em dash, and followed by a comma and the title of the work. A page citation is not given, nor is the source listed in the reference list, unless, of course, it is cited in the text.

**Reprints**

Changes in wording should be made only to correct errors. Typographical errors, of course, may be corrected. Corrections can also be made with the author’s permission or at the author’s request.
# Appendix A
## State and Province Abbreviations

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<th>Two-Letter</th>
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*Canadian Provinces*
### Appendix B

#### Style for References

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For a downloaded e-book, indicate format as the last part of the citation. For a book consulted online, indicate the URL or the DOI as the last part of the citation. For a freely available electronic edition of an older work, include the URL as the last element.

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Just as for an e-book, for a dissertation consulted online, the last element of the citation should be a URL or the name of a commercial database and any identification number supplied by the database.
Paper Presented at a Conference

Article in a Journal

Electronic Journal Article

Newspaper Article
Citations of newspaper and magazine articles are usually sufficient within the text, and the form is identical in both systems. See Chicago 14.206 and 15.47. If a bibliographic or reference list entry is needed, it would appear as follows:

Letter

Personal Communication
References to personal communication (telephone conversations, email messages, and the like) are usually given parenthetically in the text instead of appearing in a reference list.
(Deborah Glass, personal communication with the author, April 10, 2009) (Deborah Glass, April 10, 2009, pers. comm.).
Appendix C
Electronic Resources for Writers and Editors

*Grammar, Usage, and General Editorial Advice*

**Acronyms, Abbreviations, and Initials** … [http://www.acronymfinder.com](http://www.acronymfinder.com)
Claims a database containing more than five million acronyms and abbreviations.

**Acronyms and Abbreviations** … [http://acronyms.thefreedictionary.com](http://acronyms.thefreedictionary.com)
Deciphers acronyms from a database of 600,000 entries.

**Bartleby’s** … [http://www.bartleby.com](http://www.bartleby.com)
Allows users to search the text of such reference sources as Bartlett’s *Quotations*, Bulfinch’s *Mythology*, Strunk’s *Elements of Style*, and Brewer’s *Dictionary of Phrase and Fable*.

**Chicago Manual of Style Online** … [http://www.chicagomanualofstyle.org/home.html](http://www.chicagomanualofstyle.org/home.html)
Offers a variety of tools for working with *The Chicago Manual of Style*, including Q&As related to points of style.

**Common Errors in English Usage** … [http://www.wsu.edu/~brians/errors](http://www.wsu.edu/~brians/errors)
Deviations from standard usage as judged by professional writers, editors, teachers, and others. Maintained by Paul Brians, professor emeritus of English, Washington State University.

**Copyediting** … [http://www.copediting.com](http://www.copediting.com)
The newsletter *Copyediting* is a resource for language news, style advice, and usage tips.

**Daily Grammar** … [http://dailygrammar.com](http://dailygrammar.com)
Simplifies complex grammar in over four hundred lessons.

**EsperFonto** … [http://www.esperfonto.com](http://www.esperfonto.com)
Offers examples of graphic design and a system for selecting typefaces.

The main source for TheFreeDictionary is *the American Heritage Dictionary of the English Language*, 4th ed.

**Guide to Grammar and Style** … [http://andromeda.rutgers.edu/~jlynch/writing/a.html](http://andromeda.rutgers.edu/~jlynch/writing/a.html)
Advice on grammar and style from Jack Lynch, a member of Rutgers’s English faculty.

**Google Books** … [http://books.google.com](http://books.google.com)
Some useful guides to style and usage are partially or fully available online as Google Books. For example, users can view many sections of *The American Heritage Book of English Usage* and the full text of *Merriam-Webster’s Dictionary of English Usage*.

**Idioms** … [http://idioms.thefreedictionary.com](http://idioms.thefreedictionary.com)
Compiled from the *Cambridge International Dictionary of Idioms* and the *Cambridge Dictionary of American Idioms*. Decodes more than 5,000 idiomatic phrases.
Internet Public Library … http://www.ipl.org
Users will find links to online newspapers from around the world and online references, serials, and texts. The site gives tips on Web searching and several useful links, including one to “Associations on the Net,” a guide to the home pages of more than two thousand associations.

Kairos … http://kairos.technorhetoric.net
Kairos is a refereed open-access online journal exploring the intersections of rhetoric, technology, and pedagogy.

Merriam-Webster Online … http://www.merriam-webster.com
The Merriam-Webster Online Dictionary is based on the print version of Merriam-Webster’s Collegiate Dictionary, 11th ed. The website also gives access to Merriam-Webster’s Online Thesaurus.

The Phrase Finder … http://www.phrases.org.uk/meanings/137550.html
Phrases, sayings, and idioms, arranged alphabetically, with origins supplied.

Purdue Online Writing Lab … http://owl.english.purdue.edu/
Offers resources on writing, grammar, and mechanics, as well as guidance on using APA style, among other aids to writers.

The Slot: A Spot for Copy Editors … http://www.theslot.com
Posts interesting and helpful discussions of usage.

Word a Day … http://www.wordsmith.org/awad
A community of more than a million word devotees in more than two hundred countries shares information about words.

Resources for Editing Mathematical Material

Basic Mathematics … www.basic-mathematics.com
This website is designed for those who need a very basic introduction to mathematics concepts and operations.

Definitions of terms, A–Z. Also go to …
http://www.mathpropress.com/glossary/mathDictionaries.html for a clickable list of other online mathematics dictionaries.

Geometry Glossary … http://library.thinkquest.org/28586/640x480x8/glossary
A–Z list of terms in geometry.

Internet Glossary of Statistical Terms… http://www.animatedsoftware.com/statglos/statglos.htm
Searchable, freely accessible part of the larger Statistics Explained online educational software program.

The Math Forum at Drexel University … http://mathforum.org
Teachers, mathematicians, researchers, and others support and contribute to this site to improve math education. Presents many problems and puzzles and includes the question-and-answer service “Ask Dr. Math.”

**Math Is Fun** … [www.mathsisfun.com](http://www.mathsisfun.com)
This website aims to make elementary mathematics accessible and enjoyable.

Allows conversions for many measurement systems.

**Wolfram Math World** … [http://mathworld.wolfram.com](http://mathworld.wolfram.com)
An extensive math resource that provides a very useful search engine for terms and explanations.

**Selected Government Resources**

This site gives information, including maps, for any country.

This site has links to education statistics and the National Library of Education.

This database of reports and journal articles in the ERIC system is very searchable.

**Library of Congress** … [http://catalog.loc.gov](http://catalog.loc.gov)
This site permits searches of the library’s catalog.

**NASA home page** … [http://www.nasa.gov](http://www.nasa.gov)
This site offers educational resources and information about earth and space science.

Users can search records, read the *Federal Register*, and find information for genealogical research.

This site offers searchable databases of patents and trademarks.

**General Contact Information**

Allows users to look up zip codes.

**White Pages** … [http://www.whitepages.com](http://www.whitepages.com)
Allows users to find phone numbers by entering names and addresses; a reverse look-up feature does the opposite.
Switchboard … http://www.switchboard.com

Users can search for phone numbers and snail mail and email addresses, locate persons and businesses, and get maps and directions to a location.
Appendix D
Geometric Symbols and Terminology

$\overline{AB}$  The line determined by points $A$ and $B$

$\overline{AB}$  The line segment with endpoints $A$ and $B$

$AB$  The distance between points $A$ and $B$ (a number)

$\overrightarrow{AB}$  The ray with endpoint $A$ and containing point $B$

$\angle ABC$  The angle composed of $\overrightarrow{BA}$ and $\overrightarrow{BC}$

$m\angle ABC$  The measure of $\angle ABC$ (a number)

The interior of $\triangle ABC$ is a region (a set of points). The area of $\triangle ABC$ is a measure of this region (a number). If $\triangle ABC$ is an isosceles triangle with $AC \cong BC$, then it is correct to write $m\angle A = m\angle B$, or $\angle A \cong \angle B$, but not $\angle A = \angle B$.

Use the notation “side $BR$” or “$BR$” but not “side $BR$.”
Appendix E
Education Associations and Organizations

Association of Mathematics Teacher Educators (AMTE)

American Association for the Advancement of Science (AAAS)

American Association of School Administrators (AASA)


American Federation of Teachers (AFT)

American Mathematical Society (AMS)

ASCD
Formerly, the Association for Supervision and Curriculum Development; now identified by initials as ASCD.

Association of State Supervisors of Mathematics (ASSM)

Council for Exceptional Children (CEC)

Education Trust (EdTrust)

Mathematical Association of America (MAA)

MENC: The National Association for Music Education
Formerly Music Educators National Conference (MENC).

The National Academies

National Association of Elementary School Principals (NAESP)

National Association for the Education of Young Children (NAEYC)

National Association for Gifted Children (NAGC)

National Association for Secondary School Principals (NASSP)

National Board for Professional Teaching Standards (NBPTS)

National Council for Accreditation of Teacher Education (NCATE)

National Council for the Social Studies (NCSS)

National Council of Supervisors of Mathematics (NCSM)

National Council of Teachers of English (NCTE)

National Education Association (NEA)

National Research Council (NRC)

National Science Foundation (NSF)

National School Boards Association (NSBA)

National Science Teachers Association (NSTA)
Appendix F

Selected Publishers and Cities of Publication

With a growing number of publishers making themselves available primarily through their websites rather than through their mailing addresses, finding cities of publication to complete bibliographical citations has become challenging. This appendix is intended as an aid to that end.

Chicago style recommends preserving the spacing, punctuation, and capitalization used by the publishers themselves and permits showing ampersands in reference lists that do so consistently when publishers use them.

Many publishers have multiple locations, only one of which is identified below.

**Academic Press**  
New York  
Part of Elsevier Science and Technology.

**Addison-Wesley**  
Boston, Mass.  
Imprint of Pearson.

**Allyn & Bacon**  
Needham Heights, Mass.  
Imprint of Pearson.

**American Mathematical Society**  
Providence, R.I.

**Amsco School Publications**  
New York

**Anchor Books**  
Garden City, N.Y.

**AnsMar Publishers**  
Poway, Calif.

**Basic Books**  
New York

**Bates Publishing Company**  
Sandwich, Mass.

**Bobbs-Merrill**  
Indianapolis, Ind.  
Merrill is now an imprint of Pearson.

**Carnegie Learning**  
Pittsburgh, Pa.

**CORD Communications**  
Waco, Tex.

**Corwin**  
Thousand Oaks, Calif.  
An affiliate of SAGE Publications.

**CPM Educational Program**  
Sacramento, Calif.

**Creative Learning Press**  
Mansfield Center, Conn.

**Creative Publications**  
Chicago  
(Now part of Wright Group/McGraw-Hill).

**Curriculum Research and Development Group**  
Honolulu, HI 96822

**Dover Publications**  
New York

**Educational Testing Service**  
Princeton, N.J.

**Lawrence Erlbaum Associates**  
Mahwah, N.J.
W.H. Freeman
New York

Glencoe/McGraw-Hill
New York
A division of McGraw-Hill.

Harcourt/Holt/McDougal/Houghton Mifflin
Boston, Mass.

Harper & Row
New York
Now HarperCollins.

HarperCollins
New York

Harvard University Press
Cambridge, Mass.

Heinemann
Portsmouth, N.H.

Houghton Mifflin Harcourt
Boston

Information Age Publishing
Charlotte, N.C.

It's About Time
Armonk, N.Y.

Jossey-Bass
San Francisco, Calif.

Kendall Hunt
Dubuque, Iowa

Key Curriculum Press
Emeryville, Calif.

Kluwer Academic Publishers
Dordrecht, The Netherlands
Has now merged with Springer and is publishing under the Springer name.

Longman
Imprint of Pearson.
Upper Saddle River, N.J.

Macmillan
New York

Macmillan/McGraw Hill
Columbus, Ohio

Math Solutions Publications
Sausalito, Calif.

Mathematical Association of American
Washington, D.C.

McGraw-Hill
New York

Merrill
Imprint of Pearson.

National Academies Press
Washington, D.C.
Formerly National Academy Press.

W. W. Norton
New York

Oxford University Press
London

Pearson
Upper Saddle River, N.J.

Pearson (School Division)
Pearson/Prentice Hall/Addison Wesley/Dale Seymour/Scott Foresman
Lebanon, Ind.

Penguin Books
New York

Pergamon Press
Oxford, UK
<table>
<thead>
<tr>
<th>Publisher</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prentice-Hall</td>
<td>Upper Saddle River, N.J.</td>
</tr>
<tr>
<td></td>
<td>Imprint of Pearson.</td>
</tr>
<tr>
<td>Random House</td>
<td>New York</td>
</tr>
<tr>
<td>D. Reidel</td>
<td>Dordrecht, The Netherlands</td>
</tr>
<tr>
<td>Routledge</td>
<td>London</td>
</tr>
<tr>
<td>Sadlier-Oxford</td>
<td>New York, NY</td>
</tr>
<tr>
<td>Dale Seymour Publications</td>
<td>Upper Saddle River, N.J.</td>
</tr>
<tr>
<td>Scholastic</td>
<td>New York</td>
</tr>
<tr>
<td>Simon &amp; Schuster</td>
<td>New York</td>
</tr>
<tr>
<td>Springer</td>
<td>New York</td>
</tr>
<tr>
<td>St. Martin’s Press</td>
<td>New York</td>
</tr>
<tr>
<td></td>
<td>Imprint of Macmillan</td>
</tr>
<tr>
<td>Teachers College Press</td>
<td>New York</td>
</tr>
<tr>
<td>Wiley</td>
<td>Hoboken, N.J.</td>
</tr>
<tr>
<td></td>
<td>Formerly John Wiley &amp; Sons</td>
</tr>
</tbody>
</table>
Appendix G
Chicago Style vs. APA Style at a Glance

Numbers
In regular text, Chicago style spells out numbers zero through ninety-nine and large round numbers. (NCTM style deviates from Chicago style in presenting numerals in problems or in text that focuses on numbers as numbers.)

In general, APA spells out numbers zero through nine and uses numerals thereafter.

Both Chicago and APA spell out all numbers that begin a sentence; APA also specifies that numbers at the beginning of a heading or title are spelled out.

Nouns before Numerals
Chicago style lowercases common nouns before numerals (e.g., figure 1, grade 4, day 3, and so forth).

APA style caps nouns before numerals in a numbered series (e.g., Figure 1, Grade 4, Day 3, etc.).

Representations of Time, Age, and Money
Chicago style applies its general rule about numbers to numbers that represent time, age, and money (e.g., three years ago, twenty-seven years old, five dollars).

APA style uses numerals to represent time, age, or money (e.g., 3 years ago, 27 years old, $5).

Both Chicago and APA express years (e.g., 1972) in numerals (except at the beginning of a sentence) and use numerals in specific dates (e.g., October 1, 1999).

Prepositions in Titles
Chicago style lowercases prepositions, regardless of length, with rare exceptions for prepositions that receive stress in a title, such as through in A River Runs Through It.

APA style caps all words of four or more letters.

Figure Captions
Chicago style abbreviates figure as fig. in both figure captions and parenthetical references to figures in text. Punctuation is required at the end of a caption that is a complete sentence; a caption consisting solely of an incomplete sentence does not require end punctuation.

Sample caption: Fig. 1.2. Student A’s solution
Parenthetical reference in text: (See fig. 1.2.)

APA style spells out figure in both captions and parenthetical references to figures in text. A period appears at the end of all figure captions.

Sample caption: Figure 1.2. Student A’s solution.
Parenthetical reference in text: (See Figure 1.2.)

Journals follow individual style sheets.
**Author-Date Style for Citing Scholarly Work**

Authors whose work is cited in text are usually named in parentheses, along with the date of their work. Sometimes, however, the authors are named directly in the text, usually as the subject of a sentence in text that discusses their work. Chicago style names up to three authors in author-date citations and treats work by more than three authors in a different manner.

*Up to three authors (Chicago):*

(Brown, Smith, and Jones 2004)—work identified parenthetically

Brown, Smith, and Jones (2004)—work identified directly in text

*More than three authors (Chicago):*

(Brown et al. 2004)—work identified parenthetically

Brown and colleagues (2004)—work identified directly in text

By contrast, APA style names up to five authors in author-date citations in text and treats work by more than five authors in a different manner.

*Up to five authors (APA):*

(Brown, Smith, Jones, Pike, & Johnson, 2004)—work identified parenthetically

Brown, Smith, Jones, Pike, and Johnson (2004)—work identified directly in text

*More than five authors (APA):*

(Brown et al., 2004)—work identified parenthetically

Brown et al. (2004)—work identified directly in text

In a parenthetical author-date citation, Chicago style does not use a comma to separate the authors’ names from the year and spells out *and.* APA style uses a comma to separate the authors’ names from the year and uses an ampersand before the last name. APA style uses *et al.* in the main text as well as in parenthetical citations.

**Bibliographical Citations**

The following examples illustrate essential differences between Chicago and APA reference styles.

**Journal article**

**Chicago, documentation 1**


**APA**


**Book**

**Chicago**

APA

Chapter in a book

APA
Appendix H
Supplemental Print Resources for Writers and Editors

Three major style manuals are in use in different contexts at NCTM:


These sources offer a great deal of valuable information about American usage and common editorial practices as well as matters of style. Other sources provide additional details about usage and style along with general advice about writing, editing, and publishing. The list below is just a sampling of the available sources.

**Copyediting**


**Grammar, Usage, and Style**


2000.


**Punctuation**


**Citations**


**Publishing Process**


**Using Microsoft Word**


Appendix I
Trademarked Products

Algebra Tiles™
Apple®
BlackBerry®
Blackboard Collaborate™
Blackboard Connect™
Blackboard Inc.
Blackboard Learn™
Blackboard Mobile™
Blackboard Transact™
Cabri Geometry™
Calculation Nation®
CD
CD-ROM
Connecting Cuisenaire® Rods
Cuisenaire® Rods
Dell™
Digi-Block
Dynamic Geometry®
e-reader
Excel®
Fathom Dynamic Data™
GeoGebra
Geometer's Sketchpad®
Google Earth™
Google Maps™
Google Reader™
IBM® SPSS® Statistics
Intel®
iPad®
iPod®
iPhone®
Internet Explorer®
iTunes®
JMP® software
Kaleidomania!™
SketchUp™
LabPro®
Lego DUPLO®
LEGO®
Logger Pro®
M&M's®
Mac®
Magnetic Algebra Tiles™
Magnetic Cuisenaire® Rods
MapleNet™
MaplePrimes™
MapleSim™
Maple™
Mathematica®
MATLAB®
Microsoft Office
MINITAB®
Minitab® Statistical Software
multifix cubes
Nike Swoosh®
OneNote®
Polyspace®
Popsicle®
Post-it®
PowerPoint®
Safari®
Scientific Calc-U-Vue®
Senteo™
Simulink®
SMART Board™
smartphone
smarttech™
SMART™
Snow Leopard®
Tablet PC
Texas Instruments™
The Geometer’s Sketchpad®
TI-84Plus™
TI-Navigator™
TI-nspirc™
TI-SmartView™
Unifix® cubes
Weigh Too® Learn Algebra
Whiteboard
Winplot
YouTube™