Table of Contents

Style Guides, Usage Guides, and Dictionaries .................................................. 3

NCTM-Specific Terminology ........................................................................ 3
  Governance .................................................................................................... 4
  Ongoing Programs and Events .................................................................... 5
  Website and Online Presence ..................................................................... 6
  Mission Statement and Official Positions ................................................ 6
  Other Terminology ...................................................................................... 7

Electronic Terms .......................................................................................... 7

Education Terms ............................................................................................ 8
  General Terms ............................................................................................. 8
  Mathematics Education ............................................................................. 13
  Materials in the Mathematics Classroom ................................................ 15

Guidelines for Style and Usage ................................................................... 16
  Abbreviations .............................................................................................. 16
  Active Voice ................................................................................................ 17
  Campuses of Universities ......................................................................... 18
  Capitalization .............................................................................................. 18
  Contractions ................................................................................................ 19
  Dates ............................................................................................................ 19
  Ellipsis Points ............................................................................................. 19
  Hyphens and Related Matters ................................................................... 20
    Closed-up Words ....................................................................................... 20
    Hyphenated Words ................................................................................... 20
    Open Phrases ............................................................................................ 21
  Lists ............................................................................................................. 21
    Horizontal, Run-in Lists .......................................................................... 21
    Vertical Lists ............................................................................................ 21
  Mathematics and Symbols .......................................................................... 22
  Numbers ....................................................................................................... 23
  Parallelism .................................................................................................... 24
  Parentheses .................................................................................................. 24
  Possessives .................................................................................................. 25
  Punctuation and Grammar ......................................................................... 25
  Quotation Marks .......................................................................................... 26
  References and Citations ............................................................................ 27
  Sexism and Racism ...................................................................................... 27
  Software Programs ....................................................................................... 27
  Subject-Verb Agreement ............................................................................ 28
  Substitutes for Overused Words and Phrases ........................................... 28
  Tables and Figures ...................................................................................... 29
  Telephone Numbers .................................................................................... 29
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, 17th edition
- The Associated Press Stylebook, 2019
- Merriam-Webster Collegiate Dictionary, 11th edition

*Mathematics Teacher: Learning and Teaching PK-12 (MTLT)* and most NCTM books follow Chicago style. The *Journal for Research in Mathematics Education (JRME)* and *Mathematics Teacher Educator (MTE)* follow APA style (as do some books that present or analyze research results). News releases and *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. Although no less grammatically correct, marketing copy may adopt a more informal and conversational tone when deemed appropriate or necessary for a project or initiative. This may be accomplished by the use of such things as contractions and ellipses as well as varying sentence lengths to assist in conveying both message and tone and helping remain within strict word or character limits.

All NCTM publications with the exception of news releases use the Oxford (serial) comma. *Chicago* and *APA* both use the serial comma; *AP* does not.

NCTM-Specific Terminology

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; PC Chair Holly Hilbert.

Use lowercase for official NCTM titles when they appear after current or former officeholders’ names.

*Examples:* José 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 Publishing Committee.

Use lowercase for 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 the latter case, it is lowercase 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 Committee on Education and Labor.

Committees and Panels: Use initial caps with the names of specific committees established by the NCTM Board of Directors—for example, Publications 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 Publications Committee (PC).... The PC....”

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 Educator Editorial Panel; Journal for Research in Mathematics Education” (after the first reference: “MTE Editorial Panel,” “JRME Editorial Panel,” “the Editorial Panel,” “the panel”). Note that MTLT has an editorial board not a panel, an editor-in-chief, and associate editors.

Chair is preferred to chairman, chairwoman, or chairperson.

Ongoing Programs and Events

NCTM Annual Meeting & Exposition: Capitalize designations of particular NCTM annual meetings.


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 2019 Annual Meeting in San Diego is “Empowering the Mathematics Community.”

NCTM Regional Meeting & Exposition: See NCTM Annual Meeting & 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.
**Illuminations**: NCTM’s extensive Illuminations website features Standards-based resources to improve the teaching and learning of mathematics.

**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*.

**more4u; www.nctm.org/more4u**: Offers 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.”

**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.

**Mission Statement and Official Positions**

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

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 2018, follows:

> The National Council of Teachers of Mathematics advocates for high-quality mathematics teaching and learning for each and every student.

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

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.

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.

Other Terminology

**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 catchall shortened title for NCTM’s Standards publications, as recommended previously.

Electronic Terms

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

**Calculator and computer commands:** Designers will show in a different font (e.g., a sans serif if the body text is a serif font), will use small caps, and will use an initial cap. Copyeditors should not style but should make a note to the designer. That is, use body text, no caps, no bold, but indicate in some way that designer should apply the style.

Example: Press **Enter**.

**e- or e:** Lowercase combining form meaning electronic. With common nouns, a hyphen follows e to ensure readability: e-book, e-commerce, e-zine, e-publication (sometimes shortened to e-pub). 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. At the beginning of a sentence, e is uppercase only when it is followed by a hyphen. An exception to this rule is the term “email.”

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

internet is now lowercase; do not refer to it as “the Net.”
web, website

World Wide Web: Web addresses should be checked for accuracy in copyediting and rechecked in proofing.

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.

NCTM journals and books show the symbol ® or the symbol ™ after the first mention of a product that is, respectively, a registered trademark or an unregistered trademark. Avoid use of brand names as much as possible. If using a brand name, use the registered or unregistered trademark symbol only at the first mention of the product. Subsequent branded product mentions do not use the trademark symbols. Appendix I lists such products and identifies the appropriate symbol for each entry in the list.

General Terms

achievement gap

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

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).

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

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

childcare (n. and a.)

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 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.

Use 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 (referred to as “SMP 1,” etc.) 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.

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 (n.); decision-making (n. and adj.) But policymaker; policymaking (n. and adj.)

differentiated instruction: Specific, individualized instruction.

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); English learners (ELs)

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 (PK) are not, strictly speaking, grades. Use “PK-12” rather than the phrase “grades PK-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). Note Nouns before Numerals in Appendix B.

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.

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.

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.

**learning disabled gifted and talented (LDGT) students:** Use no internal punctuation. Also known as *twice exceptional children*.

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

**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*.

**middle school; middle-grades (adj.):** Usually designates grades 6-8; sometimes refers to grades 5-8.

**Multi-Tiered System of Support (MTSS)**

**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)**

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

**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.)

**policymaker (n.); policymaking (n. and adj.)**

**prekindergarten (PK):** Use the shortened form PK not pre-K.

**preservice:** See in-service.

**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.*

**problem-based learning (PBL)**
problem solver; problem solving (n.); problem-solving (adj.)

professional learning community (PLC)

pull-out program

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

read aloud (n.)

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

Response to Intervention (RTI)

results-based

risk taking (n.); risk taker (n.); risk-taking (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-age children: Not school-aged children.

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

seatwork


sense making (n.); sense-making (adj.): NCTM style differs from that of Merriam-Webster.

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.

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.)

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.)

upper elementary grades; upper grades: Generally, grades 3–5.

worksheet: Activity sheet is preferable.

Mathematics Education

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

AAS; ASA; SAS; SSA; SSS: Congruence theorems for triangles, sometimes written as “angle-angle-side”; “angle-side-angle”; “side-angle-side”; “side-side-angle”; and “side-side-side,” respectively. Letters are roman.

box-and-whisker 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.

double count

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

fundamental theorem of arithmetic; law of large numbers; etc.: 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 \( ABC \); etc.: 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., \( \overline{AB} \), \( \angle ABC \)). 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: 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

dot paper

The Geometer’s Sketchpad; GSP on second reference

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.

**US:** Show without periods, and use as an adjective. US is also allowed as a noun, but only if the meaning is clear from context.

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

- 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)

**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.

**State abbreviations:** Use two-letter postal abbreviations over traditional abbreviations when state names are used in reference lists, tables, etc. Spell out state names when they stand alone in running text: “NCTM headquarters are located in Virginia.”
Spell out state names when used with the name of a city (except for DC): “NCTM headquarters are located in Reston, Virginia.”

Summing Up and news releases use the traditional abbreviations for parenthetical references— for example, “Harry Reid (D-Nev.).”

**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.).

Retain the periods in all expressions using customary abbreviations—for example, “2 ft. + 3 ft.”; “ft./sec.”

Units of measure are 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* 10.20 and 10.30).

**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).

**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. 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. The Ohio State University (OSU) is another; note that it differs from University of Ohio.)

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.

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).
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.)

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.

Contractions
With the exception of let’s, NCTM publications almost always spell out pronouns as well as forms of to be rather than using contractions such as he’s, we’re, you’re. However, these and other contractions are acceptable and conventional in marketing and web copy, instances of dialogue, and in copy for Summing Up.

Dates
Use the conventional month, day, year style (September 3, 2019) rather than an inverted style (3 September 2019).

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 2019), 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, 2019, 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**

<table>
<thead>
<tr>
<th>blackline</th>
<th>fundraising (n.)</th>
<th>schoolteacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>childcare (n.)</td>
<td>guideline</td>
<td>schoolwork</td>
</tr>
<tr>
<td>classwork</td>
<td>login (n.)</td>
<td>socioeconomic</td>
</tr>
<tr>
<td>copyeditor (n.)</td>
<td>nonprofit</td>
<td>timeline</td>
</tr>
<tr>
<td>coursework</td>
<td>ongoing</td>
<td>timetable</td>
</tr>
<tr>
<td>eBook, eChapter (for NCTM product lines)</td>
<td>online</td>
<td>toolbox</td>
</tr>
<tr>
<td>email</td>
<td>prealgebra, precalculus</td>
<td>voicemail</td>
</tr>
<tr>
<td></td>
<td>schoolchildren</td>
<td>website</td>
</tr>
</tbody>
</table>

**HYPHENATED WORDS**

<table>
<thead>
<tr>
<th>box-and-whisker plot</th>
<th>middle-grades (adj.): middle-grades students—but middle school students (no hyphen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD-ROM</td>
<td>skip-count (v.); skip counting (n.) (open)</td>
</tr>
<tr>
<td>e-commerce, e-reader</td>
<td>ten-frame (similarly, ten-bar, hundred-square, etc.)</td>
</tr>
<tr>
<td>e-Standards</td>
<td>toll-free call (but call toll free)</td>
</tr>
<tr>
<td>fourth-grade (adj.):</td>
<td>two-year-old (n.; adj.)</td>
</tr>
<tr>
<td>fourth-grade students</td>
<td>warm-up (n.; adj.)</td>
</tr>
<tr>
<td>health-care (adj.):</td>
<td></td>
</tr>
<tr>
<td>health-care reform</td>
<td></td>
</tr>
</tbody>
</table>

Adjectives modified by well, lesser, etc. 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

count on (v.): “To solve the problem, we count on from seven.”

cross multiplication

decision maker

everal 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

professional development program

reform mathematics movement

road map (n.)

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

special education class

staff development seminar

teacher education programs

tool kit: NCTM products are referred to as toolkits

warm up (v.)

whole number system

Lists *(APA style differs from Chicago style; see APA pp. 63–65.)

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.

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). By 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). Retain the periods in operations (e.g., 2 ft. + 3 ft. = 6 ft.).
The measure of an angle—say, ∠ABC—is represented symbolically as \( m\angle ABC \), with an italic \( m \).

Do not use a Greek delta (\( \Delta \)) to stand for a triangle. If a triangle symbol is not available, write “triangle ABC” instead of “ABC.”

**Numbers**

Spell out numbers from one through nine, and use numerals to represent numbers 10 and higher. *This is a departure from Chicago and from previous NCTM style.*

Spell out numbers at the beginning of a sentence.

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

Rewrite when spelling out a number that 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:* Of 256 students graduating with honors, 137 students were planning to go to college.

Spell out round numbers or approximations.

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

Use numerals when focusing directly on numbers, operations, or numerical results.

Within a paragraph and throughout a problem, numerical forms should be consistent unless the author consciously wishes to vary the usage.

In activity sheets for students, use numerals.

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%).

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 “\( n \)th” 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 such phrases 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 a departure from previous NCTM style, in numbers with four digits (and more), separate groups of three digits in the conventional way by using commas (e.g., 4,567). Years or temperatures are exceptions to this rule.

- Displayed fractions can use customary spacing.

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.

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

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

Incorrect: This plan is quick, easy, effective, and makes good sense.
Correct: This plan is quick, easy, and effective and makes good sense.

Incorrect: She is not only intelligent but she is also pretty.
Correct: She is not only intelligent but also pretty.

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 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.” Do not italicize any of the listed items in the series.

Use parentheses to group mathematical expressions.
Possessives
Avoid using an apostrophe with the name of an organization or program consisting of more than one word.

*Incorrect:* The National Council of Teachers of Mathematics's goal was simple.

*Incorrect:* Educators recognize Race to the Top's importance in US education policy.

Recast such sentences:

*Example:* Educators recognize the importance of Race to the Top in US education policy.

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

*Example:* NCTM's goal was simple.

Possessives are formed by adding 's to a singular name or word. Plurals add just the apostrophe. (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
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, or Oxford, comma—a comma before the conjunction in a series.

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 (note that no comma comes before *if* below):

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

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.

*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.

**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 “quizzinta” for *goes into*) or words used in unconventional ways (see *neologism* in Merriam-Webster).
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 follows the style set out in “Documentation II: Author-Date References” (CMS, chapter 15).

- NCTM style departs from Chicago style in the use of p., which Chicago style omits. In author-date citations for direct quotations or close paraphrases of scholarly work, use p. before a page number.
  
  *Example:*  (Lopez 1958, p. 234)

**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). 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. Capitalize all descriptors of race (see also *Word Usage*).

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 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 he or she, or she or he, not (s)he.

**Software Programs**

Show the ™ symbol or the ® symbol after the first mention of software that is, respectively, a registered trademark or an unregistered trademark. See Appendix C for names and appropriate symbols.
Subject-Verb Agreement

The phrase more than one is singular.

*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

*Mathematics Teacher: Learning & Teaching PK-12 (MTLT)* and NCTM books follow the guidelines outlined below:

- In a figure caption, abbreviate, use an initial cap, bold face, and italics for the word *figure*: *Fig. 8.1*.
- Use a period after a figure caption only when it is a complete sentence.
- For a figure reference in the text (including within parentheses), use body text (no bold, no caps, no italics) and spell out *figure*.

Treat as tables only those elements that really are tabular matter. Other elements consisting of text should be treated as figures.

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.

Titles of games

tic-tac-toe: This traditional game has many name variants. NCTM prefers this form.

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

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

A trademarked game has an initial uppercase letter. Show the symbol ® or the symbol ™ after such a game.

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

Show a made-up game, often invented by a teacher, in quotation marks with initial caps.

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

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, etc.

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, 8.177, 14.190, and 14.195).

Example: Problems to Ponder is a department in the new MTLT journal.

Word Usage and Terminology

above: Alternatives include previous, preceding, and earlier.

Incorrect: The above example involves a quadratic equation.

Correct: The example above involves a quadratic equation.

afterward; backward; toward: Not afterwards, backwards, towards

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. Use among in cases of more than two. Between can also be used with multiple objects considered as two groups.

Example: The relationship between the $x$-value and the $y$-value was unclear.

Example: The relationship among the areas of the three triangles was one of similarity.
Example: The research examined the relationship between the ninth graders’ scores and the tenth graders’ scores.

Black; White; Latinx; Native American: Capitalize all descriptors 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. Use compared with when looking for both likenesses and differences.

Examples: Patrick compared the earth to an orange. 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).

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.

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” versus “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 to K and prekindergarten as PK.

Incorrect: Teachers of grades pre-K-2
Correct: Teachers of PK-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, for hopefully substitute I hope, we hope, it is hoped; for thankfully substitute fortunately, we are thankful, we are grateful.

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.
Using hopefully and thankfully is permissible 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.

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 the phrase 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: Use to or so that.

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 Summing Up and NCTM marketing materials. Math appears in such phrases as math lab, math anxiety, and mental math.

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.

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 does not 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.

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, and to save space, it is sometimes preferable to use the percent symbol %.
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. 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: 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—Because he had the flu, he stayed home.

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 passive 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.”
**utilize:** Do not use *utilize*, which sounds pretentious. Substitute *use* or another apt word. Synonyms for *utilize* include apply, employ, operate, draw on, make use of; related words include handle, manipulate, wield, work.

**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 e-mail.

*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*. 
Appendix A: Style for References

**Book**

**Electronic Book**

*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.*

**NCTM Yearbook**

**Article in a Book**

**Article in an NCTM Yearbook**

**Article in a Book in a Series**
<table>
<thead>
<tr>
<th>Type of Source</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
</tr>
<tr>
<td></td>
<td><em>Mathematics Teacher</em> 86 (1): 30-36. (See CMS 15.47)</td>
</tr>
<tr>
<td></td>
<td>OR</td>
</tr>
<tr>
<td></td>
<td><em>Mathematics Teacher</em> 86, no. 1 (January): 30-36.</td>
</tr>
<tr>
<td>Newspaper Article</td>
<td>Citations of newspaper and magazine articles are usually sufficient within the text. See CMS 14.198 15.49. If a bibliographic or reference list entry is needed, it would appear as follows:</td>
</tr>
<tr>
<td>Personal Communication</td>
<td>References to personal communication (telephone conversations, e-mail messages, and the like) are usually given parenthetically in the text instead of appearing in a reference list.</td>
</tr>
<tr>
<td></td>
<td>(Deborah Glass, April 10, 2009, pers. comm.).</td>
</tr>
</tbody>
</table>
Appendix B: Chicago Style vs. APA Style at a Glance

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.).

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

APA style caps all words of four or more letters.

Tables and Figures
JRME and MTE follow APA style when editing tables and figures:

• All figures and tables must be mentioned in the text. Capitalize the word, and spell it out.
• In APA style, the caption for a table is initial capped roman* and initial capped italic** with no ending punctuation:

  Example:  
  *Table 3  
  **Percentage of Teachers With Qualification and Experience Characteristics by Attribute Mastery

• In APA style, the caption for a figure is initial capped italic* and sentence case roman** with ending punctuation regardless of whether the sentence is complete:

  Example:  
  *Figure 11. **Proportion of mastery by attribute.

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. When 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. 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. Note the difference in comma use and the ampersand. 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.

CHICAGO

Up to three authors:
Parenthetically:
(Brown, Smith, and Jones 2004)

In text:
Brown, Smith, and Jones (2004)

More than three authors:
Parenthetically:
(Brown et al. 2004)

In text:
Brown and colleagues (2004)

APA

Up to five authors:
Parenthetically:
(Brown, Smith, Jones, Pike, & Johnson, 2004)

In text:
Brown, Smith, Jones, Pike, and Johnson (2004)

More than five authors:
Parenthetically:
(Brown et al., 2004)

In text:
Brown et al. (2004)

Journal article

Book

Chapter in a book

Journal article

Book

Chapter in a book
Appendix C: Trademarked Products

RS1/Departments/Journals/Registered Trademarks/Registered Trademarks.xls

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™ Software
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-nspire™
TI-SmartView™
Unifix® cubes
Weigh Too® Learn Algebra Balance
Whiteboard
Winplot
YouTube™