

ILLINOIS ACADEMIC STANDARDS*

GRADE 5

LANGUAGE ARTS

READING: INFORMATIONAL TEXT

RI.5.1	Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
RI.5.2	Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.
RI.5.3	Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.
RI.5.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.
RI.5.5	Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.
RI.5.6	Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.
RI.5.7	Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.
RI.5.8	Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).

READING: FOUNDATIONAL SKILLS

RF.5.3	Know and apply grade-level phonics and word analysis skills in decoding words.
RF.5.3.a.	Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.
RF.5.4	Read with sufficient accuracy and fluency to support comprehension.
RF.5.4.a.	Read on-level text with purpose and understanding.
RF.5.4.c.	Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

LANGUAGE

L.5.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies.
L.5.4.a.	Use context (e.g., cause/effect relationships and comparisons in text) as a clue to the meaning of a word or phrase.
L.5.4.b.	Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., photograph, photosynthesis).
L.5.4.c.	Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.
L.5.6	Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., however, although, nevertheless, similarly, moreover, in addition).



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ILLINOIS ACADEMIC STANDARDS*

GRADE 5

LANGUAGE ARTS

WRITING

W.5.1	Write opinion pieces on topics or texts, supporting a point of view with reasons and information.
W.5.1.a.	Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer’s purpose.
W.5.1.b.	Provide logically ordered reasons that are supported by facts and details.
W.5.1.c.	Link opinion and reasons using words, phrases, and clauses (e.g., consequently, specifically).
W.5.1.d.	Provide a concluding statement or section related to the opinion presented.
W.5.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
W.5.2.a.	Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.
W.5.2.b.	Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
W.5.2.c.	Link ideas within and across categories of information using words, phrases, and clauses (e.g., in contrast, especially).
W.5.2.d.	Use precise language and domain-specific vocabulary to inform about or explain the topic.
W.5.2.e.	Provide a concluding statement or section related to the information or explanation presented.
W.5.4	Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.
W.5.8	Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.
W.5.9	Draw evidence from literary or informational texts to support analysis, reflection, and research.

SPEAKING AND LISTENING

SL.5.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others’ ideas and expressing their own clearly.
SL.5.1.a.	Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.
SL.5.1.b.	Follow agreed-upon rules for discussions and carry out assigned roles.
SL.5.1.c.	Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.
SL.5.1.d.	Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.
SL.5.4	Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.



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ILLINOIS ACADEMIC STANDARDS*

GRADE 5

MATHEMATICS

OPERATIONS AND ALGEBRAIC THINKING

5.OA.A.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.

NUMBERS AND OPERATIONS IN BASE TEN

5.NBT.A.1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.

5.NBT.A.3 Read, write, and compare decimals to thousandths.

5.NBT.B.5 Fluently multiply multi-digit whole numbers using the standard algorithm.

5.NBT.B.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

MEASUREMENT AND DATA

5.MD.A.1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

5.MD.C.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

5.MD.C.3.a. A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.

5.MD.C.3.b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.

5.MD.C.4 Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.

5.MD.C.5 Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

5.MD.C.5.b. Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.

GEOMETRY

5.G.A.1 Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).

5.G.A.2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.



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GRADE 5

SCIENCE

PHYSICAL SCIENCES

5-PS1-1.	Develop a model to describe that matter is made of particles too small to be seen.
5-PS1-2.	Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.
5-PS1-4.	Conduct an investigation to determine whether the mixing of two or more substances results in new substances.
5-PS2-1.	Support an argument that the gravitational force exerted by Earth on objects is directed down.

LIFE SCIENCES

5-LS1-1.	Support an argument that plants get the materials they need for growth chiefly from air and water.
5-LS2-1.	Develop a model to describe the movement of matter and energy among producers, consumers, decomposers, and the environment.

EARTH AND SPACE SCIENCES

5-ESS2-2.	Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.
5-ESS3-1.	Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

ENGINEERING DESIGN

3-5-ETS1-1.	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
3-5-ETS1-2.	Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
3-5-ETS1-3.	Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.



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ILLINOIS ACADEMIC STANDARDS*

GRADE 6

LANGUAGE ARTS

READING IN SCIENCE AND TECHNICAL SUBJECTS

RST.6-8.1	Cite specific textual evidence to support analysis of science and technical texts.
RST.6-8.2	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
RST.6-8.3	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
RST.6-8.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.
RST.6-8.5	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
RST.6-8.6	Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
RST.6-8.7	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually.
RST.6-8.8	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
RST.6-8.9	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
RST.6-8.10	By the end of grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently.

READING: INFORMATIONAL TEXT

RI.6.1	Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
RI.6.2	Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.
RI.6.3	Analyze in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a text.
RI.6.4	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.
RI.6.5	Analyze how a particular sentence, paragraph, chapter, or section fits into the overall structure of a text and contributes to the development of the ideas.
RI.6.6	Determine an author’s point of view or purpose in a text and explain how it is conveyed.
RI.6.7	Integrate information presented in different media or formats as well as in words to develop a coherent understanding of a topic or issue.
RI.6.8	Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not.
RI.6.10	By the end of the year, read and comprehend literary nonfiction in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range.



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ILLINOIS ACADEMIC STANDARDS*

GRADE 6

LANGUAGE ARTS

WRITING

W.6.1	Write arguments to support claims with clear reasons and relevant evidence.
W.6.2	Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
W.6.3	Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.
W.6.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
W.6.9	Draw evidence from informational texts to support analysis, reflection, and research.
W.6.10	Write routinely over extended time frames and shorter time frames for a range of discipline-specific tasks, purposes, and audiences.

SPEAKING AND LISTENING

SL.6.1	Engage effectively in a range of collaborative discussions with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.
SL.6.4	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.

LANGUAGE

L.6.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 6 reading and content, choosing flexibly from a range of strategies.
L.6.6	Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

WRITING IN SCIENCE AND TECHNICAL SUBJECTS

WHST.6-8.1	Write arguments focused on discipline-specific content.
WHST.6-8.2	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.
WHST.6-8.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
WHST.6-8.9	Draw evidence from informational texts to support analysis, reflection, and research.
WHST.6-8.10	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.



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GRADE 6

MATHEMATICS

RATIOS AND PROPORTIONAL RELATIONSHIPS

6.RP.1	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.
6.RP.2	Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship.
6.RP.3	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

THE NUMBER SYSTEM

6.NS.2	Fluently divide multi-digit numbers using the standard algorithm.
6.NS.3	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.
6.NS.5	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero).

EXPRESSIONS AND EQUATIONS

6.EE.1	Write and evaluate numerical expressions involving whole-number exponents.
6.EE.2	Write, read, and evaluate expressions in which letters stand for numbers.
6.EE.6	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.

GEOMETRY

6.G.2	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = l w h$ and $V = b h$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.
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STATISTICS AND PROBABILITY

6.SP.1	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers.
6.SP.2	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.
6.SP.4	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
6.SP.5	Summarize numerical data sets in relation to their context, such as by:
6.SP.5.a.	Reporting the number of observations.
6.SP.5.b.	Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.



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ILLINOIS ACADEMIC STANDARDS*

GRADE 6

SCIENCE

ENERGY

MS-PS3-3	Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer.
MS-PS3-4	Plan an investigation to determine the relationships among the and the change in the average kinetic energy of the particles as measured by the temperature of the sample.
MS-PS3-5	Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.

EARTH'S SYSTEMS

MS-ESS2-4	Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.
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EARTH AND HUMAN ACTIVITY

MS-ESS3-3	Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.
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ENGINEERING DESIGN

MS-ETS1-1	Define the criteria and constraints of a design problem, accounting for scientific principles and impacts on people and the natural environment that may limit possible solutions.
MS-ETS1-2	Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.
MS-ETS1-3	Analyze data to determine similarities and differences to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.



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