



LEGO Maker Simple Machines

LEGO® Education Simple Machines use LEGO® bricks and creative activities to make interactive, exploration-based learning easier than ever to achieve. Exploring real-world tasks with a hands-on approach, Simple Machines provides students in grades 3–5 with a deeper understanding of science and engineering concepts and processes. Designed with collaboration in mind, each set supports two students as it engages them in problem-solving activities that will motivate them to delve into the concepts of energy, balance, and mechanics, all while encouraging investigation skills. The cost for this trunk is \$25 for a week based on availability. All supplies needed for the lessons are provided in the trunk.



TEKS for Lego Simple Machines:

112.14. Science, Grade 3, Adopted 2017

(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and outdoor investigations. The student is expected to:

(A) plan and implement descriptive investigations, including asking and answering questions, making inferences, and selecting and using equipment or technology needed, to solve a specific problem in the natural world.

(D) analyze and interpret patterns in data to construct reasonable explanations based on evidence from investigations.

(F) communicate valid conclusions supported by data in writing, by drawing pictures, and through verbal discussions.

(6) Force, motion, and energy. The student knows that forces cause change and that energy exists in many forms. The student is expected to:

(A) explore different forms of energy, including mechanical, light, sound, and heat/thermal in everyday life.

(B) demonstrate and observe how position and motion can be changed by pushing and pulling objects such as swings, balls, and wagons.

112.15. Science, Grade 4, Adopted 2017

(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and outdoor investigations. The student is expected to:

(A) plan in implement descriptive investigations, including asking well-defined questions, making inferences, and selecting and using appropriate equipment or technology to answer his/her questions.

((D) analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured.

(F) communicate valid, oral, and written results supported by data.

(6) Force, motion, and energy. The student knows that energy exists in many forms and can be observed in cycles, patterns, and systems. The student is expected to:

(A) differentiate among forms of energy, including mechanical, sound, electrical, light, and thermal.

(D) design a descriptive investigation to explore the effect of force on an object such as a push or a pull, gravity, friction, or magnetism.

112.16. Science, Grade 5, Adopted 2017

(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and outdoor investigations. The student is expected to:

(A) describe, plan, and implement simple experimental investigations testing one variable.

(D) analyze and interpret information to construct reasonable explanations from direct (observable) evidence.

(F) communicate valid conclusions in both written and verbal forms.

(6) Force, motion, and energy. The student knows that forces cause change and that energy exists in many forms. The student is expected to:

(A) explore different forms of energy, including mechanical, light, sound, and heat/thermal in everyday life.

110.5. English Language Arts and Reading, Grade 3, Adopted 2017.

110.6. English Language Arts and Reading, Grade 4, Adopted 2017.

110.7. English Language Arts and Reading, Grade 5, Adopted 2017.

(6) Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:

(A) establish purpose for reading assigned and self-selected texts.

(B) generate questions about text before, during, and after reading to deepen understanding and gain information.

(C) make and correct or confirm predictions using text feature, characteristics of genre, and structures.

(D) create mental images to deepen understanding.

(E) make connections to personal experiences, ideas in other texts, and society.

(F) make inferences and use evidence to support understanding.

(G) evaluate details read to determine key ideas.

(H) synthesize information to create new understanding.

(I) monitor comprehension and make adjustments such as re-reading, using background knowledge, asking questions, and annotating when understanding breaks down.

(10) Author's purpose and craft: listening, speaking, reading, writing, and thinking using multiple texts. The student's uses critical inquiry to analyze the authors' choices and how they influence and communicate meaning within a variety of texts. The student analyzes and applies author's craft purposefully in order to develop his or her own products and performances. The student is expected to:

(A) explain the author's purpose and message within a text.

(B) analyze how the use of text structure contributes to the author's purpose

(13) Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes.

(C) identify and gather relevant information from variety of sources

(E) demonstrate understanding of information gathered.

111.5. Mathematics Grade 3, Adopted 2012

111.6. Mathematics Grade 4, Adopted 2012

111.7. Mathematics Grade 5, Adopted 2012

(b) Knowledge and skills,

(1) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:

(A) Apply mathematics to problems arising in everyday life, society, and the workplace.

(B) Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.

(C) Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.

(D) Communicate mathematical ideas, reasoning, and their implication using multiple representation, including symbols, diagrams, graphs, and language as appropriate.

(E) Create and use representations to organize, record, and communicate mathematical ideas.

(F) Analyze mathematical relationships to connect and communicate mathematical ideas.

(G) Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.