

Santillana
Intensive English
Levels 4-6

correlated to

California
Science Content Standards
Grades 4-6

Santillana Intensive English Level 4-6
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Grade 4-6

Grade 4	
Physical Sciences	
1. Electricity and magnetism are related effects that have many useful applications in everyday life. As a basis for understanding this concept:	
a. Students know how to design and build simple series and parallel circuits by using components such as wires, batteries, and bulbs.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
b. Students know how to build a simple compass and use it to detect magnetic effects, including Earth's magnetic field.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
c. Students know electric currents produce magnetic fields and know how to build a simple electromagnet.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
d. Students know electrically charged objects attract or repel each other.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
e. Students know the role of electromagnets in the construction of electric motors, electric generators, and simple devices, such as doorbells and earphones.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
f. Students know that magnets have two poles (north and south) and that like poles repel each other while unlike poles attract each other	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
g. Students know electrical energy can be converted to heat, light, and motion.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
Life Sciences	
2. All organisms need energy and matter to live and grow. As a basis for understanding this concept:	
a. Students know plants are the primary source of matter and energy entering most food chains.	Lesson Cards: 4.34, 4.43, 4.47, 4.82, 4.84, 4.85 User's Guide: 97, 108, 112, 155, 157-158, 237-240 Open Doors: 93
b. Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.	Lesson Cards: 4.34, 4.82, 4.84, 4.85 User's Guide: 97, 155, 157-158, 237-240 Open Doors: 93 Vocabulary Enrichment Workbook: 4.82, 4.84, 4.85
c. Students know decomposers, including many fungi, insects, and microorganisms,	Lesson Cards: 4.43, 4.47 User's Guide: 108, 112

Santillana Intensive English Level 4-6
correlated to
California Science Content Standards
Grade 4-6

recycle matter from dead plants and animals.	Open Doors: 137
3. Living organisms depend on one another and on their environment for survival. As a basis for understanding this concept:	
a. Students know ecosystems can be characterized by their living and nonliving components.	Lesson Cards: 4.41, 4.43, 4.44, 4.45, 4.46, 4.47, 4.51, 4.53, 4.54, 4.81, 4.103, 4.104 User's Guide: 106, 108-112, 118, 120-121, 154, 180-181 Open Doors: 128-129, 150-151, 155-156, 232-233 Student Readers: 36-44, 55-64 Vocabulary Enrichment Workbook: 4.41, 4.46, 4.47, 4.81, 4.103, 4.104
b. Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.	Lesson Cards: 4.51, 4.53, 4.54, 4.81, 4.86 User's Guide: 118, 120-121, 154, 159 Student Readers: 86-94, 105-114
c. Students know many plants depend on animals for pollination and seed dispersal, and animals depend on plants for food and shelter.	Lesson Cards: 4.34, 4.84, 4.85 User's Guide: 108, 157-158, 237-240 Open Doors: 93
d. Students know that most microorganisms do not cause disease and that many are beneficial.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
Earth Sciences	
4. The properties of rocks and minerals reflect the processes that formed them. As a basis for understanding this concept:	
a. Students know how to differentiate among igneous, sedimentary, and metamorphic rocks by referring to their properties and methods of formation (the rock cycle).	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
b. Students know how to identify common rock-forming minerals (including quartz, calcite, feldspar, mica, and hornblende) and ore minerals by using a table of diagnostic properties.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
4. Waves, wind, water, and ice shape and reshape Earth's land surface. As a basis for understanding this concept:	
a. Students know some changes in the earth are due to slow processes, such as	This content standard falls outside the scope of <i>Santillana Intensive English</i> .

Santillana Intensive English Level 4-6
correlated to
California Science Content Standards
Grade 4-6

erosion, and some changes are due to rapid processes, such as landslides, volcanic eruptions, and earthquakes.	
b. Students know natural processes, including freezing and thawing and the growth of roots, cause rocks to break down into smaller pieces.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
c. Students know moving water erodes landforms, reshaping the land by taking it away from some places and depositing it as pebbles, sand, silt, and mud in other places (weathering, transport, and deposition).	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
Investigation and Experimentation	
6. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will:	
a. Differentiate observation from inference (interpretation) and know scientists' explanations come partly from what they observe and partly from how they interpret their observations.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
b. Measure and estimate the weight, length, or volume of objects.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
c. Formulate and justify predictions based on cause-and-effect relationships.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
d. Conduct multiple trials to test a prediction and draw conclusions about the relationships between predictions and results.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
e. Construct and interpret graphs from measurements.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
f. Follow a set of written instructions for a scientific investigation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .

Santillana Intensive English Level 4-6
correlated to
California Science Content Standards
Grade 4-6

Grade 5	
Physical Sciences	
1. Elements and their combinations account for all the varied types of matter in the world. As a basis for understanding this concept:	
a. Students know that during chemical reactions the atoms in the reactants rearrange to form products with different properties.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
b. Students know all matter is made of atoms, which may combine to form molecules.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
c. Students know metals have properties in common, such as high electrical and thermal conductivity. Some metals, such as aluminum (Al), iron (Fe), nickel (Ni), copper (Cu), silver (Ag), and gold (Au), are pure elements; others, such as steel and brass, are composed of a combination of elemental metals.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
d. Students know that each element is made of one kind of atom and that the elements are organized in the periodic table by their chemical properties.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
e. Students know scientists have developed instruments that can create discrete images of atoms and molecules that show that the atoms and molecules often occur in well-ordered arrays.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
f. Students know differences in chemical and physical properties of substances are used to separate mixtures and identify compounds.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
g. Students know properties of solid, liquid, and gaseous substances, such as sugar (C ₆ H ₁₂ O ₆), water (H ₂ O), helium (He), oxygen (O ₂), nitrogen (N ₂), and carbon dioxide (CO ₂).	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
h. Students know living organisms and most materials are composed of just a few elements.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
i. Students know the common properties of	This content standard falls outside the scope

Santillana Intensive English Level 4-6
correlated to
California Science Content Standards
Grade 4-6

salts, such as sodium chloride (NaCl).	of <i>Santillana Intensive English</i> .
Life Sciences	
2. Plants and animals have structures for respiration, digestion, waste disposal, and transport of materials. As a basis for understanding this concept:	
a. Students know many multicellular organisms have specialized structures to support the transport of materials.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
b. Students know how blood circulates through the heart chambers, lungs, and body and how carbon dioxide (CO ₂) and oxygen (O ₂) are exchanged in the lungs and tissues.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
c. Students know the sequential steps of digestion and the roles of teeth and the mouth, esophagus, stomach, small intestine, large intestine, and colon in the function of the digestive system.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
d. Students know the role of the kidney in removing cellular waste from blood and converting it into urine, which is stored in the bladder.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
e. Students know how sugar, water, and minerals are transported in a vascular plant.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
f. Students know plants use carbon dioxide (CO ₂) and energy from sunlight to build molecules of sugar and release oxygen.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
g. Students know plant and animal cells break down sugar to obtain energy, a process resulting in carbon dioxide (CO ₂) and water (respiration).	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
Earth Sciences	
3. Water on Earth moves between the oceans and land through the processes of evaporation and condensation. As a basis for understanding this concept:	
a. Students know most of Earth's water is present as salt water in the oceans, which cover most of Earth's surface.	Lesson Cards: 5.33
b. Students know when liquid water evaporates, it turns into water vapor in the air and can reappear as a liquid when	This content standard falls outside the scope of <i>Santillana Intensive English</i> .

Santillana Intensive English Level 4-6
correlated to
California Science Content Standards
Grade 4-6

cooled or as a solid if cooled below the freezing point of water.	
c. Students know water vapor in the air moves from one place to another and can form fog or clouds, which are tiny droplets of water or ice, and can fall to Earth as rain, hail, sleet, or snow.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
d. Students know that the amount of fresh water located in rivers, lakes, underground sources, and glaciers is limited and that its availability can be extended by recycling and decreasing the use of water.	Lesson Cards: 5.34
e. Students know the origin of the water used by their local communities.	Lesson Cards: 5.42
4. Energy from the Sun heats Earth unevenly, causing air movements that result in changing weather patterns. As a basis for understanding this concept:	
a. Students know uneven heating of Earth causes air movements (convection currents).	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
b. Students know the influence that the ocean has on the weather and the role that the water cycle plays in weather patterns.	Lesson Cards: 5.43
c. Students know the causes and effects of different types of severe weather.	Lesson Cards: 5.43
d. Students know how to use weather maps and data to predict local weather and know that weather forecasts depend on many variables.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
e. Students know that the Earth's atmosphere exerts a pressure that decreases with distance above Earth's surface and that at any point it exerts this pressure equally in all directions.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
5. The solar system consists of planets and other bodies that orbit the Sun in predictable paths. As a basis for understanding this concept:	
a. Students know the Sun, an average star, is the central and largest body in the solar system and is composed primarily	This content standard falls outside the scope of <i>Santillana Intensive English</i> .

Santillana Intensive English Level 4-6
correlated to
California Science Content Standards
Grade 4-6

of hydrogen and helium.	
b. Students know the solar system includes the planet Earth, the Moon, the Sun, eight other planets and their satellites, and smaller objects, such as asteroids and comets.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
c. Students know the path of a planet around the Sun is due to the gravitational attraction between the Sun and the planet.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
Investigation and Experimentation	
6. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will:	
a. Classify objects (e.g., rocks, plants, leaves) in accordance with appropriate criteria.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
b. Develop a testable question.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
c. Plan and conduct a simple investigation based on a student-developed question and write instructions others can follow to carry out the procedure.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
d. Identify the dependent and controlled variables in an investigation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
e. Identify a single independent variable in a scientific investigation and explain how this variable can be used to collect information to answer a question about the results of the experiment.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
f. Select appropriate tools (e.g., thermometers, meter sticks, balances, and graduated cylinders) and make quantitative observations.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
g. Record data by using appropriate graphic representations (including charts, graphs, and labeled diagrams) and make inferences based on those data.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
h. Draw conclusions from scientific	

Santillana Intensive English Level 4-6
correlated to
California Science Content Standards
Grade 4-6

evidence and indicate whether further information is needed to support a specific conclusion.	
i. Write a report of an investigation that includes conducting tests, collecting data or examining evidence, and drawing conclusions. j.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
Grade 6	
Focus on Earth Science	
Plate Tectonics and Earth's Structure	
1. Plate tectonics accounts for important features of Earth's surface and major geologic events. As a basis for understanding this concept:	
a. Students know evidence of plate tectonics is derived from the fit of the continents; the location of earthquakes, volcanoes, and midocean ridges; and the distribution of fossils, rock types, and ancient climatic zones.	Lesson Cards: 6.41, 6.42, 6.45, 6.46 User's Guide: 100, 101, 104, 105 Speed Reads and Dialogue: 56, 58, 63, 65
b. Students know Earth is composed of several layers: a cold, brittle lithosphere; a hot, convecting mantle; and a dense, metallic core.	Lesson Cards: 6.41 User's Guide: 100 Open Doors: 101, 102 Speed Reads and Dialogue: 56
c. Students know lithospheric plates the size of continents and oceans move at rates of centimeters per year in response to movements in the mantle.	Lesson Cards: 6.41, 6.43 User's Guide: 100, 102 Open Doors: 106, 107 Speed Reads and Dialogue: 56, 59
d. Students know that earthquakes are sudden motions along breaks in the crust called faults and that volcanoes and fissures are locations where magma reaches the surface.	Lesson Cards: 6.43, 6.45 User's Guide: 102, 104 Open Doors: 106, 107, 113, 114 Speed Reads and Dialogue: 59, 63
e. Students know major geologic events, such as earthquakes, volcanic eruptions, and mountain building, result from plate motions.	Lesson Cards: 6.42, 6.45, 6.46 User's Guide: 101, 104, 105 Open Doors: 106, 107, 113, 114, 116, 117 Speed Reads and Dialogue: 58, 63, 65
f. Students know how to explain major features of California geology (including mountains, faults, volcanoes) in terms of plate tectonics.	Lesson Cards: 6.45 User's Guide: 104 Speed Reads and Dialogue: 63
g. Students know how to determine the	Lesson Cards: 6.45

Santillana Intensive English Level 4-6
correlated to
California Science Content Standards
Grade 4-6

epicenter of an earthquake and know that the effects of an earthquake on any region vary, depending on the size of the earthquake, the distance of the region from the epicenter, the local geology, and the type of construction in the region.	User's Guide: 104 Speed Reads and Dialogue: 63
Shaping Earth's Surface	
2. Topography is reshaped by the weathering of rock and soil and by the transportation and deposition of sediment. As a basis for understanding this concept:	
a. Students know water running downhill is the dominant process in shaping the landscape, including California's landscape.	Lesson Cards: 6.49 User's Guide: 108 Speed Reads and Dialogue: 69
b. Students know rivers and streams are dynamic systems that erode, transport sediment, change course, and flood their banks in natural and recurring patterns.	Lesson Cards: 6.49, 6.50 User's Guide: 108, 109 Speed Reads and Dialogue: 69, 71
c. Students know beaches are dynamic systems in which the sand is supplied by rivers and moved along the coast by the action of waves.	Lesson Cards: 6.49 User's Guide: 108 Speed Reads and Dialogue: 69
d. Students know earthquakes, volcanic eruptions, landslides, and floods change human and wildlife habitats.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
Heat (Thermal Energy) (Physical Sciences)	
3. Heat moves in a predictable flow from warmer objects to cooler objects until all the objects are at the same temperature. As a basis for understanding this concept:	
a. Students know energy can be carried from one place to another by heat flow or by waves, including water, light and sound waves, or by moving objects.	Lesson Cards: 6.52 User's Guide: 113 Open Doors: 131, 132 Speed Reads and Dialogue: 74
b. Students know that when fuel is consumed, most of the energy released becomes heat energy.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
c. Students know heat flows in solids by conduction (which involves no flow of matter) and in fluids by conduction and by convection (which involves flow of matter).	Lesson Cards: 6.52, 6.53 User's Guide: 113, 114 Open Doors: 131, 132 Speed Reads and Dialogue: 74, 75
d. Students know heat energy is also transferred between objects by radiation	Lesson Cards: 6.52 User's Guide: 113

Santillana Intensive English Level 4-6
correlated to
California Science Content Standards
Grade 4-6

(radiation can travel through space).	Speed Reads and Dialogue: 74
Energy in the Earth System	
4. Many phenomena on Earth's surface are affected by the transfer of energy through radiation and convection currents. As a basis for understanding this concept:	
a. Students know the sun is the major source of energy for phenomena on Earth's surface; it powers winds, ocean currents, and the water cycle.	Lesson Cards: 6.53 User's Guide: 114 Open Doors: 143, 144 Speed Reads and Dialogue: 75
b. Students know solar energy reaches Earth through radiation, mostly in the form of visible light.	Lesson Cards: 6.53, 6.54 User's Guide: 114, 115 Speed Reads and Dialogue: 75, 77
c. Students know heat from Earth's interior reaches the surface primarily through convection.	Lesson Cards: 6.53 User's Guide: 114 Speed Reads and Dialogue: 75
d. Students know convection currents distribute heat in the atmosphere and oceans.	Lesson Cards: 6.53 User's Guide: 114 Speed Reads and Dialogue: 75
e. Students know differences in pressure, heat, air movement, and humidity result in changes of weather.	Lesson Cards: 6.53, 6.54 User's Guide: 114, 115 Speed Reads and Dialogue: 75, 77
Ecology (Life Sciences)	
5. Organisms in ecosystems exchange energy and nutrients among themselves and with the environment. As a basis for understanding this concept:	
a. Students know energy entering ecosystems as sunlight is transferred by producers into chemical energy through photosynthesis and then from organism to organism through food webs.	Lesson Cards: 6.56 User's Guide: 117 Open Doors: 150 Speed Reads and Dialogue: 81
b. Students know matter is transferred over time from one organism to others in the food web and between organisms and the physical environment.	Lesson Cards: 6.56 User's Guide: 117 Open Doors: 150 Speed Reads and Dialogue: 81
c. Students know populations of organisms can be categorized by the functions they serve in an ecosystem.	Lesson Cards: 6.56 User's Guide: 117 Open Doors: 150 Speed Reads and Dialogue: 81
d. Students know different kinds of organisms may play similar ecological roles in similar biomes.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
e. Students know the number and types of	Lesson Cards: 6.57

Santillana Intensive English Level 4-6
correlated to
California Science Content Standards
Grade 4-6

organisms an ecosystem can support depends on the resources available and on abiotic factors, such as quantities of light and water, a range of temperatures, and soil composition.	User's Guide: 118 Speed Reads and Dialogue: 83
Resources	
6. Sources of energy and materials differ in amounts, distribution, usefulness, and the time required for their formation. As a basis for understanding this concept:	
a. Students know the utility of energy sources is determined by factors that are involved in converting these sources to useful forms and the consequences of the conversion process.	Lesson Cards: 6.55, 6.58 User's Guide: 116, 119 Speed Reads and Dialogue: 79, 85
b. Students know different natural energy and material resources, including air, soil, rocks, minerals, petroleum, fresh water, wildlife, and forests, and know how to classify them as renewable or nonrenewable.	Lesson Cards: 6.58, 6.59 User's Guide: 119, 120 Speed Reads and Dialogue: 85, 87
c. Students know the natural origin of the materials used to make common objects.	Lesson Cards: 6.107 User's Guide: 178 Speed Reads and Dialogue: 175
Investigation and Experimentation	
7. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will:	
a. Develop a hypothesis.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
b. Select and use appropriate tools and technology (including calculators, computers, balances, spring scales, microscopes, and binoculars) to perform tests, collect data, and display data.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
c. Construct appropriate graphs from data and develop qualitative statements about the relationships between variables.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
d. Communicate the steps and results from an investigation in written reports and oral presentations.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
e. Recognize whether evidence is consistent with a proposed explanation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .

Santillana Intensive English Level 4-6
correlated to
California Science Content Standards
Grade 4-6

f. Read a topographic map and a geologic map for evidence provided on the maps and construct and interpret a simple scale map.	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
g. Interpret events by sequence and time from natural phenomena (e.g., the relative ages of rocks and intrusions).	This content standard falls outside the scope of <i>Santillana Intensive English</i> .
h. Identify changes in natural phenomena over time without manipulating the phenomena (e.g., a tree limb, a grove of trees, a stream, a hill slope).	This content standard falls outside the scope of <i>Santillana Intensive English</i> .