

Santillana
Intensive English
Levels 4-8

correlated to

Arizona
Science Academic Standards
Grades 4-8

Santillana Intensive English Level 4-8
correlated to
Arizona Science Academic Standards
Grade 4-8

Grade 4	
Strand 1: Inquiry Process	
Concept 1: Observations, Questions, and Hypotheses	
Observe, ask questions, and make predictions.	
PO 1. Differentiate inferences from observations.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Formulate a relevant question through observations that can be tested by an investigation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Locate information (e.g., book, article, website) related to an investigation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 2: Scientific Testing (Investigating and Modeling)	
Participate in planning and conducting investigations, and recording data.	
PO 1. Demonstrate safe behavior and appropriate procedures (e.g., use and care of technology, materials, organisms) in all science inquiry.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Plan a simple investigation that identifies the variables to be controlled.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Conduct controlled investigations (e.g., related to erosion, plant life cycles, weather, magnetism) in life, physical, and Earth and space sciences.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Measure using appropriate tools (e.g., ruler, scale, balance) and units of measure (i.e., metric, U.S. customary).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Record data in an organized and appropriate format (e.g., t-chart, table, list, written log).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 3: Analysis and Conclusions	
Organize and analyze data; compare to predictions.	
PO 1. Analyze data obtained in a scientific investigation to identify trends.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Formulate conclusions based upon identified trends in data.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Determine that data collected is consistent with the formulated question.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Determine whether the data supports the prediction for an investigation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Develop new questions and predictions based upon the data collected in the investigation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 4: Communication	
Communicate results of investigations.	
PO 1. Communicate verbally or in writing the results of an inquiry.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Choose an appropriate graphic representation for collected data:	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

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<ul style="list-style-type: none"> • bar graph • line graph • Venn diagram • model 	
PO 3. Communicate with other groups or individuals to compare the results of a common investigation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Strand 2: History and Nature of Science

Concept 1: History of Science as a Human Endeavor

Identify individual and cultural contributions to scientific knowledge.

PO 1. Identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations (e.g., Margaret Mead [anthropologist], supports Strand 4; Nikola Tesla [engineer, inventor] supports Strand 5; Michael Faraday [scientist], supports Strand 5; Benjamin Franklin [scientist], supports Strand 5).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Describe science-related career opportunities.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Concept 2: Nature of Scientific Knowledge

Understand how science is a process for generating knowledge.

PO 1. Explain the role of experimentation in scientific inquiry.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Describe the interaction of components in a system (e.g., flashlight, radio).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Explain various ways scientists generate ideas (e.g., observation, experiment, collaboration, theoretical and mathematical models).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Strand 3: Science in Personal and Social Perspectives

Concept 1: Changes in Environments

Describe the interactions between human populations, natural hazards, and the environment.

PO 1. Describe how natural events and human activities have positive and negative impacts on environments (e.g., fire, floods, pollution, dams).	Lesson Cards: 4.87, 4.92, 4.94, 4.95, 4.97, 4.98, 4.100 Users Guide: 160, 167, 169, 170, 172, 173, 175
PO 2. Evaluate the consequences of environmental occurrences that happen either rapidly (e.g., fire, flood, tornado) or over a long period of time (e.g., drought, melting ice caps, the greenhouse effect, erosion).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Concept 2: Science and Technology in Society

Understand the impact of technology.

PO 1. Describe how science and technology (e.g., computers, air conditioning, medicine) have improved the lives of many people.	Lesson Cards: 4.110 Users Guide: 187
PO 2. Describe benefits (e.g., easy communications, rapid transportation) and risks (e.g., pollution,	Lesson Cards: 4.110 Users Guide: 187

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destruction of natural resources) related to the use of technology.	
PO 3. Design and construct a technological solution to a common problem or need using common materials.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Strand 4: Life Science	
Concept 1: Characteristics of Organisms	
Understand that basic structures in plants and animals serve a function.	
PO 1. Compare structures in plants (e.g., roots, stems, leaves, flowers) and animals (e.g., muscles, bones, nerves) that serve different functions in growth and survival.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Classify animals by identifiable group characteristics: <ul style="list-style-type: none"> • vertebrates – mammals, birds, fish, reptiles, amphibians • invertebrates – insects, arachnids 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 3: Organisms and Environments	
Understand the relationships among various organisms and their environment.	
PO 1. Describe ways various resources (e.g., air, water, plants, animals, soil) are utilized to meet the needs of a population.	Lesson Cards: 4.21, 4.23, 4.25, 4.26, 4.27, 4.28 Users Guide: 82, 84, 86, 87, 88, 89
PO 2. Differentiate renewable resources from nonrenewable resources.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Analyze the effect that limited resources (e.g., natural gas, minerals) may have on an environment.	Lesson Cards: 4.29 Users Guide: 90
PO 4. Describe ways in which resources can be conserved (e.g., by reducing, reusing, recycling, finding substitutes).	Lesson Cards: 4.30, 4.90 Users Guide: 91, 163
Concept 4: Diversity, Adaptation, and Behavior	
Identify plant and animal adaptations.	
PO 1. Recognize that successful characteristics of populations are inherited traits that are favorable in a particular environment.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Give examples of adaptations that allow plants and animals to survive. <ul style="list-style-type: none"> • camouflage – horned lizards, coyotes • mimicry – Monarch and Viceroy butterflies • physical – cactus spines • mutualism – species of acacia that harbor ants, which repel other harmful insects 	Lesson Cards: 4.53, 4.54 Users Guide: 120, 121
Strand 5: Physical Science	
Concept 3: Energy and Magnetism	
Investigate different forms of energy..	
PO 1. Demonstrate that electricity flowing in circuits can produce light, heat, sound, and magnetic effects.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

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PO 2. Construct series and parallel electric circuits.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Explain the purpose of conductors and insulators in various practical applications.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Investigate the characteristics of magnets (e.g., opposite poles attract, like poles repel, the force between two magnet poles depends on the distance between them).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. State cause and effect relationships between magnets and circuitry.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Strand 6: Earth and Space Science

Concept 2: Earth's Processes and Systems

Understand the processes acting on the Earth and their interaction with the Earth systems.

PO 1. Identify the Earth processes that cause erosion.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Describe how currents and wind cause erosion and land changes.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Describe the role that water plays in the following processes that alter the Earth's surface features: <ul style="list-style-type: none"> • erosion • deposition • weathering 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Compare rapid and slow processes that change the Earth's surface, including: <ul style="list-style-type: none"> • rapid – earthquakes, volcanoes, floods • slow – wind, weathering 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Identify the Earth events that cause changes in atmospheric conditions (e.g., volcanic eruptions, forest fires).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 6. Analyze evidence that indicates life and environmental conditions have changed (e.g., tree rings, fish fossils in desert regions, ice cores).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Concept 3: Changes in the Earth and Sky

Understand characteristics of weather conditions and climate.

PO 1. Identify the sources of water within an environment (e.g., ground water, surface water, atmospheric water, glaciers).	Lesson Cards: 4.22, 4.35, 4.36, 4.39 Users Guide: 83, 98, 99, 102
PO 2. Describe the distribution of water on the Earth's surface.	Lesson Cards: 4.22, 4.35, 4.36, 4.39 Users Guide: 83, 98, 99, 102
PO 3. Differentiate between weather and climate as they relate to the southwestern United States.	Lesson Cards: 4.67 Users Guide: 136
PO 4. Measure changes in weather (e.g., precipitation, wind speed, barometric pressure).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Interpret the symbols on a weather map or chart to identify the following: <ul style="list-style-type: none"> • temperatures 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

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<ul style="list-style-type: none"> • fronts • precipitation 	
PO 6. Compare weather conditions in various locations (e.g., regions of Arizona, various U.S. cities, coastal vs. interior geographical regions).	Lesson Cards: 4.67 Users Guide: 136
Grade 5	
Strand 1: Inquiry Process	
Concept 1: Observations, Questions, and Hypotheses	
Formulate predictions, questions, or hypotheses based on observations. Locate appropriate resources.	
PO 1. Formulate a relevant question through observations that can be tested by an investigation.	Lesson Cards: 5.33, 5.36 Users Guide: 98, 101 Student Readers: 34
PO 2. Formulate predictions in the realm of science based on observed cause and effect relationships.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Locate information (e.g., book, article, website) related to an investigation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 2: Scientific Testing (Investigating and Modeling)	
Design and conduct controlled investigations.	
PO 1. Demonstrate safe behavior and appropriate procedures (e.g., use and care of technology, materials, organisms) in all science inquiry.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Plan a simple investigation that identifies the variables to be controlled.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Conduct simple investigations (e.g., related to forces and motion, Earth processes) based on student-developed questions in life, physical, and Earth and space sciences.	Student Readers: 34
PO 4. Measure using appropriate tools (e.g., ruler, scale, balance) and units of measure (i.e., metric, U.S. customary).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Record data in an organized and appropriate format (e.g., t-chart, table, list, written log).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 3: Analysis and Conclusions	
Analyze and interpret data to explain correlations and results; formulate new questions.	
PO 1. Analyze data obtained in a scientific investigation to identify trends and form conclusions.	Student Readers: 34
PO 2. Analyze whether the data is consistent with the proposed explanation that motivated the investigation.	Student Readers: 34
PO 3. Evaluate the reasonableness of the outcome of an investigation.	Student Readers: 34
PO 4. Develop new investigations and predictions based on questions that arise from the findings of an investigation.	Student Readers: 34

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PO 5. Identify possible relationships between variables in simple investigations (e.g., time and distance; incline and mass of object).	Student Readers: 34
Concept 4: Communication	
Communicate results of investigations.	
PO 1. Communicate verbally or in writing the results of an inquiry.	Student Readers: 34
PO 2. Choose an appropriate graphic representation for collected data: <ul style="list-style-type: none"> • bar graph • line graph • Venn diagram • model 	Student Readers: 34
PO 3. Communicate with other groups or individuals to compare the results of a common investigation.	Student Readers: 34
Strand 2: History and Nature of Science	
Concept 1: History of Science as a Human Endeavor	
Identify individual, cultural, and technological contributions to scientific knowledge.	
PO 1. Identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations (e.g., Percy Lavon Julian [scientist], supports Strand 4; Niels Bohr [scientist], supports Strand 5; Edwin Hubble [scientist], supports Strand 6)	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 2: Nature of Scientific Knowledge	
Understand how science is a process for generating knowledge.	
PO 1. Provide examples that support the premise that science is an ongoing process that changes in response to new information and discoveries (e.g., space exploration, medical advances).	Lesson Cards: 5.77 Users Guide: 150 Student Readers: 34
PO 2. Explain the cycle by which new scientific knowledge generates new scientific inquiry.	Lesson Cards: (teacher opportunity) 5.77 Users Guide: 150 Student Readers: 34
PO 3. Describe how scientific knowledge is subject to modification and/or change as new information/technology challenges prevailing theories.	Student Readers: 34
PO 4. Compare collaborative approaches that scientists use for investigations (e.g., teams, individual with peer review).	Student Readers: 34
PO 5. Describe qualities of the scientists' habits of mind (e.g., openness, skepticism, integrity, tolerance).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Strand 3: Science in Personal and Social Perspectives	
Concept 1: Changes in Environments	
Describe the interactions between human populations, natural hazards, and the environment.	

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PO 1. Explain the impacts of natural hazards on habitats (e.g., global warming, floods, asteroid or large meteor impacts).	Lesson Cards: (Teacher opportunity) 5.33, 5.34, 5.35, 5.36, 5.37, 5.38, 5.39, 5.40, 5.43, 5.72 Users Guide: 98, 99, 100, 101, 102, 103, 104, 105, 110, 147
PO 2. Propose a solution, resource, or product that addresses a specific human, animal, or habitat need.	Lesson Cards: (Teacher opportunity) 5.33, 5.34, 5.35, 5.36, 5.37, 5.38, 5.39, 5.40, 5.43, 5.72 Users Guide: 98, 99, 100, 101, 102, 103, 104, 105, 110, 147
PO 3. Evaluate the possible strengths and weaknesses of a proposed solution to a specific problem relevant to human, animal, or habitat needs.	Lesson Cards: (Teacher opportunity) 5.33, 5.34, 5.35, 5.36, 5.37, 5.38, 5.39, 5.40, 5.43, 5.72 Users Guide: 98, 99, 100, 101, 102, 103, 104, 105, 110, 147

Concept 2: Science and Technology in Society

Develop viable solutions to a need or problem.

PO 1. Describe the relationship between science and technology.	Lesson Cards: (teacher opportunity) 5.66, 5.80, 5.81, 5.82, 2.83, 5.84, 5.85, 5.86, 5.87, 5.88, 5.89, 5.90, 5.118, 5.120 Users Guide: 137, 153, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 199, 201 Opening Doors: 280-281 Vocabulary Enrichment Workbook: 5.120
PO 2. Explain how scientific knowledge, skills, and technological capabilities are integral to a variety of careers.	Lesson Cards: (teacher opportunity) 5.66, 5.80, 5.81, 5.82, 2.83, 5.84, 5.85, 5.86, 5.87, 5.88, 5.89, 5.90, 5.118 Users Guide: 137, 153, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 199 Opening Doors: 276 Vocabulary Enrichment Workbook: 5.118
PO 3. Design and construct a technological solution to a common problem or need using common materials.	Lesson Cards: (teacher opportunity) 5.66, 5.80, 5.81, 5.82, 2.83, 5.84, 5.85, 5.86, 5.87, 5.88, 5.89, 5.90, 5.115, 5.116, 5.117, 5.119, 5.120 Users Guide: 137, 153, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 196, 197, 198, 199, 200, 201 Opening Doors: 280-281 Vocabulary Enrichment Workbook: 5.120

Strand 4: Life Science

Concept 1: Structure and Function in Living Systems

Understand the relationships between structures and functions of organisms.

PO 1. Identify the functions and parts of the skeletal system: <ul style="list-style-type: none"> • protection – rib cage, cranium • support – vertebrae • movement – pelvis, femur, hip 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Identify the following types of muscles: <ul style="list-style-type: none"> • cardiac – heart • smooth – stomach • skeletal – biceps 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Identify the functions and parts of the nervous system: <ul style="list-style-type: none"> • control center – brain • relay mechanism – spinal cord • transport messages – nerves 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

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PO 4. Distinguish between voluntary and involuntary responses.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Strand 5: Physical Science	
Concept 1: Properties and Changes of Properties in Matter	
Understand physical and chemical properties of matter.	
PO 1. Identify that matter is made of smaller units called: <ul style="list-style-type: none"> • molecules (e.g., H₂O, CO₂) • atoms (e.g., H, N, Na) 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Distinguish between mixtures and compounds.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Describe changes of matter: <ul style="list-style-type: none"> • physical – cutting wood, ripping paper, freezing water • chemical – burning of wood, rusting of iron, milk turning sour 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 2: Motion and Forces	
Understand the relationship between force and motion.	
PO 1. Describe the following forces: <ul style="list-style-type: none"> • gravity • friction 	Lesson Cards: (teacher opportunity) 5.84, 5.87 Users Guide: 159, 162
PO 2. Describe the various effects forces can have on an object (e.g., cause motion, halt motion, change direction of motion, cause deformation).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Examine forces and motion through investigations using simple machines (e.g., wedge, plane, wheel and axle, pulley, lever).	Student Readers: 34
PO 4. Demonstrate effects of variables on an object's motion (e.g., incline angle, friction, applied forces).	Student Readers: 34
Strand 6: Earth and Space Science	
Concept 2: Earth's Processes and Systems	
Understand the processes acting on the Earth and their interaction with the Earth systems.	
PO 1. Describe how the Moon's appearance changes during a four-week lunar cycle.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Describe how Earth's rotation results in day and night at any particular location.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Distinguish between revolution and rotation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Describe the role of gravity as an attractive force between celestial objects.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 3: Earth in the Solar System	
Understand the relationships of the Earth and other objects in the solar system.	
PO 1. Identify the known planets of the solar system.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Describe the distinguishing characteristics of	This content standard falls outside the scope of

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the known planets in the solar system.	<i>Santillana Intensive English</i> for this level.
PO 3. Describe various objects in the sky (e.g., asteroids, comets, stars, meteors/shooting stars).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Describe the change in position and motion of the following objects in the sky over time: <ul style="list-style-type: none"> • real motion – Moon, planets • apparent motion (due to the motion of the Earth) – Sun, Moon, stars 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Explain the apparent motion of the Sun and stars.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 6. Describe efforts to explore space (e.g., Apollo missions, space shuttles, Hubble space telescope, space probes).	Lesson Cards: (teacher opportunity) 5.77 Users Guide: 150
Grade 6	
Strand 1: Inquiry Process	
Concept 1: Observations, Questions, and Hypotheses	
Formulate predictions, questions, or hypotheses based on observations. Locate appropriate resources.	
PO 1. Differentiate among a question, hypothesis, and prediction.	Lesson Cards: 6.44 Users Guide: 103 Speed Reads and Dialogues: 61
PO 2. Formulate questions based on observations that lead to the development of a hypothesis.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Locate research information, not limited to a single source, for use in the design of a controlled investigation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 2: Scientific Testing (Investigating and Modeling)	
Design and conduct controlled investigations.	
PO 1. Demonstrate safe behavior and appropriate procedures (e.g., use and care of technology, materials, organisms) in all science inquiry.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Design an investigation to test individual variables using scientific processes.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Conduct a controlled investigation using scientific processes.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Perform measurements using appropriate scientific tools (e.g., balances, microscopes, probes, micrometers).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Keep a record of observations, notes, sketches, questions, and ideas using tools such as written and/or computer logs.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 3: Analysis and Conclusions	
Analyze and interpret data to explain correlations and results; formulate new questions.	
PO 1. Analyze data obtained in a scientific investigation to identify trends.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Form a logical argument about a correlation between variables or sequence of events (e.g.,	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

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construct a cause-and-effect chain that explains a sequence of events).	
PO 3. Evaluate the observations and data reported by others.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Interpret simple tables and graphs produced by others.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Analyze the results from previous and/or similar investigations to verify the results of the current investigation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 6. Formulate new questions based on the results of a completed investigation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 4: Communication	
Communicate results of investigations.	
PO 1. Choose an appropriate graphic representation for collected data: <ul style="list-style-type: none"> • line graph • double bar graph • stem and leaf plot • histogram 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Display data collected from a controlled investigation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Communicate the results of an investigation with appropriate use of qualitative and quantitative information.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Create a list of instructions that others can follow in carrying out a procedure (without the use of personal pronouns).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Communicate the results and conclusion of the investigation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Strand 2: History and Nature of Science	
Concept 1: History of Science as a Human Endeavor	
Identify individual, cultural, and technological contributions to scientific knowledge.	
PO 1. Identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations (e.g., Jacques Cousteau [inventor, marine explorer], supports Strand 4; William Beebe [scientist], supports Strand 4; Thor Heyerdahl [anthropologist], supports Strand 6).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Describe how a major milestone in science or technology has revolutionized the thinking of the time (e.g., Cell Theory, sonar, SCUBA, underwater robotics).	Lesson Cards: 6.43 Users Guide: 102 Speed Reads and Dialogues: 59, 60
PO 3. Analyze the impact of a major scientific development occurring within the past decade.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Describe the use of technology in science-related careers.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

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Concept 2: Nature of Scientific Knowledge

Understand how science is a process for generating knowledge.

PO 1. Describe how science is an ongoing process that changes in response to new information and discoveries.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Describe how scientific knowledge is subject to change as new information and/or technology challenges prevailing theories.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Apply the following scientific processes to other problem solving or decision making situations: <ul style="list-style-type: none"> • observing • questioning • communicating • comparing • measuring • classifying • predicting • organizing data • inferring • generating hypotheses • identifying variables 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Strand 3: Science in Personal and Social Perspectives

Concept 1: Changes in Environments

Describe the interactions between human populations, natural hazards, and the environment.

PO 1. Evaluate the effects of the following natural hazards: <ul style="list-style-type: none"> • sandstorm • hurricane • tornado • ultraviolet light • lightning-caused fire 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Describe how people plan for, and respond to, the following natural disasters: <ul style="list-style-type: none"> • drought • flooding • tornadoes 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Concept 2: Science and Technology in Society

Develop viable solutions to a need or problem.

PO 1. Propose viable methods of responding to an identified need or problem.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Compare possible solutions to best address an identified need or problem.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Design and construct a solution to an identified need or problem using simple classroom materials.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Describe a technological discovery that	This content standard falls outside the scope of

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influences science.	<i>Santillana Intensive English</i> for this level.
Strand 4: Life Science	
Concept 1: Structure and Function in Living Systems	
Understand the relationships between structures and functions of organisms.	
PO 1. Explain the importance of water to organisms.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Describe the basic structure of a cell, including: <ul style="list-style-type: none"> • cell wall • cell membrane • nucleus 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Describe the function of each of the following cell parts: <ul style="list-style-type: none"> • cell wall • cell membrane • nucleus 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Differentiate between plant and animal cells.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Explain the hierarchy of cells, tissues, organs, and systems.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 6. Relate the following structures of living organisms to their functions: <p>Animals</p> <ul style="list-style-type: none"> • respiration – gills, lungs • digestion – stomach, intestines • circulation – heart, veins, arteries, capillaries • locomotion – muscles, skeleton <p>Plants</p> <ul style="list-style-type: none"> • transpiration – stomata, roots, xylem, phloem • absorption – roots, xylem, phloem • response to stimulus (phototropism, hydrotropism, geotropism) – roots, xylem, phloem 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 7. Describe how the various systems of living organisms work together to perform a vital function: <ul style="list-style-type: none"> • respiratory and circulatory • muscular and skeletal • digestive and excretory 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 3: Populations of Organisms in an Ecosystem	
Analyze the relationships among various organisms and their environment.	
PO 1. Explain that sunlight is the major source of energy for most ecosystems.	Lesson Cards: 6.54 Users Guide: 115 Speed Reads and Dialogues: 77, 78
PO 2. Describe how the following environmental conditions affect the quality of life: <ul style="list-style-type: none"> • water quality • climate 	Lesson Cards: 6.54, 6.56, 6.57 Users Guide: 115, 117, 118 Speed Reads and Dialogues: 77, 78, 81, 82, 83, 84

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<ul style="list-style-type: none"> • population density • smog 	
Strand 5: Physical Science	
Concept 3: Transfer of Energy	
Understand that energy can be stored and transferred.	
PO 1. Identify various ways in which electrical energy is generated using renewable and nonrenewable resources (e.g., wind, dams, fossil fuels, nuclear reactions).	Lesson Cards: 6.58, 6.59 Users Guide: 117, 118 Speed Reads and Dialogues:: 85, 86, 87, 88
PO 2. Identify several ways in which energy may be stored.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Compare the following ways in which energy may be transformed: <ul style="list-style-type: none"> • mechanical to electrical • electrical to thermal 	Lesson Cards: 6.58 Users Guide: 117 Speed Reads and Dialogues:: 85, 86
PO 4. Explain how thermal energy (heat energy) can be transferred by: <ul style="list-style-type: none"> • conduction • convection • radiation 	Lesson Cards: 6.52, 6.53 Users Guide: 113, 114 Speed Reads and Dialogues:: 74, 75, 76
Strand 6: Earth and Space Science	
Concept 1: Structure of the Earth	
Describe the composition and interactions between the structure of the Earth and its atmosphere.	
PO 1. Describe the properties and the composition of the layers of the atmosphere.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Explain the composition, properties, and structure of the Earth's lakes and rivers.	Lesson Cards: 6.50 Users Guide: 110 Speed Reads and Dialogues:: 71, 72
PO 3. Explain the composition, properties, and structures of the oceans' zones and layers.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Analyze the interactions between the Earth's atmosphere and the Earth's bodies of water (water cycle).	Lesson Cards: 6.54 Users Guide: 115 Speed Reads and Dialogues:: 77, 78
PO 5. Describe ways scientists explore the Earth's atmosphere and bodies of water.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 2: Earth's Processes and Systems	
Understand the processes acting on the Earth and their interaction with the Earth systems.	
PO 1. Explain how water is cycled in nature.	Lesson Cards: 6.54 Users Guide: 115 Speed Reads and Dialogues:: 77, 78
PO 2. Identify the distribution of water within or among the following: <ul style="list-style-type: none"> • atmosphere • lithosphere • hydrosphere 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Analyze the effects that bodies of water have on the climate of a region.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Analyze the following factors that affect	This content standard falls outside the scope of

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climate: <ul style="list-style-type: none"> • ocean currents • elevation • location 	<i>Santillana Intensive English</i> for this Level.
PO 5. Analyze the impact of large-scale weather systems on the local weather.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 6. Create a weather system model that includes: <ul style="list-style-type: none"> • the Sun • the atmosphere • bodies of water 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Grade 7	
Strand 1: Inquiry Process	
Concept 1: Observations, Questions, and Hypotheses	
Formulate predictions, questions, or hypotheses based on observations. Locate appropriate resources.	
PO 1. Formulate questions based on observations that lead to the development of a hypothesis.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Select appropriate resources for background information related to a question, for use in the design of a controlled investigation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Explain the role of a hypothesis in a scientific inquiry.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 2: Scientific Testing (Investigating and Modeling)	
Design and conduct controlled investigations.	
PO 1. Demonstrate safe behavior and appropriate procedures (e.g., use and care of technology, materials, organisms) in all science inquiry.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Design an investigation to test individual variables using scientific processes.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Conduct a controlled investigation, utilizing multiple trials, to test a hypothesis using scientific processes.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Perform measurements using appropriate scientific tools (e.g., balances, microscopes, probes, micrometers).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Keep a record of observations, notes, sketches, questions, and ideas using tools such as written and/or computer logs.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 3: Analysis and Conclusions	
Analyze and interpret data to explain correlations and results; formulate new questions.	
PO 1. <i>Analyze data obtained in a scientific investigation to identify trends.</i>	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. <i>Form a logical argument about a correlation between variables or sequence of events (e.g., construct a cause-and-effect chain that explains a sequence of events).</i>	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Analyze results of data collection in order to accept or reject the hypothesis.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

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PO 4. Determine validity and reliability of results of an investigation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Formulate a conclusion based on data analysis.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 6. Refine hypotheses based on results from investigations.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 7. Formulate new questions based on the results of a previous investigation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Concept 4: Communication

Communicate results of investigations.

PO 1. Choose an appropriate graphic representation for collected data: <ul style="list-style-type: none"> • line graph • double bar graph • stem and leaf plot • histogram 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Display data collected from a controlled investigation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Communicate the results of an investigation with appropriate use of qualitative and quantitative information.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Write clear, step-by-step instructions for following procedures (without the use of personal pronouns).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Communicate the results and conclusion of the investigation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Strand 2: History and Nature of Science

Concept 1: History of Science as a Human Endeavor

Identify individual, cultural, and technological contributions to scientific knowledge.

PO 1. Identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations (e.g., Rachel Carson [scientist], supports Strand 4; Luis Alvarez [scientist] and Walter Alvarez [scientist], support Strand 6; Percival Lowell [scientist], supports Strand 6; Copernicus [scientist], supports Strand 6).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Describe how a major milestone in science or technology has revolutionized the thinking of the time (e.g., global positioning system, telescopes, seismographs, photography).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Analyze the impact of a major scientific development occurring within the past decade.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Analyze the use of technology in science-related careers.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Concept 2: Nature of Scientific Knowledge

Understand how science is a process for generating knowledge.

PO 1. Describe how science is an ongoing process	This content standard falls outside the scope of
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that changes in response to new information and discoveries.	<i>Santillana Intensive English</i> for this level.
PO 2. Describe how scientific knowledge is subject to change as new information and/or technology challenges prevailing theories.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Apply the following scientific processes to other problem solving or decision making situations: <ul style="list-style-type: none"> • observing • questioning • communicating • comparing • measuring • classifying • predicting • organizing data • inferring • generating hypotheses • identifying variables 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Strand 3: Science in Personal and Social Perspectives

Concept 1: Changes in Environments

Describe the interactions between human populations, natural hazards, and the environment.

PO 1. Analyze environmental risks (e.g., pollution, destruction of habitat) caused by human interaction with biological or geological systems.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Analyze environmental benefits of the following human interactions with biological or geological systems: <ul style="list-style-type: none"> • reforestation • habitat restoration • construction of dams 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Propose possible solutions to address the environmental risks in biological or geological systems.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Concept 2: Science and Technology in Society

Develop viable solutions to a need or problem.

PO 1. Propose viable methods of responding to an identified need or problem.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Compare solutions to best address an identified need or problem.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Design and construct a solution to an identified need or problem using simple classroom materials.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Describe a scientific discovery that influences technology.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Strand 4: Life Science

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Concept 3: Populations of Organisms in an Ecosystem

Analyze the relationships among various organisms and their environment.

PO 1. Compare food chains in a specified ecosystem and their corresponding food web.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Explain how organisms obtain and use resources to develop and thrive in: <ul style="list-style-type: none"> • niches • predator/prey relationships 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Analyze the interactions of living organisms with their ecosystems: <ul style="list-style-type: none"> • limiting factors • carrying capacity 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Evaluate data related to problems associated with population growth (e.g., overgrazing, forest management, invasion of non-native species) and the possible solutions.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Predict how environmental factors (e.g., floods, droughts, temperature changes) affect survival rates in living organisms.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 6. Create a model of the interactions of living organisms within an ecosystem.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Strand 6: Earth and Space Science

Concept 1: Structure of the Earth

Describe the composition and interactions between the structure of the Earth and its atmosphere.

PO 1. Classify rocks and minerals by the following observable properties: <ul style="list-style-type: none"> • grain • color • texture • hardness 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Describe the properties and the composition of the following major layers of the Earth: <ul style="list-style-type: none"> • crust • mantle • core 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Explain the following processes involved in the formation of the Earth's structure: <ul style="list-style-type: none"> • erosion • deposition • plate tectonics • volcanism 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Describe how the rock and fossil record show that environmental conditions have changed over geologic and recent time.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Concept 2: Earth's Processes and Systems

Understand the processes acting on the Earth and their interaction with the Earth systems.

PO 1. Explain the rock cycle.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
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PO 2. Distinguish the components and characteristics of the rock cycle for the following types of rocks: <ul style="list-style-type: none"> • igneous • metamorphic • sedimentary 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Analyze the evidence that lithospheric plate movements occur.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Explain lithospheric plate movement as a result of convection.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Relate plate boundary movements to their resulting landforms, including: <ul style="list-style-type: none"> • mountains • faults • rift valleys • trenches • volcanoes 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 6. Describe how earthquakes are measured.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Concept 3: Earth in the Solar System

Understand the relationships of the Earth and other objects in the solar system.

PO 1. Explain the phases of the Moon in terms of the relative positions of the Earth, Sun, and Moon.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Construct a model for the relative positions of the Earth, Sun, and Moon as they relate to corresponding eclipses.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Explain the interrelationship between the Earth's tides and the Moon.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Explain the seasons in the Northern and Southern Hemispheres in terms of the tilt of the Earth's axis relative to the Earth's revolution around the Sun.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Identify the following major constellations visible (seasonally) from the Northern Hemisphere: <ul style="list-style-type: none"> • Orion • Ursa Major (Great Bear) • Cygnus • Scorpius • Cassiopeia 	Lesson Cards: 7.58 Users Guide: 115 Speed Reads and Dialogues: 60
PO 6. Explain the relationship among common objects in the solar system, galaxy, and the universe.	Lesson Cards: 7.51, 7.54, 7.55, 7.56, 7.57, 7.58, 7.59 Users Guide: 108, 111, 112, 113, 114, 115, 116 Speed Reads and Dialogues: 53, 56, 57, 58, 59, 60, 61

Grade 8

Strand 1: Inquiry Process

Concept 1: Observations, Questions, and Hypotheses

Formulate predictions, questions, or hypotheses based on observations. Locate appropriate resources.

PO 1. Formulate questions based on observations	This content standard falls outside the scope of
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that lead to the development of a hypothesis.	<i>Santillana Intensive English</i> for this level.
PO 2. Use appropriate research information, not limited to a single source, to use in the development of a testable hypothesis.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Generate a hypothesis that can be tested.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 2: Scientific Testing (Investigating and Modeling)	
Design and conduct controlled investigations.	
PO 1. Demonstrate safe behavior and appropriate procedures (e.g., use and care of technology, materials, organisms) in all science inquiry.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Design a controlled investigation to support or reject a hypothesis.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Conduct a controlled investigation to support or reject a hypothesis.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Perform measurements using appropriate scientific tools (e.g., balances, microscopes, probes, micrometers).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Keep a record of observations, notes, sketches, questions, and ideas using tools such as written and/or computer logs.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 3: Analysis and Conclusions	
Analyze and interpret data to explain correlations and results; formulate new questions.	
PO 1. Analyze data obtained in a scientific investigation to identify trends.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Form a logical argument about a correlation between variables or sequence of events (e.g., construct a cause-and-effect chain that explains a sequence of events).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Interpret data that show a variety of possible relationships between two variables, including: <ul style="list-style-type: none"> • positive relationship • negative relationship • no relationship 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Formulate a future investigation based on the data collected.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Explain how evidence supports the validity and reliability of a conclusion.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 6. Identify the potential investigational error that may occur (e.g., flawed investigational design, inaccurate measurement, computational errors, unethical reporting).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 7. Critique scientific reports from periodicals, television, or other media.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 8. Formulate new questions based on the results of a previous investigation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 4: Communication	
Communicate results of investigations.	
PO 1. Communicate the results of an investigation.	This content standard falls outside the scope of

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	<i>Santillana Intensive English</i> for this level.
PO 2. Choose an appropriate graphic representation for collected data: <ul style="list-style-type: none"> • line graph • double bar graph • stem and leaf plot • histogram 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Present analyses and conclusions in clear, concise formats.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Write clear, step-by-step instructions for conducting investigations or operating equipment (without the use of personal pronouns).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Communicate the results and conclusion of the investigation.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Strand 2: History and Nature of Science

Concept 1: History of Science as a Human Endeavor

Identify individual, cultural, and technological contributions to scientific knowledge.

PO 1. Identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations (e.g., Watson and Crick [scientists], support Strand 4; Rosalind Franklin [scientist], supports Strand 4; Charles Darwin [scientist], supports Strand 4; George Washington Carver [scientist, inventor], supports Strand 4; Joseph Priestley [scientist], supports Strand 5; Sir Frances Bacon [philosopher], supports Strand 5; Isaac Newton [scientist], supports Strand 5).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Evaluate the effects of the following major scientific milestones on society: <ul style="list-style-type: none"> • Mendelian Genetics • Newton's Laws 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Evaluate the impact of a major scientific development occurring within the past decade.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Evaluate career opportunities related to life and physical sciences.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Concept 2: Nature of Scientific Knowledge

Understand how science is a process for generating knowledge.

PO 1. Apply the following scientific processes to other problem solving or decision making situations: <ul style="list-style-type: none"> • observing • questioning • communicating • comparing • measuring • classifying • predicting • organizing data 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
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<ul style="list-style-type: none"> • inferring • generating hypotheses • identifying variables 	
PO 2. Describe how scientific knowledge is subject to change as new information and/or technology challenges prevailing theories.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Defend the principle that accurate record keeping, openness, and replication are essential for maintaining an investigator's credibility with other scientists and society.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Explain why scientific claims may be questionable if based on very small samples of data, biased samples, or samples for which there was no control.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Strand 3: Science in Personal and Social Perspectives

Concept 1: Changes in Environments

Describe the interactions between human populations, natural hazards, and the environment.

PO 1. Analyze the risk factors associated with natural, human induced, and/or biological hazards, including: <ul style="list-style-type: none"> • waste disposal of industrial chemicals • greenhouse gases 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Analyze possible solutions to address the environmental risks associated with chemicals and biological systems.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Concept 2: Science and Technology in Society

Develop viable solutions to a need or problem.

PO 1. Propose viable methods of responding to an identified need or problem.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Compare solutions to best address an identified need or problem.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Design and construct a solution to an identified need or problem using simple classroom materials.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Compare risks and benefits of the following technological advances: <ul style="list-style-type: none"> • radiation treatments • genetic engineering (See Strand 4 Concept 2) • airbags (See Strand 5 Concept 2) 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

Strand 4: Life Science

Concept 2: Reproduction and Heredity

Understand the basic principles of heredity.

PO 1. Explain the purposes of cell division: <ul style="list-style-type: none"> • growth and repair • reproduction 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Explain the basic principles of heredity using the human examples of: <ul style="list-style-type: none"> • eye color • widow's peak 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.

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<ul style="list-style-type: none"> • blood type 	
PO 3. Distinguish between the nature of dominant and recessive traits in humans.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 4: Diversity, Adaptation, and Behavior Identify structural and behavioral adaptations.	
PO 1. Explain how an organism's behavior allows it to survive in an environment.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Describe how an organism can maintain a stable internal environment while living in a constantly changing external environment.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Determine characteristics of organisms that could change over several generations.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Compare the symbiotic and competitive relationships in organisms within an ecosystem (e.g., lichen, mistletoe/tree, clownfish/sea anemone, native/non-native species).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Analyze the following behavioral cycles of organisms: <ul style="list-style-type: none"> • hibernation • migration • dormancy (plants) 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 6. Describe the following factors that allow for the survival of living organisms: <ul style="list-style-type: none"> • protective coloration • beak design • seed dispersal • pollination 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Strand 5: Physical Science	
Concept 1: Properties and Changes of Properties in Matter Understand physical and chemical properties of matter.	
PO 1. Identify different kinds of matter based on the following physical properties: <ul style="list-style-type: none"> • states • density • boiling point • melting point • solubility 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Identify different kinds of matter based on the following chemical properties: <ul style="list-style-type: none"> • reactivity • pH • oxidation (corrosion) 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Identify the following types of evidence that a chemical reaction has occurred: <ul style="list-style-type: none"> • formation of a precipitate • generation of gas • color change • absorption or release of heat 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Classify matter in terms of elements,	This content standard falls outside the scope of

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compounds, or mixtures.	<i>Santillana Intensive English</i> for this level.
PO 5. Classify mixtures as being homogeneous or heterogeneous.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 6. Explain the systematic organization of the periodic table.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 7. Investigate how the transfer of energy can affect the physical and chemical properties of matter.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
Concept 2: Motion and Forces Understand the relationship between force and motion.	
PO 1. Demonstrate velocity as the rate of change of position over time.	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 2. Identify the conditions under which an object will continue in its state of motion (Newton's 1 st Law of Motion).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 3. Describe how the acceleration of a body is dependent on its mass and the net applied force (Newton's 2 nd Law of Motion).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 4. Describe forces as interactions between bodies (Newton's 3 rd Law of Motion).	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.
PO 5. Create a graph devised from measurements of moving objects and their interactions, including: <ul style="list-style-type: none"> • position-time graphs • velocity-time graphs 	This content standard falls outside the scope of <i>Santillana Intensive English</i> for this level.