# PROJECT LEARNING TREE
## Municipal Solid Waste
## Language Arts
### Correlation to the Texas Essential Knowledge and Skills

| Correlation/TEKS Language Arts   Students are expected to: | Activity |
|---|---|
| **ENG I** | |
| 14B  write a poem using a variety of poetic techniques (e.g., structural elements, figurative language) and a variety of poetic forms (e.g., sonnets, ballads) | 1 |
| 15B  write procedural or work-related documents (e.g., instructions, e-mails, correspondence, memos, project plans) | 2 |
| 15D  produce a multimedia presentation (e.g., documentary, class newspaper, docudrama, infomercial, visual or textual parodies, theatrical production) with graphics, images, and sound that conveys a distinctive point of view and appeals to a specific audience | 8 |
| 26A  participate productively in teams, building on the ideas of others, contributing relevant information, developing a plan for consensus-building, and setting ground rules for decision-making | 1, 5 |
| **ENG II** | |
| 14B  write a poem using a variety of poetic techniques (e.g., structural elements, figurative language) and a variety of poetic forms (e.g., sonnets, ballads) | 1 |
| 15B write procedural or work-related documents (e.g., instructions, e-mails, correspondence, memos, project plans) | 2 |
| 15D  produce a multimedia presentation (e.g., documentary, class newspaper, docudrama, infomercial, visual or textual parodies, theatrical production) with graphics, images, and sound that conveys a distinctive point of view and appeals to a specific audience | 8 |
| 26A  participate productively in teams, building on the ideas of others, contributing relevant information, developing a plan for consensus-building, and setting ground rules for decision-making | 1, 5 |
| **ENG III** | |
| 14B  write a poem that reflects an awareness of poetic conventions and traditions within different forms (e.g., sonnets, ballads, free verse) | 1 |
| 15B  write procedural or work-related documents (e.g., résumés, proposals, college applications, operation manuals) | 2 |
| 15D  produce a multimedia presentation (e.g., documentary, class newspaper, docudrama, infomercial, visual or textual parodies, theatrical production) with graphics, images, and sound that appeals to a specific audience and synthesizes information from multiple points of view | 8 |
| 26A  participate productively in teams, offering ideas or judgments that are purposeful in moving the team towards goals, asking relevant and insightful questions, tolerating a range of positions and ambiguity in decision-making, and evaluating the work of the group based on agreed-upon criteria | 1, 5 |

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| ENG IV | |
|---|---|
| 14B  write a poem that reflects an awareness of poetic conventions and traditions within different forms (e.g., sonnets, ballads, free verse) | 1 |
| 15B  write procedural and work-related documents (e.g., résumés, proposals, college applications, operation manuals) | 2 |
| 15D  produce a multimedia presentation (e.g., documentary, class newspaper, docudrama, infomercial, visual or textual parodies, theatrical production) with graphics, images, and sound that appeals to a specific audience and synthesizes information from multiple points of view | 8 |
| 26A  participate productively in teams, offering ideas or judgments that are purposeful in moving the team towards goals, asking relevant and insightful questions, tolerating a range of positions and ambiguity in decision-making, and evaluating the work of the group based on agreed-upon criteria | 1,  5 |

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# PROJECT LEARNING TREE
## Municipal Solid Waste
## Math
### Correlation to the Texas Essential Knowledge and Skills

| Correlation/TEKS Math   Students are expected to: | Activity |
|---|---|
| **Algebra I** | |
| 6B  interpret the meaning of slope and intercepts in situations using data, symbolic representations, or graphs | 3 |
| 8B  solve systems of linear equations using concrete models, graphs, tables, and algebraic methods | 3 |
| 11B  analyze data and represent situations involving inverse variation using concrete models, tables, graphs, or algebraic methods | 3 |

# PROJECT LEARNING TREE
## Municipal Solid Waste
## Science
### Correlation to the Texas Essential Knowledge and Skills

| Correlation/TEKS Science   Students are expected to: | Activity |
|---|---|
| **Biology** | |
| 1B  demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials | 1-4,  6-8 |
| 2E  plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology | 8 |
| 2F  collect and organize qualitative and quantitative data and make measurements with accuracy and precision using tools such as calculators, spreadsheet software, data-collecting probes, computers, standard laboratory glassware, microscopes, various prepared slides, stereoscopes, metric rulers, electronic balances, gel electrophoresis apparatuses, micropipettors, hand lenses, Celsius thermometers, hot plates, lab notebooks or journals, timing devices, cameras, Petri dishes, lab incubators, dissection equipment, meter sticks, and models, diagrams, or samples of biological specimens or structures | 1,  3,  4,  8 |
| 2G  analyze, evaluate, make inferences, and predict trends from data | 1,  4,  7,  8 |
| 2H  communicate valid conclusions supported by the data through methods such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports | 1-5,  7,  8 |
| 3C  draw inferences based on data related to promotional materials for products and services | 2 |
| 12E  describe the flow of matter through the carbon and nitrogen cycles and explain the consequences of disrupting these cycles | 4 |
| **Earth and Space** | |
| 1B  demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials | 2,  3,  7 |
| 12C  discriminate between renewable and nonrenewable resources based upon rate of formation and use | 1,  3 |
| 12D  analyze the economics of resources from discovery to disposal, including technological advances, resource type, concentration and location, waste disposal and recycling, and environmental costs | 3,  7,  8 |
| 12E  explore careers that involve the exploration, extraction, production, use, and disposal of Earth's resources | 5 |
| 15C  quantify the dynamics of surface and groundwater movement such as recharge, discharge, evapotranspiration, storage, residence time, and sustainability | 6 |

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| Environmental Science | |
|---|---|
| 1B demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials | 1-4, 6-8 |
| 2E follow or plan and implement investigative procedures, including making observations, asking questions, formulating testable hypotheses, and selecting equipment and technology | 3, 8 |
| 2F collect data individually or collaboratively, make measurements with precision and accuracy, record values using appropriate units, and calculate statistically relevant quantities to describe data, including mean, median, and range | 1, 3, 8 |
| 2G demonstrate the use of course apparatuses, equipment, techniques, and procedures, including meter sticks, rulers, pipettes, graduated cylinders, triple beam balances, timing devices, pH meters or probes, thermometers, calculators, computers, Internet access, turbidity testing devices, hand magnifiers, work and disposable gloves, compasses, first aid kits, binoculars, field guides, water quality test kits or probes, soil test kits or probes, 100-foot appraiser's tapes, tarps, shovels, trowels, screens, buckets, and rock and mineral samples | 1, 4, 8 |
| 2I organize, analyze, evaluate, build models, make inferences, and predict trends from data | 1, 2, 4, 7, 8 |
| 2K communicate valid conclusions supported by the data through methods such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports | 1-5, 7, 8 |
| 3C draw inferences based on data related to promotional materials for products and services | 2 |
| 3F research and describe the history of environmental science and contributions of scientists | 1 |
| 5C document the use and conservation of both renewable and non-renewable resources as they pertain to sustainability | 1, 2 |
| 5D identify renewable and non-renewable resources that must come from outside an ecosystem such as food, water, lumber, and energy | 1, 2 |
| 5F evaluate the impact of waste management methods such as reduction, reuse, recycling, and composting on resource availability | 1-8 |
| 6B describe and compare renewable and non-renewable energy derived from natural and alternative sources such as oil, natural gas, coal, nuclear, solar, geothermal, hydroelectric, and wind | 1 |
| 9A identify causes of air, soil, and water pollution, including point and nonpoint sources | 6 |
| 9B investigate the types of air, soil, and water pollution such as chlorofluorocarbons, carbon dioxide, pH, pesticide runoff, thermal variations, metallic ions, heavy metals, and nuclear waste | 6 |
| 9I discuss the impact of research and technology on social ethics and legal practices in situations such as the design of new buildings, recycling, or emission standards | 1-3, 5, 6 |
| 9J research the advantages and disadvantages of "going green" such as organic gardening and farming, natural methods of pest control, hydroponics, xeriscaping, energy-efficient homes and appliances, and hybrid cars | 1-3 |
| 9K analyze past and present local, state, and national legislation, including Texas automobile emissions regulations, the National Park Service Act, the Clean Air Act, the Clean Water Act, the Soil and Water Resources Conservation Act, and the Endangered Species Act | 5, 6 |

# PROJECT LEARNING TREE
## Municipal Solid Waste
## Social Studies
### Correlation to the Texas Essential Knowledge and Skills

| Correlation/TEKS Social Studies   Students are expected to: | Activity |
|---|---|
| **Geography** | |
| 19C  examine the environmental, economic, and social impacts of advances in technology on agriculture and natural resources | 1,  3 |
| **History** | |
| 27B  explain how specific needs result in scientific discoveries and technological innovations in agriculture, the military, and medicine, including vaccines | 1,  5 |
| 30A  create written, oral, and visual presentations of social studies information | 1,  5,  7 |
| 30C  use different forms of media to convey information, including written to visual and statistical to written or visual, using available computer software as appropriate | 1,  7 |
| 32B  use a decision-making process to identify a situation that requires a decision, gather information, identify options, predict consequences, and take action to implement a decision | 8 |