

Standards Correlations

Database Design and Management (6660)

Task	SOL Correlations
Demonstrating Personal Qualities and Abilities	
Demonstrate creativity and innovation.	<p>English: 6.1, 6.3, 6.4, 6.6, 6.7, 6.9, 7.1, 7.3, 7.4, 7.6, 7.7, 7.9, 8.1, 8.3, 8.4, 8.6, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8</p> <p>History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WG.4, WHI.1, WHII.1</p> <p>Mathematics: 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.10, 6.11, 6.12, 7.2, 7.3, 7.8, 7.9, 8.2, 8.4, 8.6, 8.7, 8.11, 8.12, 8.17, 8.18, A.9, AFDA.3, AFDA.4, AFDA.5, AFDA.6, AFDA.7, AFDA.8, AII.9, COM.1, COM.3, COM.4, COM.5, COM.8, DM.7, DM.1*, DM.10, DM.2*, DM.3*, PS.3*, PS.4*, PS.7*, PS.9*, PS.10*</p> <p>Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PS.1</p>
Demonstrate critical thinking and problem solving.	<p>English: 6.1, 6.3, 6.4, 6.5, 6.6, 6.7, 6.9, 7.1, 7.3, 7.4, 7.5, 7.6, 7.7, 7.9, 8.1, 8.3, 8.4, 8.5, 8.6, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8</p> <p>History and Social Science: CE.1, CE.4, CE.11, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WG.4, WHI.1, WHII.1</p> <p>Mathematics: 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.10, 6.11, 7.2, 7.3, 7.8, 7.12, 7.13, 8.2, 8.4, 8.8, 8.9, 8.10, 8.11, A.8, A.9, G.1, G.13, G.14, AFDA.3, AFDA.5, AFDA.8, AII.9, AII.10, AII.11, COM.1, COM.3, COM.4, COM.5, COM.8, DM.4, DM.7, DM.1*, DM.2*, DM.3*, DM.9*, PS.9*, PS.10*</p> <p>Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PS.1</p>
Demonstrate initiative and self-direction.	<p>English: 6.1, 6.4, 6.6, 6.7, 6.9, 7.1, 7.4, 7.6, 7.7, 7.9, 8.1, 8.4, 8.6, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8</p> <p>History and Social Science: CE.1, CE.4, CE.11, GOVT.1, USI.1, USII.1, VUS.1,</p>

Task	SOL Correlations
	WG.1, WHI.1, WHII.1
Demonstrate integrity.	English: 6.1, 7.1, 8.1, 9.1, 9.5, 10.1, 10.5, 11.1, 11.5, 12.1, 12.5 History and Social Science: CE.1, CE.3, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1
Demonstrate work ethic.	English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Science: CH.1
Demonstrating Interpersonal Skills	
Demonstrate conflict-resolution skills.	English: 6.1, 6.2, 6.4, 6.6, 6.7, 6.9, 7.1, 7.2, 7.4, 7.6, 7.7, 7.9, 8.1, 8.2, 8.4, 8.6, 8.7, 8.9, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, VUS.1
Demonstrate listening and speaking skills.	English: 6.1, 6.2, 6.4, 6.6, 7.1, 7.2, 7.4, 7.6, 8.1, 8.2, 8.4, 8.6, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1
Demonstrate respect for diversity.	English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.3, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, USII.9, VUS.1, VUS.13, WG.1, WHI.1, WHII.1
Demonstrate customer service skills.	English: 6.1, 6.4, 6.7, 7.1, 7.4, 7.7, 8.1, 8.4, 8.7, 9.1, 9.5, 9.6, 10.1, 10.5, 10.6, 11.1, 11.5, 11.6, 12.1, 12.5, 12.6 History and Social Science: CE.1, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1
Collaborate with team members	English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.3, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1
Demonstrating Professional Competencies	
Demonstrate big-picture thinking.	English: 6.1, 6.4, 7.1, 7.4, 8.1, 8.4, 9.1, 9.5, 10.1, 10.5, 11.1, 11.5, 12.1, 12.5 History and Social Science: CE.1, CE.4, CE.12, GOVT.1, GOVT.15, USI.1,

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	USII.1, VUS.1, WG.1, WHI.1, WHII.1
Demonstrate career- and life-management skills.	English: 6.1, 6.7, 7.1, 7.7, 8.1, 8.7, 9.1, 9.6, 10.1, 10.6, 11.1, 11.6, 12.1, 12.6 History and Social Science: CE.1, CE.4, CE.12, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 8.4
Demonstrate continuous learning and adaptability.	English: 6.1, 6.4, 6.7, 6.9, 7.1, 7.4, 7.7, 7.9, 8.1, 8.4, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.3, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Science: BIO.1, CH.1, LS.1, PH.1, PH.4, PS.1
Manage time and resources.	English: 6.1, 6.2, 6.4, 6.7, 6.9, 7.1, 7.2, 7.4, 7.7, 7.9, 8.1, 8.2, 8.4, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.2, 11.5, 11.6, 11.8, 12.2, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.4, CE.11, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 6.10, 6.11, 6.12, 7.2, 7.3, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 8.4, 8.11, 8.12, 8.13, 8.14, 8.17, 8.18, A.4, A.5, A.8, A.9, AFDA.3, AFDA.4, AFDA.5, AFDA.6, AFDA.7, AFDA.8, COM.1, COM.3, COM.5, COM.8
Demonstrate information-literacy skills.	English: 6.1, 6.2, 6.4, 6.6, 6.7, 6.9, 7.1, 7.2, 7.3, 7.4, 7.6, 7.7, 7.9, 8.1, 8.2, 8.3, 8.4, 8.6, 8.7, 8.9, 9.2, 9.5, 9.6, 9.8, 10.2, 10.5, 10.6, 10.8, 11.2, 11.5, 11.6, 11.8, 12.2, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 6.10, 6.11, 7.8, 7.9, 8.11, 8.12, A.8, A.9, AFDA.3, AFDA.4, AFDA.6, AFDA.7, AFDA.8, DM.8, PS.1*, PS.2*, PS.3*, PS.4*, PS.7*, PS.8*, PS.9*, PS.10* Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PH.1, PS.1
Demonstrate an understanding of information security.	English: 6.1, 6.2, 6.3, 6.4, 6.6, 6.7, 6.8, 6.9, 7.1, 7.2, 7.3, 7.4, 7.6, 7.7, 7.8, 7.9, 8.1, 8.2, 8.3, 8.4, 8.6, 8.7, 8.8, 8.9, 9.1, 9.2, 9.5, 9.6, 9.8, 10.1, 10.2, 10.5, 10.6, 10.8, 11.1, 11.2, 11.5, 11.6, 11.8, 12.1, 12.2, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1,

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	WG.1, WHI.1, WHII.1 Mathematics: COM.10
Maintain working knowledge of current information-technology (IT) systems.	English: 6.1, 6.3, 6.4, 6.6, 6.9, 7.1, 7.3, 7.4, 7.6, 7.9, 8.1, 8.3, 8.4, 8.6, 8.9 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 7.8, COM.1, COM.2, COM.7, COM.9, COM.10, COM.11, COM.16, COM.18, PS.17 Science: BIO.1, CH.1, ES.1, PH.1
Demonstrate proficiency with technologies, tools, and machines common to a specific occupation.	History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 6.10, 6.11, 7.9, 8.4, A.7, A.8, A.9, AFDA.1, AFDA.3, AFDA.5, AII.4, AII.7, AII.9, COM.1, COM.7, COM.10, COM.11, COM.12, COM.16 Science: CH.1, ES.1, LS.1, PH.1, PS.1
Apply mathematical skills to job-specific tasks.	English: 6.4, 6.6, 6.7, 7.4, 7.6, 7.7, 8.4, 8.6, 8.7, 9.5, 9.6, 10.5, 10.6, 11.5, 11.6, 12.5, 12.6 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 6.1, 6.2, 6.5, 6.6, 6.12, 6.13, 6.14, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.8, 7.9, 7.11, 7.12, 7.13, 8.4, 8.5, 8.6, 8.8, 8.9, 8.10, 8.11, 8.12, 8.13, 8.14, 8.15, 8.16, 8.17, 8.18, A.1, A.3, A.4, A.5, A.7, A.8, A.9, AFDA.1, AFDA.3, AFDA.5, AFDA.8, AII.3, AII.7, AII.9, AII.10, COM.1, COM.7 Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PH.1, PS.1
Demonstrate professionalism.	English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1
Demonstrate reading and writing skills.	English: 6.1, 6.6, 6.7, 7.1, 7.6, 7.7, 8.1, 8.6, 8.7, 9.1, 9.5, 9.6, 9.7, 10.1, 10.5, 10.6, 10.7, 11.1, 11.5, 11.6, 11.7, 12.1, 12.5, 12.6, 12.7 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Science: 6.1, PH.1, PS.1

Task	SOL Correlations
Demonstrate workplace safety.	English: 6.4, 7.4, 8.4, 9.5, 10.5, 11.5, 12.5 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Science: CH.1
Examining All Aspects of an Industry	
Examine aspects of planning within an industry/organization.	History and Social Science: GOVT.16
Examine aspects of management within an industry/organization.	
Examine aspects of financial responsibility within an industry/organization.	
Examine technical and production skills required of workers within an industry/organization.	
Examine principles of technology that underlie an industry/organization.	
Examine labor issues related to an industry/organization.	History and Social Science: GOVT.16
Examine community issues related to an industry/organization.	History and Social Science: GOVT.16
Examine health, safety, and environmental issues related to an industry/organization.	History and Social Science: GOVT.16
Addressing Elements of Student Life	
Identify the purposes and goals of the student organization.	
Explain the benefits and responsibilities of membership in the student organization as	

Task	SOL Correlations
a student and in professional/civic organizations as an adult.	
Demonstrate leadership skills through participation in student organization activities, such as meetings, programs, and projects.	
Identify Internet safety issues and procedures for complying with acceptable use standards.	
Exploring Work-Based Learning	
Identify the types of work-based learning (WBL) opportunities.	
Reflect on lessons learned during the WBL experience.	
Explore career opportunities related to the WBL experience.	
Participate in a WBL experience, when appropriate.	
Exploring Database Technologies	
Research the history of databases.	<p>English: 10.8, 11.8</p> <p>History and Social Science: VUS.12, VUS.13, VUS.14, WG.17, WHII.12, WHII.14</p> <p>NBEA Achievement Standards for Information Technology: Analyze how developments in information technology affect the supply/demand characteristics of the job market. Evaluate how information technology transforms business processes and relationships. Examine how information technology changes the breadth and level of worker</p>

Task	SOL Correlations
	<p>responsibilities.</p> <p>Explain the nature and interrelationships of bytes, fields, records, and databases.</p> <p>Identify and evaluate how information technology developments changes the way humans do their work.</p> <p>Illustrate how information technology changes organization structures.</p>
List the major types of databases.	<p>Microsoft Imagine Academy Resources:</p> <p>[2.022] Microsoft Digital Literacy: Productivity Programs—Lesson 6 Introduction to Database Programs</p> <p>[4.017] Access 2010: Understanding Microsoft Access 2010—Lesson 1 Access Lesson Plan: Understanding Microsoft Access 2010</p> <p>[5.033] Access 2010: Project 1 Graduation Information (project)</p> <p>NBEA Achievement Standards for Information Technology: Identify the appropriate type of database for a particular situation (e.g., flat, relational).</p>
Distinguish between a conceptual and a physical database model.	<p>Mathematics: COM.10</p> <p>NBEA Achievement Standards for Information Technology: Develop design specifications for record types, output, and data stores. Identify and select logical and physical structures appropriate for specific applications.</p>
Compare the structure of relational and non-relational database structures.	<p>English: 10.5, 11.5</p>
Identify the characteristics of a relational database.	<p>English: 10.5, 11.5</p> <p>Microsoft Imagine Academy Resources:</p> <p>[2.022] Microsoft Digital Literacy: Productivity Programs—Lesson 6 Introduction to Database Programs</p> <p>[4.017] Access 2010: Understanding Microsoft Access 2010—Lesson 1</p>

Task	SOL Correlations
	Access Lesson Plan: Understanding Microsoft Access 2010 [5.033] Access 2010: Project 1 Graduation Information (project) NBEA Achievement Standards for Information Technology: Identify the appropriate type of database for a particular situation (e.g., flat, relational).
Examine the database development life cycle.	English: 10.5, 11.5 Mathematics: COM.1, COM.4, COM.6, COM.10, COM.13, COM.16 NBEA Achievement Standards for Information Technology: Identify and explain the steps in the systems development life cycle.
Research the future direction of database technologies.	English: 10.8, 11.8 NBEA Achievement Standards for Information Technology: Analyze how developments in information technology affect the supply/demand characteristics of the job market. Evaluate how information technology transforms business processes and relationships. Examine how information technology changes the breadth and level of worker responsibilities. Identify and evaluate how information technology developments changes the way humans do their work. Illustrate how information technology changes organization structures.
Identifying Business Requirements	
Describe the process of modeling business requirements.	English: 10.1, 10.5, 11.1, 11.5 NBEA Achievement Standards for Information Technology: Define system requirements using structured systems analysis tools.

Task	SOL Correlations
Apply business concepts to the database model.	<p>Microsoft Imagine Academy Resources: [4.017] Access 2010: Understanding Microsoft Access 2010—Lesson 1 Access Lesson Plan: Understanding Microsoft Access 2010 [5.033] Access 2010: Project 1 Graduation Information (project)</p> <p>NBEA Achievement Standards for Information Technology: Identify and apply appropriate application development tools. Incorporate appropriate human interface design principles.</p>
Define entities among elements of significance.	<p>Microsoft Imagine Academy Resources: [4.018] Access 2010: Create Database Tables Using Access—Lesson 2 Access Lesson Plan: Create Database Tables Using Access [5.034] Access 2010: Project 2 Summer Jobs (project)</p> <p>NBEA Achievement Standards for Information Technology: Plan and develop record specifications.</p>
Define attributes of each entity.	<p>Microsoft Imagine Academy Resources: [2.022] Microsoft Digital Literacy: Productivity Programs—Lesson 6 Introduction to Database Programs [4.018] Access 2010: Create Database Tables Using Access—Lesson 2 Access Lesson Plan: Create Database Tables Using Access [5.034] Access 2010: Project 2 Summer Jobs (project)</p> <p>NBEA Achievement Standards for Information Technology: Plan and develop record specifications.</p>
Select unique identifiers (UIDs).	<p>Microsoft Imagine Academy Resources: [2.022] Microsoft Digital Literacy: Productivity Programs—Lesson 6 Introduction to Database Programs [4.018] Access 2010: Create Database Tables Using Access—Lesson 2</p>

Task	SOL Correlations
	Access Lesson Plan: Create Database Tables Using Access [5.034] Access 2010: Project 2 Summer Jobs (project) NBEA Achievement Standards for Information Technology: Plan and develop record specifications.
Define types of unique identifiers.	
Define business rules.	English: 10.1, 10.5, 11.1, 11.5 NBEA Achievement Standards for Information Technology: Define system requirements using structured systems analysis tools.
Examining Entity-Relationship Basics	
Analyze entities for relationships that exist among them.	
Distinguish among relationship types.	Mathematics: A.7, A.8, AFDA.1 Microsoft Imagine Academy Resources [2.022] Microsoft Digital Literacy: Productivity Programs—Lesson 6 Introduction to Database Programs [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables [5.035] Access 2010: Project 3 Summer Job Openings (project)
Describe relationship transferability.	
Name relationships.	Microsoft Imagine Academy Resources [2.022] Microsoft Digital Literacy: Productivity Programs—Lesson 6 Introduction to Database Programs [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables

Task	SOL Correlations
	[5.035] Access 2010: Project 3 Summer Job Openings (project)
Explain relationship optionality.	
Explain relationship degree/cardinality.	
Applying Design Concepts to Database Models	
Identify elements of the graphic representation of a database model.	NBEA Achievement Standards for Information Technology: Define system requirements using structured systems analysis tools.
Define drawing conventions for readability.	
Illustrate business rules in an entity-relationship model.	Microsoft Imagine Academy Resources: [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables [5.035] Access 2010: Project 3 Summer Job Openings (project)
Define the normalization process.	Microsoft Imagine Academy Resources [2.022] Microsoft Digital Literacy: Productivity Programs—Lesson 6 Introduction to Database Programs NBEA Achievement Standards for Information Technology: Normalize a database schema.
Perform the normalization process.	English: 10.5, 11.5 Microsoft Imagine Academy Resources: [2.022] Microsoft Digital Literacy: Productivity Programs—Lesson 6 Introduction to Database Programs NBEA Achievement Standards for Information Technology: Normalize a database schema.
Resolve many-to-many relationships.	Microsoft Imagine Academy Resources:

Task	SOL Correlations
	<p>[2.022] Microsoft Digital Literacy: Productivity Programs—Lesson 6 Introduction to Database Programs</p> <p>[4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables</p> <p>[5.035] Access 2010: Project 3 Summer Job Openings (project)</p>
Model hierarchical data.	<p>NBEA Achievement Standards for Information Technology: Identify and select logical and physical structures appropriate for specific applications. Modify record structures. Plan and develop a database schema. Plan and develop record specifications. Use application development tools associated with a database system to create solutions for organization problems. Use database application development tools to create information systems to solve organization problems.</p>
Model recursive relationships.	<p>NBEA Achievement Standards for Information Technology: Identify and select logical and physical structures appropriate for specific applications. Modify record structures. Plan and develop a database schema. Plan and develop record specifications. Use application development tools associated with a database system to create solutions for organization problems. Use database application development tools to create information systems to solve organization problems.</p>
Model exclusive relationships.	<p>NBEA Achievement Standards for Information Technology: Identify and select logical and physical structures appropriate for specific applications. Modify record structures. Plan and develop a database schema.</p>

Task	SOL Correlations
	<p>Plan and develop record specifications.</p> <p>Use application development tools associated with a database system to create solutions for organization problems.</p> <p>Use database application development tools to create information systems to solve organization problems.</p>
Define relational-database terminology.	<p>Microsoft Imagine Academy Resources</p> <p>[2.022] Microsoft Digital Literacy: Productivity Programs—Lesson 6 Introduction to Database Programs</p> <p>[4.017] Access 2010: Understanding Microsoft Access 2010—Lesson 1 Access Lesson Plan: Understanding Microsoft Access 2010</p> <p>[5.033] Access 2010: Project 1 Graduation Information (project)</p>
Define a <i>fact</i> and <i>dimension</i> .	
Verbalize a diagram's relationship notation.	
Transitioning from Design Concepts to Database Management	
Summarize the database-design process.	<p>English: 10.5, 11.5</p> <p>Mathematics: A.1, COM.1, COM.4, COM.16</p>
Convert a conceptual design to a physical database model.	<p>Mathematics: A.1, COM.10</p> <p>NBEA Achievement Standards for Information Technology: Develop design specifications for record types, output, and data stores. Identify and select logical and physical structures appropriate for specific applications.</p>
Map simple entities, attributes, and primary keys.	<p>Mathematics: A.7, COM.14</p> <p>NBEA Achievement Standards for Information Technology: Identify and select logical and physical structures appropriate for specific applications.</p>

Task	SQL Correlations
Identify data constraints.	<p>Microsoft Imagine Academy Resources [3.005] Access 2010: Intermediate Skills—E-Learning Module 1 Creating Complex Queries to Extract and Process Specific Information [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables [5.035] Access 2010: Project 3 Summer Job Openings (project)</p> <p>NBEA Achievement Standards for Information Technology: Identify and select logical and physical structures appropriate for specific applications.</p>
Map relationships to foreign keys.	<p>Microsoft Imagine Academy Resources: [3.005] Access 2010: Intermediate Skills—E-Learning Module 1 Creating Complex Queries to Extract and Process Specific Information [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables [5.035] Access 2010: Project 3 Summer Job Openings (project)</p> <p>NBEA Achievement Standards for Information Technology: Identify and select logical and physical structures appropriate for specific applications.</p>
Writing Structured Query Language (SQL) Statements	
Describe SQL.	<p>Microsoft Imagine Academy Resources: [3.005] Access 2010: Intermediate Skills—E-Learning Module 1 Creating Complex Queries to Extract and Process Specific Information</p>
Distinguish among categories of SQL statements.	<p>English: 10.3, 10.5, 11.3, 11.5</p> <p>Mathematics: COM.14</p>

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	<p>Microsoft Imagine Academy Resources: [3.005] Access 2010: Intermediate Skills—E-Learning Module 1 Creating Complex Queries to Extract and Process Specific Information</p>
Demonstrate the syntax for select statements (projection).	<p>Mathematics: COM.14</p> <p>NBEA Achievement Standards for Information Technology: Enter data and edit fields and records.</p>
Demonstrate methods for selecting columns and arithmetic expressions (selection).	<p>Mathematics: A.7, COM.14</p> <p>Microsoft Imagine Academy Resources: [4.022] Access 2010: Query a Database—Lesson 6 Access Lesson Plan: Query a Database [5.038] Access 2010: Project 6 Summer Job Openings (project)</p> <p>NBEA Achievement Standards for Information Technology: Enter data and edit fields and records.</p>
Incorporate column alias and literals in a SELECT statement.	Mathematics: COM.14
Describe operator precedence.	<p>English: 10.5, 11.5</p> <p>Mathematics: COM.6</p>
Describe methods for displaying a table.	<p>Mathematics: COM.9, COM.11</p> <p>Microsoft Imagine Academy Resources: [3.176] SQL Server 2008 Release 2: Querying and Filtering Data in Microsoft SQL Server 2008—E-Learning Module 2 Filtering Data [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables</p>

Task	SQL Correlations
	[5.035] Access 2010: Project 3 Summer Job Openings (project)
Restricting and Sorting Data Using SQL	
Restrict data, using the WHERE clause.	Mathematics: COM.7, COM.13 Microsoft Imagine Academy Resources: [3.176] SQL Server 2008 Release 2: Querying and Filtering Data in Microsoft SQL Server 2008—E-Learning Module 2 Filtering Data [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables [5.035] Access 2010: Project 3 Summer Job Openings (project) NBEA Achievement Standards for Information Technology: Sort, prioritize, and retrieve data from databases.
Define comparison operators (e.g., =, >, <, >=, <=, <>, !=)	Mathematics: A.5, COM.7, COM.13 Microsoft Imagine Academy Resources: [3.176] SQL Server 2008 Release 2: Querying and Filtering Data in Microsoft SQL Server 2008—E-Learning Module 2 Filtering Data [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables [5.035] Access 2010: Project 3 Summer Job Openings (project)
Restrict data, using the BETWEEN ... AND and IN clauses.	Mathematics: COM.7, COM.13 Microsoft Imagine Academy Resources:

Task	SQL Correlations
	<p>[3.176] SQL Server 2008 Release 2: Querying and Filtering Data in Microsoft SQL Server 2008—E-Learning Module 2 Filtering Data</p> <p>[4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables</p> <p>[5.035] Access 2010: Project 3 Summer Job Openings (project)</p> <p>NBEA Achievement Standards for Information Technology: Sort, prioritize, and retrieve data from databases.</p>
<p>Restrict data, using wildcards and patterns within the LIKE condition.</p>	<p>Mathematics: COM.7, COM.13</p> <p>Microsoft Imagine Academy Resources: [3.177] SQL Server 2008 Release 2: Querying and Filtering Data in Microsoft SQL Server 2008—E-Learning Module 3 Retrieving Unknown Values</p> <p>[4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables</p> <p>[5.035] Access 2010: Project 3 Summer Job Openings (project)</p> <p>NBEA Achievement Standards for Information Technology: Sort, prioritize, and retrieve data from databases.</p>
<p>Demonstrate the use of the ESCAPE character with wildcard characters.</p>	<p>Mathematics: COM.7, COM.13</p> <p>Microsoft Imagine Academy Resources: [3.177] SQL Server 2008 Release 2: Querying and Filtering Data in Microsoft SQL Server 2008—E-Learning Module 3 Retrieving Unknown Values</p> <p>[4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables</p>

Task	SQL Correlations
	<p>[5.035] Access 2010: Project 3 Summer Job Openings (project)</p> <p>NBEA Achievement Standards for Information Technology: Sort, prioritize, and retrieve data from databases.</p>
<p>Restrict (or specify) data containing nulls, using the IS (NOT) NULL clause.</p>	<p>Mathematics: COM.7, COM.13</p> <p>Microsoft Imagine Academy Resources: [3.177] SQL Server 2008 Release 2: Querying and Filtering Data in Microsoft SQL Server 2008—E-Learning Module 3 Retrieving Unknown Values</p> <p>[4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables</p> <p>[5.035] Access 2010: Project 3 Summer Job Openings (project)</p> <p>NBEA Achievement Standards for Information Technology: Sort, prioritize, and retrieve data from databases.</p>
<p>Demonstrate the use of two or more conditional statements using logical operators (i.e., AND, OR, NOT).</p>	<p>Mathematics: COM.8, COM.13</p> <p>Microsoft Imagine Academy Resources: [3.176] SQL Server 2008 Release 2: Querying and Filtering Data in Microsoft SQL Server 2008—E-Learning Module 2 Filtering Data</p> <p>[4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables</p> <p>[5.035] Access 2010: Project 3 Summer Job Openings (project)</p> <p>NBEA Achievement Standards for Information Technology:</p>

Task	SQL Correlations
Sort data by using ResultSet with the ORDER BY clause.	<p>Sort, prioritize, and retrieve data from databases.</p> <p>Mathematics: COM.7, COM.9</p> <p>Microsoft Imagine Academy Resources: [3.150] SQL Server 2008 Release 2: Querying and Filtering Data in Microsoft SQL Server 2008—E-Learning Module 4 Formatting Result Sets [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables [5.035] Access 2010: Project 3 Summer Job Openings (project)</p> <p>NBEA Achievement Standards for Information Technology: Sort, prioritize, and retrieve data from databases.</p>
Performing Single-Row Functions	
Explain the concept of functions.	
Distinguish between the two categories of functions in SQL.	
Demonstrate restricting data using ANY and ALL.	<p>Microsoft Imagine Academy Resources: [3.171] SQL Server 2008 Release 2: Working with Subqueries Using Microsoft SQL Server 2008—E-Learning Module 1 Writing Basic Subqueries [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables [5.037] Access 2010: Project 5 Summer Job Openings (project)</p>
Define single-row functions.	<p>NBEA Achievement Standards for Information Technology: Extract useful information using search queries.</p>

Task	SQL Correlations
Describe the types/categories of single-row functions.	
Demonstrate the use of character, number, and date functions in SELECT statements.	<p>Mathematics: COM.7, COM.8</p> <p>Microsoft Imagine Academy Resources: [3.175] SQL Server 2008 Release 2: Querying and Filtering Data in Microsoft SQL Server 2008—E-Learning Module 1 Using the Select Statement [4.020] Access 2010: Creating Forms—Lesson 4 Access Lesson Plan: Creating Forms [5.036] Access 2010: Project 4 Summer Job Openings (project)</p> <p>NBEA Achievement Standards for Information Technology: Extract useful information using search queries.</p>
Describe the use of conversion functions.	English: 10.5, 11.5
Demonstrate the use of null character handling.	<p>Microsoft Imagine Academy Resources: [3.150] SQL Server 2008 Release 2: Querying and Filtering Data in Microsoft SQL Server 2008—E-Learning Module 4 Formatting Result Sets [3.177] SQL Server 2008 Release 2: Querying and Filtering Data in Microsoft SQL Server 2008—E-Learning Module 3 Retrieving Unknown Values</p>
Demonstrate the use of conditional expressions.	<p>Mathematics: COM.8</p> <p>Microsoft Imagine Academy Resources: [4.020] Access 2010: Creating Forms—Lesson 4 Access Lesson Plan: Creating Forms</p>

Task	SQL Correlations
	[5.036] Access 2010: Project 4 Summer Job Openings (project)
Using JOIN Tables	
Describe the concept of joining data from two or more tables.	English: 10.5, 11.5 Microsoft Imagine Academy Resources: [3.162] SQL Server 2008 Release 2: Joining Data from Multiple Tables in Microsoft SQL Server 2008—E-Learning Module 1 Querying Multiple Tables by Using Joins [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables [5.035] Access 2010: Project 3 Summer Job Openings (project) NBEA Achievement Standards for Information Technology: Extract useful information using search queries.
Demonstrate the use of ANSI joins.	Mathematics: COM.3, COM.7, COM.8 NBEA Achievement Standards for Information Technology: Extract useful information using search queries.
Demonstrate the use of Oracle proprietary joins.	Mathematics: COM.3, COM.7, COM.8 NBEA Achievement Standards for Information Technology: Extract useful information using search queries.
Aggregating Data Using GROUP Functions	
Define group/aggregate functions.	English: 10.2, 10.5, 11.2, 11.5 Microsoft Imagine Academy Resources: [3.158] SQL Server 2008 Release 2: Grouping and Summarizing Data in Microsoft

Task	SQL Correlations
	SQL Server 2008—E-Learning Module 2 Summarizing Grouped Data [5.037] Access 2010: Project 5 Summer Job Openings (project)
Describe how to write a query containing group functions.	Microsoft Imagine Academy Resources: [3.158] SQL Server 2008 Release 2: Grouping and Summarizing Data in Microsoft SQL Server 2008—E-Learning Module 2 Summarizing Grouped Data [5.037] Access 2010: Project 5 Summer Job Openings (project)
Construct SQL code by applying a GROUP BY clause that uses column, alias, and number.	Microsoft Imagine Academy Resources: [3.158] SQL Server 2008 Release 2: Grouping and Summarizing Data in Microsoft SQL Server 2008—E-Learning Module 2 Summarizing Grouped Data [5.037] Access 2010: Project 5 Summer Job Openings (project)
Construct code by applying a HAVING clause.	Microsoft Imagine Academy Resources: [3.158] SQL Server 2008 Release 2: Grouping and Summarizing Data in Microsoft SQL Server 2008—E-Learning Module 2 Summarizing Grouped Data [5.037] Access 2010: Project 5 Summer Job Openings (project)
Demonstrate additional functionality of the GROUP BY clause.	Microsoft Imagine Academy Resources: [3.158] SQL Server 2008 Release 2: Grouping and Summarizing Data in Microsoft SQL Server 2008—E-Learning Module 2 Summarizing Grouped Data [5.037] Access 2010: Project 5 Summer Job Openings (project)

Task	SOL Correlations
Applying Advanced Data Selection Techniques	
Describe the types of problems that subqueries can solve.	<p>English: 10.5, 11.5</p> <p>Microsoft Imagine Academy Resources: [3.171] SQL Server 2008 Release 2: Working with Subqueries Using Microsoft SQL Server 2008—E-Learning Module 1 Writing Basic Subqueries [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables [5.035] Access 2010: Project 3 Summer Job Openings (project)</p>
Define subqueries.	<p>Microsoft Imagine Academy Resources: [3.171] SQL Server 2008 Release 2: Working with Subqueries Using Microsoft SQL Server 2008—E-Learning Module 1 Writing Basic Subqueries [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables [5.037] Access 2010: Project 5 Summer Job Openings (project)</p>
Construct a single-row subquery.	<p>Mathematics: COM.9</p> <p>Microsoft Imagine Academy Resources: [3.171] SQL Server 2008 Release 2: Working with Subqueries Using Microsoft SQL Server 2008—E-Learning Module 1 Writing Basic Subqueries [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables [5.037] Access 2010: Project 5 Summer Job Openings (project)</p>

Task	SQL Correlations
Construct a multi-row subquery.	<p>Mathematics: COM.9</p> <p>Microsoft Imagine Academy Resources: [3.171] SQL Server 2008 Release 2: Working with Subqueries Using Microsoft SQL Server 2008—E-Learning Module 1 Writing Basic Subqueries [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables [5.037] Access 2010: Project 5 Summer Job Openings (project)</p>
Construct a correlated subquery.	<p>Mathematics: COM.9</p> <p>Microsoft Imagine Academy Resources: [3.171] SQL Server 2008 Release 2: Working with Subqueries Using Microsoft SQL Server 2008—E-Learning Module 1 Writing Basic Subqueries [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables [5.037] Access 2010: Project 5 Summer Job Openings (project)</p>
Write a multiple-column subquery.	<p>Mathematics: COM.9</p> <p>Microsoft Imagine Academy Resources: [3.171] SQL Server 2008 Release 2: Working with Subqueries Using Microsoft SQL Server 2008—E-Learning Module 1 Writing Basic Subqueries [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables [5.037] Access 2010: Project 5 Summer Job Openings (project)</p>

Task	SOL Correlations
Explain the behavior of subqueries when null values are retrieved.	<p>English: 10.5, 11.5</p> <p>Mathematics: COM.3</p> <p>Microsoft Imagine Academy Resources: [3.171] SQL Server 2008 Release 2: Working with Subqueries Using Microsoft SQL Server 2008—E-Learning Module 1 Writing Basic Subqueries [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables [5.037] Access 2010: Project 5 Summer Job Openings (project)</p>
Applying Data Manipulation Language	
Describe data manipulation language (DML).	English: 10.5, 11.5
Describe integrity constraints.	<p>Microsoft Imagine Academy Resources: [3.005] Access 2010: Intermediate Skills—E-Learning Module 1 Creating Complex Queries to Extract and Process Specific Information</p>
Insert rows into a table.	<p>Mathematics: COM.14</p> <p>Microsoft Imagine Academy Resources: [3.167] SQL Server 2008 Release 2: Modifying Data in Tables with Microsoft SQL Server 2008—E-Learning Module 3 Inserting Data into Tables [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables [5.035] Access 2010: Project 3 Summer Job Openings (project)</p> <p>NBEA Achievement Standards for Information Technology:</p>

Task	SOL Correlations
	Enter data and edit fields and records.
Update data within a table.	<p>Mathematics: COM.14</p> <p>Microsoft Imagine Academy Resources: [3.169] SQL Server 2008 Release 2: Modifying Data in Tables with Microsoft SQL Server 2008—E-Learning Module 5 Updating Data in Tables [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables [5.035] Access 2010: Project 3 Summer Job Openings (project)</p> <p>NBEA Achievement Standards for Information Technology: Enter data and edit fields and records.</p>
Delete rows in a table.	<p>Mathematics: COM.14</p> <p>Microsoft Imagine Academy Resources: [3.170] SQL Server 2008 Release 2: Modifying Data in Tables with Microsoft SQL Server 2008—E-Learning Module 6 Merging Data in Tables [4.019] Access 2010: Modify Database Tables—Lesson 3 Access Lesson Plan: Modify Database Tables [5.035] Access 2010: Project 3 Summer Job Openings (project)</p> <p>NBEA Achievement Standards for Information Technology: Enter data and edit fields and records.</p>
Construct a MERGE statement.	NBEA Achievement Standards for Information Technology: Enter data and edit fields and records.
Construct a multi-table insert statement.	NBEA Achievement Standards for Information Technology:

Task	SOL Correlations
	Enter data and edit fields and records.
Modifying and Managing Tables	
Describe data definition language (DDL).	NBEA Achievement Standards for Information Technology: Enter data and edit fields and records.
Create a table.	Mathematics: COM.14 NBEA Achievement Standards for Information Technology: Enter data and edit fields and records.
Create a table, using a subquery.	Mathematics: COM.14
Describe the data dictionary.	English: 10.5, 11.5
Define common data types.	NBEA Achievement Standards for Information Technology: Enter data and edit fields and records.
Describe date/time data types.	English: 10.5, 11.5 NBEA Achievement Standards for Information Technology: Enter data and edit fields and records.
Write code to alter table definitions.	Mathematics: COM.1, COM.3 NBEA Achievement Standards for Information Technology: Enter data and edit fields and records.
Write SQL code to manipulate column definitions, using DROP, RENAME, and TRUNCATE commands.	Mathematics: COM.1, COM.3 NBEA Achievement Standards for Information Technology: Enter data and edit fields and records.
Differentiate among TRUNCATE, DROP, and DELETE.	
Describe FLASHBACK.	English: 10.5, 11.5

Task	SOL Correlations
Defining Database Constraints	
Describe the necessity for database constraints.	English: 10.5, 11.5 Mathematics: COM.3
Distinguish between column-level and table-level constraints.	
List the types of constraints and their applications.	English: 10.5, 11.5 Mathematics: COM.3
Write a table- and column-level constraint.	Mathematics: COM.3
View constraints with table definition and the data dictionary.	
Creating and Managing Views	
Describe a view.	English: 10.5, 11.5
Create a view.	
Write SQL code to retrieve data through a view.	Mathematics: COM.1, COM.3
Write SQL code to alter the definition of a view.	Mathematics: COM.1, COM.3
Manipulate tables, using the INSERT, UPDATE, and DELETE commands through a view.	Mathematics: COM.7
Write SQL code to remove a view.	Mathematics: COM.1, COM.3
Create an inline view.	
Describe the procedures for performing a top-n analysis.	
Creating Additional Database Objects	

Task	SOL Correlations
Describe database objects and their uses.	English: 10.5, 11.5
Define a sequence object.	
Create a sequence.	
Use a sequence.	
Modify a sequence.	
Describe the index.	
Describe issues that affect the decision to create an index.	
Create an index.	NBEA Achievement Standards for Information Technology: Describe search strategies and use them to solve common information problems.
Create private and public synonyms.	
Describe the type of information available in the data dictionary.	
Create SQL code to retrieve information from the data dictionary.	
Maintaining Database Security and System Security	
Define object privileges.	
Construct an object privilege.	
Describe roles.	
Define system privileges.	
Describe system privileges that can be granted to a user.	
Define a database link.	
Create a new database user.	
Drop a database user.	

Task	SOL Correlations
Making Database Transactions	
Define Transaction Control Language (TCL).	
Describe the importance of transaction control to businesses.	English: 10.5, 11.5
Demonstrate the use of SAVEPOINT, ROLLBACK, and COMMIT.	
Preparing for Industry Certification	
Describe the process and requirements for obtaining industry certifications related to the Database Design and Management (Oracle) course.	<p>English: 10.5, 10.8, 11.5, 11.8</p> <p>FBLA Competitive Events and Activities Areas: Job Interview</p> <p>NBEA Achievement Standards for Information Technology: Obtain database management industry certification(s) needed for a chosen career path.</p>
Identify testing skills and strategies for a certification examination.	<p>FBLA Competitive Events and Activities Areas: Job Interview</p> <p>NBEA Achievement Standards for Information Technology: Obtain database management industry certification(s) needed for a chosen career path.</p>
Demonstrate ability to successfully complete selected practice examinations.	<p>FBLA Competitive Events and Activities Areas: Job Interview</p> <p>NBEA Achievement Standards for Information Technology: Obtain database management industry certification(s) needed for a chosen career path.</p>
Complete an industry certification examination representative of skills learned in this course	

Task	SOL Correlations
(e.g., MOS, MTA, IC3).	