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Teachers in Industry for Educational Support

Relationships that Work

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Relationships that Work Curriculum Unit Overview

Summary

Most careers today require employees to use technology and to work as part of a team. Regardless of what you consider a “dream job,” most likely there will be a relational database and a team relationship in your future work. Whether you plan to design software solutions or just use one that is already in place, you must understand how the different components of a database are related within your company and have a positive team relationship on the job. Also, team and supervisory relationships at work will require you to evaluate other employees. For all the reasons listed above, and more, the *Relationships that Work* unit provides a real world view of work.

The educational purpose of this curriculum unit is to: a) introduce relational databases to students who have experience with the terminology, design, and benefits/limitations of a flat database; b) provide opportunity for teamwork activities and peer evaluation; and c) enhance students’ oral and written communication skills in the process. The unit is designed for 11th and 12th grade high school or career technology students who have had previous experience with a database, but could be used as a model for 9th or 10th grade students by changing the focus from cars and careers to other interesting, age-appropriate topics.

The hook activity, including the Microsoft® PowerPoint presentation and the discussion of the employee evaluation document will require one 45-minute period. The three authentic learning tasks (ALTs) and final transfer activity will total about nine 45-minute class periods. ALT 2 and the final transfer activity will require one and two lab periods, respectively. Total class time is about ten 45-minute periods, and lab time is about three 45-minute periods, for a total of thirteen 45-minute periods. However, additional days may be required for students to conduct the surveys and interviews outside class time, so the entire project may extend over three plus weeks from beginning to end. Also, the unit is flexible in that the instructor can simplify, omit, or add features, which could shorten or lengthen the time element.

Big Picture

Relationships that Work will be introduced with a virtual field trip via a Microsoft® PowerPoint presentation about MTD Acquisition, LLC, dba Mutual Tool, a tool and die company in Dayton, Ohio, USA. The slide presentation will give students a history of the company, employment information and projections, as well as insight into how database solutions fit their company and the interactions among employees with different responsibilities. OPTIONAL: Before or after the hook activity, show a transparency of the opening paragraph above (under Summary) as part of the introduction for this unit. OPTIONAL HOOK ACTIVITY: Invite a guest speaker from a local company to discuss the same topics that would have been presented in the virtual field trip described above.

Preparation for the Unit

For the opening or hook activity of the *Relationships that Work* unit, prepare a Microsoft® PowerPoint presentation of Mutual Tool (or other contact company) as a virtual field trip; and contact Mutual Tool (or other contact company) to secure a sample employee evaluation form to discuss with students regarding peer evaluations during the unit.

Decide the composition of the teams, including how many per team, which students work well together, heterogeneous grouping, and whether they need assigned roles, based on your knowledge of the dynamics of your class and students, or use your preferred random method.

Schedule the computer lab ahead of time for ALT 2 and final transfer activity, if necessary.

Make copies of handouts, etc. Copy and cut according to instructions: ALT 1 *All Shook Up*, enough for one per team, in an envelope. Make transparencies of the ALTs 1, 2, 3, and *Take This Job* peer evaluation rubrics to discuss with students before each activity, the ALT 3 instructor answer sample answer key, and the *Take This Job* sample career survey. The peer rubrics for the ALTs are sections of and lead up to the final peer evaluation rubric. So, the team can focus on one or two behaviors during each ALT, rather than all four every time. Copy ALTs 1, 2, and 3 student instruction sheets and relational database/data type exercises, enough for one per student. Copy peer evaluation rubrics, enough for one per student for ALTs 1, 2, and 3, and enough for number of students times number of teams for final transfer activity, *Take This Job*. Copy the instructor evaluation rubrics for both ALT 3, *It's All in the Relationship*, enough for two per team (there are two per page), and for the final transfer activity, *Take This Job*, enough for two per team (give each team one copy and keep the rest for instructor evaluations). OPTIONAL: Have each student complete a self-evaluation using the same peer rubrics to see how closely their perceived performance matches that of his or her peers. (Depending on the number of students per team, a separate rubric or additional copies of the ready-made rubrics might be needed. Each peer rubric has space to evaluate three different team members.) A similar approach could be used for students to self-evaluate their relational database creation and population.

After the class has decided on the 15-question career survey for the final transfer activity, *Take This Job*, either the instructor or a designated student will need to create a keyed version of the career survey and make enough copies for one per student.

The instructor could contact a local business or agency to create a list of possible career survey participants for students to contact, either in person or by telephone. This is only necessary if the students themselves have no other resources.

OPTIONAL PREPARATIONS: Rather than use a virtual field trip, invite a company representative to visit the class to explain how relational databases are used in their day-to-day operations. Many of the ALTs can be extended to include more practice with flat and relational databases, surveys, and peer evaluation of team behaviors. If time is limited, the instructor could provide the sample career survey document to each student, rather than having the teams write the questions. (However, this would eliminate part of the open-ended design of the curriculum unit, *Relationships that Work*). The closure of this unit could be enhanced by securing a final guest speaker. One of the students could invite a source from the final transfer activity, *Take This Job*, to visit the class to talk about his or her career record.

Overview

On the following page is a summary of the *Relationships that Work* unit, including brief summaries of each of the competencies that must be taught and practiced before student teams approach the culminating, or transfer, activity, *Take This Job*.

Curriculum Unit Summary

Relationships that Work

Communications	Teamwork	Technology
<p>ALT 1 - All Shook Up Oral communication skills will be enhanced through team and class discussions</p>	<p>ALT 1 – All Shook Up Team members will practice group dynamics of listening and cooperating in organizing a set of mixed up data about automobiles into fields and records for display as a database</p>	<p>ALT 1 – All Shook Up The team will analyze the automobile database to: a) select appropriate names and data types for each field; b) determine one type of useful information that can be reported and presented; and c) recommend improvements for any limitations</p>
<p>ALT 2 – Hotty Auto Survey Oral and written communications skills will be practiced by creating and conducting a survey about cars and reporting on the results</p>	<p>ALT 2 – Hotty Auto Survey Team members will contribute to team by brainstorming and create a list of appropriate and interesting questions about cars in a survey format, and conducting the survey for inclusion in a merged, flat database</p>	<p>ALT 2 – Hotty Auto Survey The teams will: a) examine, revise and merge their lists of car questions into a single written survey with applicable quantitative and/or qualitative questions suitable as fields for a database; b) and conduct and merge the survey data</p>
<p>ALT 3 – It’s All in the Relationship Written communications skills will be practiced individually by completing the relational database and data type exercises. Oral communication skills will be practiced by collaborating with team members to check each other’s work</p>	<p>ALT 3 – It’s All in the Relationship After completing the relational database and data type exercises independently, the individual team members will collaborate to check each other’s responses, discuss their accuracy, and evaluate time management of tasks</p>	<p>ALT 3 – It’s All in the Relationship Given examples of two database structures with relational records and fields, individual students will complete a parallel exercise to identify the relational IDs with a one-to-many ratio and to assign appropriate data types to each field</p>
<p style="text-align: center;">Take This Job</p> <p>Students will work in teams to produce a composite written career survey, interview people in different careers, and create and report from a relational database using the data from the survey. The goal of the culminating activity is to integrate the students’ experiences in the three content areas of all three ALTs and reinforce the relational database concepts from ALT 3. The activity will require team behaviors of contributing, cooperating, listening, and managing time wisely. Peer evaluation skills practiced in the ALTs will be reinforced as students evaluate other team members using a rubric. The relational database component will be evaluated by the instructor with a separate rubric.</p>		

Section One: Communications/Teamwork/(Database) Technology

ALT 1: All Shook Up

Summary

This initial activity will be the students' first team experience of the unit, providing opportunities for oral communications, listening, cooperating and evaluating peers. The activity will provide a review of the organization of a flat database before moving on to surveys and relational databases.

Competencies

1. Students will listen and cooperate during team activities.
2. Teams will choose appropriate field names and data types for a database and make a list of recommendations for improvement.

Time

All Shook Up will require one 45-minute class period, OPTIONAL: If the instructor wants the teams to present their organization of the data, then one additional 45-minute lab and one additional 45-minute class (or lab) period will be required for the teams to create the database, print a report, and/or create a media presentation.

Materials

Appendix One: *Instructor's Sample Car Database, ALT 1 All Shook Up* (one for each team, per instructions on resource)

Appendix Two: *Student Handout, ALT 1 All Shook Up* (one per student)

Appendix Three: *Student Peer Evaluation Rubric, ALT 1 All Shook Up* (one per student and a transparency for the class)

OPTIONAL: Database and presentation software for creating a database and media presentation to extend the lesson or provide additional database and presentation practice.

OPTIONAL: Procure samples of employee evaluation forms from local businesses to demonstrate to students how employee performance is measured and for what purposes.

Instructions

1. Divide class into teams of students (three per team avoids ties in decision-making). Use a transparency of the student peer evaluation rubric for ALT 1 to discuss team work and listening/cooperation. OPTIONAL: Follow up with the blank employee evaluation samples from businesses to show students how teamwork is included in them.
2. Handout envelope with *All Shook Up* sample car database (per instructions on resource.) OPTIONAL: Create your own database of age and interest appropriate topic for your student population, and follow instructions on the sample included herein.

3. Monitor students for time management and collect documentation when appropriate: 5 minutes for team name, 15 minutes to organize data into records and fields with appropriate field names and data types, 15 minutes to brainstorm the limitations of the data and make recommendations. Collect the teams' lists of limitations/recommendations first, then allow 5 minutes for a brief class discussion of the teams' lists of limitations/recommendations for improvements. Allow 5 minutes for completion of peer evaluations, and collect the evaluations.
4. OPTIONAL: Extend the lesson or provide extra practice using database and presentation software by requiring teams to create the actual database and/or present any interesting results.

Evaluation/Assessment of Student's Competency

1. Student team behavior during the *All Shook Up* activities will be evaluated for listening and cooperation by their peers with the rubric for ALT 1 and will perform with a desired composite score ratio of at least 2:3. (Total score points will depend on the number of members per team.)
2. Prior to whole class discussion, each team will submit to the instructor a handwritten list of at least three recommendations for database improvement:
0 recommendations = 0%; 1-2 recommendations = 50%; 3 recommendations = 60%;
4 recommendations = 80%; 5+ recommendations = 100%

Closure

The instructor will close by asking teams to share in whole class discussion of the team's recommendations for improvements to the limited data. This will lead into the questions teams should ask before creation of a survey tomorrow. A discussion about how team meetings in the workplace require employees to listen and cooperate in sharing ideas in order to effect change would be appropriate at this time. Students can voice their feelings about any positive or negative team behaviors they experienced during this activity so that the instructor can facilitate future team activities. OPTIONAL: Consider further discussion of employee performance evaluations to prepare for the peer evaluations at the end of the final transfer activity, *Take This Job*.

Section Two: Communications/Teamwork/(Database) Technology

ALT 2: Hotty Auto Survey

Summary:

This team activity will acquaint students with constructing a survey about car owners. After a brief class review on survey tips, students will then develop within their teams at least five questions appropriate for a car database. They will design the survey, conduct the survey with five people, and report their findings to the class. During the team activity, students will develop a sense of what it means to contribute to team efforts and will evaluate peers accordingly.

Competencies

1. Students will contribute positively to their team's *Hotty Auto Survey* activities of creating and conducting a survey.
2. Students will interview five people.

Time

Hotty Auto Survey will require at least three to four (45 min.) periods for this activity and additional time in between for students to conduct the survey. For example, two 45-minute class periods (one at the beginning and one at the end of the activity) and one additional 45-minute lab periods for students to create a media presentation or a flat database with a spreadsheet, if that option is needed.

Materials

Appendix Four: *Student Handout, ALT 2 Hotty Auto Survey* (one per student)

Appendix Five: *Student Peer Evaluation Rubric, ALT 2 Hotty Auto Survey* (one per student and a transparency for class)

Word processing software

OPTIONAL: spreadsheet and presentation software

Instructions

1. Briefly discuss developing surveys. Include the following:
 - What is the purpose of the survey?
 - What information do you want to find?
 - Avoid slanted questions.
 - Don't make a survey too long.
2. Discuss examples of the different types of questions:
 - Choice question – Do you own a car? The answer is quick and easy.
 - Name question – What make of cars have you owned in the past?

- Quantitative question – How many years have you been driving?
 - Qualitative question – Why did you choose the car you are presently driving? List adequate possibilities to choose from.
 - Rating question – Using a scale of 1-5 (5 being most desirable) rate your color preference. This measures how a person feels about a product, brand, etc.
 - Open-ended question – What advice would you give to someone looking to purchase an automobile?
3. In teams students should develop at least five questions that are suitable to their chosen database fields.
 4. If time allows, students could list their questions on the board for review.
 5. A designated student should word process the survey document and distribute five copies to each team member.
 6. Team members should conduct the survey with five people from their appropriately chosen target population.
 7. The team should then analyze and present their team findings to the class informally.

Evaluation/Assessment of Student's Competency

1. Student contributions to the team during the *Hotty Auto Survey* activities will be evaluated by their peers with the rubric for ALT 2 and will perform with a desired composite score ratio of at least 2:3. (Total score points will depend on the number of members per team.)
2. After writing and conducting the surveys, each team will analyze and present their findings to the class informally. Teams will be evaluated by the instructor based on the average number of surveys conducted per member on the team.

0 average = 0%; 1-2 average = 60%; 3 average = 70%; 4 average = 80%; and
5+ average = 100%

Closure

The team presentations and question/answer sessions that close ALT 2, *Hotty Auto Survey*, will prepare for the final transfer activity, *Take This Job*, in which teams will design a career survey to collect data and create the relational database similar to one that will be introduced in the next activity, ALT 3, *It's All in the Relationship*. OPTIONAL: Extend the ALT 2, *Hotty Auto Survey* activity, for one 45-minute lab period so that students use spreadsheet software to create a flat database table and/or create a media presentation of their findings.

Section Three: Communications/Teamwork/(Database) Technology

ALT 3: It's All in the Relationship

Summary

This activity introduces relationships in a relational database. After a lecture on data types and relationships, students will complete the exercises. The exercises will reinforce what students learned in the lecture. The team members will focus on time management during the activity.

Competencies

1. Students will relate tables, determine the primary and foreign keys, the field data types, and field sizes.
2. Students will practice time management during this task.

Time

It's All in the Relationship will require two 45-minute class periods. Day one, lecture on normalizing data, the different data types, primary and foreign keys and relationships. On the second day have the students work on the exercises and check each other's answers, reach and prepare a team consensus, and evaluate their team member's time management.

OPTIONAL: Use a lab period to show students how to populate the database in Microsoft® Access, or other relational database software and have the students populate the tables independently as homework or other outside class time, such as study hall.

Materials

Appendix Six: *Relational Database Exercises, ALT 3 It's All in the Relationship* (one for each student)

Appendix Seven: *Instructor's Sample Answer Key, ALT 3 It's All in the Relationship*. . (one for instructor and a transparency for class)

Appendix Eight: *Student Peer Evaluation Rubric, ALT 3 It's All in the Relationship* (one per student and a transparency for class)

Appendix Nine: *Instructor's Relational Database Evaluation Rubric, ALT 3 It's All in the Relationship* (two per team—there are two per page, one for team and one for instructor—and a transparency for the class)

OPTIONAL: relational database software

Instructions

1. Lecture on the subject of a relational database, including the following topics:
 - a. Why databases need to be well thought out and designed before entering data
 - b. Go over the term normalization
 - c. Go over the different data types and the sizing of the fields.
 - d. Go over the different types of relationships
 - i. One-to-one
 - ii. One-to-many
 - iii. Many-to-many
 - e. Go over referential integrity

- f. Go over the importance of efficiently allocating memory
2. Handout the relationship exercises. Allocate the 45 minute class as follows:
 - a. 15 minutes to complete the sheets
 - b. 10 for students to grade each other's papers and prepare a team consensus
 - c. 5 minutes for discussion
 - d. 15 minutes to show the students how tables are related in Microsoft® Access (or other relational database software)

Evaluation/Assessment of Student's Competency

1. After working independently to relate tables, determine the primary and foreign keys, the field data types, and field sizes in the ALT 3 activities, students will work in their teams to check each other's answers and reach a team consensus. Each team will submit a single relational database exercise document of their consensus for evaluation by the instructor's rubric for ALT 3 and perform with a score of at least 4 out of 6.
2. Team members will perform time management during the ALT 3 activities with a desired composite score ratio of at least 2:3. (Total score points will depend on the number of members per team.)

Closure

Discuss, as a class, the best way to structure the database. Close the class with questions to students about populating the database appropriately, which will lead into the final transfer activity, *Take This Job*. OPTIONAL: Extend the lesson to show how to relate the tables in Microsoft® Access, or other relational database software, and give students an additional practice database to be created and populated independent of their teams and outside class time.

The Transfer, or Culminating Activity

Take This Job

Summary

The transfer activity will employ written and verbal communications and reinforce the teamwork behaviors and relational database concepts discussed in the three previous ALTs. Team members will listen, contribute, cooperate, and manage time throughout the transfer activity. The teams will brainstorm to create a list of 15 questions they wish they could ask an employee about his or her current career and employment record. As a whole class, the teams will examine, revise, and merge the list of questions into a single career survey of applicable quantitative and qualitative questions suitable as fields in a relational database. Using the class composite, keyed career survey, each team member will interview one individual and record the survey responses before reporting back to the team. Each team will merge the data into one document for reporting to the class. Teams will compile the same set of raw data for the whole class in a relational database. Each team will determine its own relational database design, including tables and reports, for the purpose of entering and analyzing the data to produce meaningful information.

Peer evaluation skills practiced in the ALTs will be reinforced as students evaluate the team behaviors of others with a rubric that contains all four components: contributions, cooperation, listening, and time-management. The relational database component will be evaluated by the instructor with a separate rubric.

Competencies

1. As a team member, students will listen, contribute, cooperate, and manage time throughout the transfer activity, *Take This Job*.
2. Teams will create and conduct a career survey for a relational database, create tables, determine the primary and foreign keys and the field data types and sizes, populate the database, and create informational reports. Each team will submit the documentation for the relational database for evaluation by the instructor.

Time

Take This Job will require four 45-minute class periods for teams to create and plan and two 45-minute lab periods to implement and populate the database (using software that is capable of producing a relational database, such as, Microsoft® Access), and produce informational reports.

Materials

Appendix Ten: *Instructor's Sample Career Survey, Take This Job* (make one transparency for instructor demonstration)

Appendix Eleven: *Student Instruction Sheet Handout, Take This Job* (one per student)

Appendix Twelve: *Student Peer Evaluation Rubric, Take This Job* (number of students per team times number of teams for students to use and a transparency for the class)

Appendix Thirteen: *Instructor's Relational Database Rubric, Take This Job* (two per team—there are two per page, one for team and one for instructor—and a transparency for the class)

Poster board and colored markers

Software for relational database, word processing, and media presentation

OPTIONAL: Guest speaker, or videotaped career survey participant interviewed by a student

Instructions

1. Provide each student with a copy of the *Take This Job* peer evaluation rubric. Discuss listening, contributing, cooperating, and time management. Also, tie in previous discussion of sample employee evaluation forms.
2. Review the discussion questions from ALT 3 *Hotty Auto Survey* with students before beginning the creation of the career survey.
3. Use the instructor sample career survey as a transparency for *Take This Job* to show students how the document should look and a few sample questions. Do not go over all the questions since brainstorming is the communication tool students will practice, and creating a career survey is to remain open ended until the class merges the questions into one document.
4. Send students into their teams for 20 minutes to brainstorm and create a list of 15 questions they would like to ask someone who is employed in the members' career pathways.
5. Bring the class back together to create the final list of questions for the composite career survey.
NOTE: If the students in the class are in similar career pathways, then their questions may be more specific to their careers. If the students in the class are in a broad spectrum of career pathways, then their questions need to be refined and written to apply to a wide variety of careers. The instructor must facilitate this part of the activity based on the class composition.
6. Use the end of the first class to discuss how the students should conduct the career survey and whom they should ask to complete it.
NOTE: Tonight, the instructor needs to key and copy the final career survey questions in a document as a handout for the students to use tomorrow. Make enough copies for one per student, unless each student needs to conduct more than one survey. Also, this is when the instructor may need to provide the optional contacts for students who have no other resources for interviewing with the career survey.
7. Handout the keyed final career survey document to each student and give a due date, preferably two days from today.
NOTE: One interview per student will create a database with the same number of career surveys as there are students in the class. If more are desired, then give each student more than one copy of the survey to interview other participants.
8. While waiting for students to conduct the career surveys, take time to review the appropriate communication and team behaviors, as well as basic terminology regarding relational databases (referential integrity, primary and foreign keys, etc.).

NOTE: This could be a good time to discuss careers and employability skills.

9. From the career survey, the teams will add their team's data to the class data. This could be done on posters or easel paper on the walls, on chalkboard/whiteboard, on blank tables printed on paper, or in a spreadsheet. This collection of data must be copied by each team or copied by the instructor for distribution to each team.
10. Before the lab visit, provide each student with a copy of the instructor's relational database rubric for *Take This Job* and discuss the criteria for grading the database. OPTIONAL: This could be done much earlier in the process if teams need more direction for creating the career survey questions.
11. During the first lab visit, teams should complete the initial set up of the relational database: relationships, fields (how many, sizes, and types) should be set and the three relational tables created, but not populated. This can be done using a blank survey document and does not require the data at this step.
12. During the second lab visit, teams should populate the database, create meaningful reports, and print the relational tables and reports. This is the time for the team to create the presentation as well. Leave this open-ended so teams can decide whether to use media technology or create posters, etc. to communicate the results to the class.
13. During the next class period (non lab visit), teams will make their 3-5 minute presentations, turn in the printouts of tables and reports, handwritten career surveys that were conducted, and the student peer evaluation rubrics they completed to measure the team behaviors of their partners for the *Take This Job* final transfer activity.
14. The team member evaluations will become one-half of the individual grade for this culminating activity. The instructor will use the relational database rubric for *Take This Job* to evaluate the team's database. This score will become the other one-half of each team member's grade for the final transfer activity.

Evaluation/Assessment of Student's Competency

1. Students' team behaviors will be evaluated for listening, cooperation, contributions, and time management by their peers using the rubric for the final transfer activity, *Take This Job*, and will perform with a desired composite score ratio of at least 2:3. (Total point scores will depend on the number of students on the team.)
2. Each team will submit the documentation listed on the final transfer activity instruction sheet for the relational database for evaluation by the instructor (using the rubric for the final transfer activity, *Take This Job*) and perform with a score of at least 12 out of 18.
3. For the final transfer activity, *Take This Job*, the final grade for each student will be the combination of 50% of their total peer evaluation scores plus 50% of their team's database evaluation score from the instructor.

Closure

To close the unit, the teams will present the results of the career survey from the relational database they created and populated. This could be in the form of Microsoft® PowerPoint

media presentations and/or handouts, Microsoft® Excel or other spreadsheets, posters, paper printouts of reports, etc. Guide students through discussion of what makes good team dynamics, what determines data validation and referential integrity in a database, how different forms of communication were used throughout the unit, and how all three relate to the world of work. **OPTIONAL CLOSURE:** Have a student invite his or her survey participant as a guest speaker to discuss his or her career and employment record with the class. Or, have a student conduct the career survey in an interview format, video tape it, and play it for the class.

Appendix One: Instructor Sample Database, ALT 1 All Shook Up

Special instructions to Instructor:

This data is provided as a sample. You can create your own, if preferred.

For ALT 1 lesson, make one copy of the data below for each team.

Cut and remove the bold row titles and do not distribute these to teams. (Part of this activity is open-ended for the team to decide on appropriate titles and data types for each field as they organize the data.)

Cut apart the rest of the data items, mix them up, and deposit one entire database per envelope. Distribute one envelope and an ALT 1 activity instruction sheet to each team.

Make	Chevrolet	Plymouth	Ford	Ford	Chevrolet	Plymouth
Model	Corvette	Roadrunner	Thunderbird	Mustang	Camaro	Barracuda
Year	1967	1969	1959	1964	1969	1965
Cost New	\$4,000	\$3,900	\$2,500	\$3,000	\$3,900	\$3,900
Value Now	\$135,000	\$43,950	\$19,900	\$27,995	\$35,000	\$12,900
Body Style	removable hardtop	vinyl top	2-dr hardtop	convertible top	2-dr hardtop	fastback
Interior Color	white	black	red	White	White	black
Exterior Color	red	limelight metallic green	white	light blue	rally green	silver

Source of information included in this table: *Buy Sell Trade*. [Autabuy](http://www.autabuy.com/). 2006. 14 June 2006.
<<http://www.autabuy.com/>>

Appendix Two: Student Handout, ALT 1 All Shook Up

Manny's Muscle Machines is a used car dealership that sells classic cars from the 1950s and 60s. The proprietor recently hired your design team to create a database to be placed on his website. The purpose of the database will be to advertise for sale his inventory of automobiles. Manny wrote down the data that he thought was important for buyers to know about his selection of muscle cars. Fortunately, business has been good and Manny only has a few cars remaining on his lot. Unfortunately, the data is "all shook up" in an envelope. Hopefully, your team has some car buffs who can sort it all out.

- 1) For your first task, take 5 minutes to discuss and create a name for your design team.

- 2) Work together cooperatively to discuss and organize the data from the envelope into fields and records.

- 3) Reach a team consensus on appropriate labels and data types for the fields, and choose a name for the database.

Guess what? The team received an e-mail from the owner. Manny has decided to use the same database to produce information that he can use in his business reports and to post interesting summaries on his website.

- 4) Reach a team consensus on one type of report Manny could create from the database with the data you were given, and write a sample report.

- 5) Brainstorm with your team to discuss the limitations of Manny's data as given. Then, recommend at least three (3) possible modifications to make the database more usable. For example, what else would a buyer like to know about the cars? Or, what data could explain the wide range of values? Or, what statistical information could be posted on the website to help Manny sell his cars?

- 6) Use a peer rubric to evaluate how well your team members listened and cooperated during this activity.

Appendix Three: Student Peer Evaluation Rubric, All Shook Up

Your Name _____ Your Team's Name: _____ Date: _____

The following is a peer review rubric. The purpose is to evaluate the work ethic of each of your teammates during *All Shook Up*. Please evaluate each peer on a separate line of the rubric, based solely on their work ethic during your team's *All Shook Up* activity and only in the areas outlined below. Turn in your peer rubric directly to the instructor. You do not need to show your team members this evaluation.

1. Name of team member being evaluated: _____ Total Score _____

Category	3	2	1	Score 3, 2, or 1
Listening	Always listened to and valued the opinions of others	Usually listened to but sometimes did not value the opinions of others	Seldom listened to and/or seldom valued the opinions of others	
Cooperation	Frequently worked agreeably with other team members and encouraged the team	Sometimes had a negative attitude when working with other team members but tried to encourage the team	Always had a negative attitude OR did very little to encourage the team	

2. Name of team member being evaluated: _____ Total Score _____

Category	3	2	1	Score 3, 2, or 1
Listening	Always listened to and valued the opinions of others	Usually listened to but sometimes did not value the opinions of others	Seldom listened to and/or seldom valued the opinions of others	
Cooperation	Frequently worked agreeably with other team members and encouraged the team	Sometimes had a negative attitude when working with other team members but tried to encourage the team	Always had a negative attitude OR did very little to encourage the team	

3. Name of team member being evaluated: _____ Total Score _____

Category	3	2	1	Score 3, 2, or 1
Listening	Always listened to and valued the opinions of others	Usually listened to but sometimes did not value the opinions of others	Seldom listened to and/or seldom valued the opinions of others	
Cooperation	Frequently worked agreeably with other team members and encouraged the team	Sometimes had a negative attitude when working with other team members but tried to encourage the team	Always had a negative attitude OR did very little to encourage the team	

5-6 Points = A
 3-4 Points = B
 1-2 Points = C

Appendix Four: Student Handout, ALT 2 Hotty Auto Survey

Team Name: _____

Team Members: _____

Summary:

This team activity will acquaint you with constructing a survey. After a brief class review on survey tips you will then develop at least five questions within your team. You will design the survey, conduct the survey, create a flat database using survey information and report your findings.

Review:

- What is the purpose of the survey?
- What information do you want to find?
- Avoid slanted questions.
- Don't make a survey too long.

Different types of questions:

- Choice question – Do you own a car? The answer is quick and easy.
- Name question – What make of cars have you owned in the past?
- Quantitative question – How many years have you been driving?
- Qualitative question – Why did you choose the car you are presently driving? List adequate possibilities to choose from.
- Rating question – Using a scale of 1-5 (5 being most desirable) rate your color preference. This measures how a person feels about a product, brand, etc.
- Open-ended question – What advice would you give to someone looking to purchase an automobile?

Check when completed:

- _____ 1. In your team develop at least five questions that are suitable to your chosen database fields.
- _____ 2. A designated student should key the survey and distribute to team members.
- _____ 3. Team members should conduct the survey.
- _____ 4. Team members should compile data results and enter into appropriate database fields.
- _____ 5. The team should then analyze and report their findings in a keyed report to present to the class.
- _____ 6. Team members should complete the peer evaluation rubrics.

Appendix Five: Student Peer Evaluation Rubric, Hotty Auto Survey

Your Name _____ Your Team's Name: _____ Date: _____

The following is a peer evaluation rubric. The purpose is to evaluate the work ethic of each of your teammates during *Hotty Auto Survey* activities. Please evaluate each peer on a separate line of the rubric, based solely on their work ethic during your team's *Hotty Auto Survey* activity and only in the areas outlined below. Turn in your peer rubric directly to the instructor. You do not need to show your team members this evaluation.

1. Name of team member being evaluated: _____ Total Score _____

CATEGORY	3	2	1	Score 3, 2, or 1
Contributions	Always gave positive suggestions, participated in all team activities, and did the individual work required	Usually made positive suggestions, participated in some team activities, and did the individual work required	Seldom made positive suggestions, OR participated very little in team activities, OR did not do the individual work required	

2. Name of team member being evaluated: _____ Total Score _____

CATEGORY	3	2	1	Score 3, 2, or 1
Contributions	Always gave positive suggestions, participated in all team activities, and did the individual work required	Usually made positive suggestions, participated in some team activities, and did the individual work required	Seldom made positive suggestions, OR participated very little in team activities, OR did not do the individual work required	

3. Name of team member being evaluated: _____ Total Score _____

CATEGORY	3	2	1	Score 3, 2, or 1
Contributions	Always gave positive suggestions, participated in all team activities, and did the individual work required	Usually made positive suggestions, participated in some team activities, and did the individual work required	Seldom made positive suggestions, OR participated very little in team activities, OR did not do the individual work required	

3 Points = A;

2 Points = B

1 Point = C

Appendix Six: Student Exercise Sheet Handout, It's All in the Relationship (Page 1)

Special notes to the instructor:

Below are two exercises for the students to do. The exercise starts with an example. Walk the students through each of the examples and then ask them to do the Now You Try Its.

Exercise One

Organizing data and relating the tables. Create 3 tables from the fields provided.

Given the fields below, organize the data into 3 tables. Make the primary key bold (do not bold the foreign key). Use a line to show how the tables are related. If the relationship is a one-to-many, indicate the "many" field with the infinity symbol.

Example

<p>Pet Hospital Given fields Owner ID Owner's Last Name Owner's First Name Owner's Street Address Owner's City Owner's State Owner's Zip Owner's Phone Pet ID Pet Name Pet Type Visit ID Date of Visit Visit Diagnostic Medicine prescribed Cost of visit</p>	<table border="1"> <tr><th colspan="2">Owners</th></tr> <tr><td>Owner ID</td><td></td></tr> <tr><td>Owner's Last Name</td><td></td></tr> <tr><td>Owner's First Name</td><td></td></tr> <tr><td>Owner's Street Address</td><td></td></tr> <tr><td>Owner's City</td><td></td></tr> <tr><td>Owner's State</td><td></td></tr> <tr><td>Owner's Zip</td><td></td></tr> <tr><td>Owner's Phone</td><td></td></tr> </table>	Owners		Owner ID		Owner's Last Name		Owner's First Name		Owner's Street Address		Owner's City		Owner's State		Owner's Zip		Owner's Phone		<table border="1"> <tr><th colspan="2">Pets</th></tr> <tr><td>Pet ID</td><td></td></tr> <tr><td>Pet Name</td><td></td></tr> <tr><td>Pet Type</td><td></td></tr> <tr><td>Owner ID</td><td></td></tr> </table>	Pets		Pet ID		Pet Name		Pet Type		Owner ID		<table border="1"> <tr><th colspan="2">Visits</th></tr> <tr><td>Visit ID</td><td></td></tr> <tr><td>Date of Visit</td><td></td></tr> <tr><td>Pet ID</td><td></td></tr> <tr><td>Visit Diagnostic</td><td></td></tr> <tr><td>Medicine prescribed</td><td></td></tr> <tr><td>Cost of visit</td><td></td></tr> </table>	Visits		Visit ID		Date of Visit		Pet ID		Visit Diagnostic		Medicine prescribed		Cost of visit	
Owners																																													
Owner ID																																													
Owner's Last Name																																													
Owner's First Name																																													
Owner's Street Address																																													
Owner's City																																													
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Owner's Phone																																													
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Pet Type																																													
Owner ID																																													
Visits																																													
Visit ID																																													
Date of Visit																																													
Pet ID																																													
Visit Diagnostic																																													
Medicine prescribed																																													
Cost of visit																																													

Appendix Six: Student Exercise Sheet Handout, It's All in the Relationship (Page 2)

Now You Try It

Auto Dealership			
VIN ID			
Make			
Manufacturer			
Style			
Year			
Color			
Customer ID			
Customer Address			
Customer City			
Customer State			
Customer Zip			
Customer Phone			
Sale ID			
Auto which was sold (VIN ID)			
CustomerID			
Price of car			
Date of sale			
How financed			

Appendix Six: Student Exercise Sheet Handout, It's All in the Relationship (Page 3)

**Exercise Two
Relating Keys**

In order to relate tables the fields must be the same data type and size. In the Now You Try It section, indicate the best data type and size for a field. Draw a line between the tables to show the relationship.

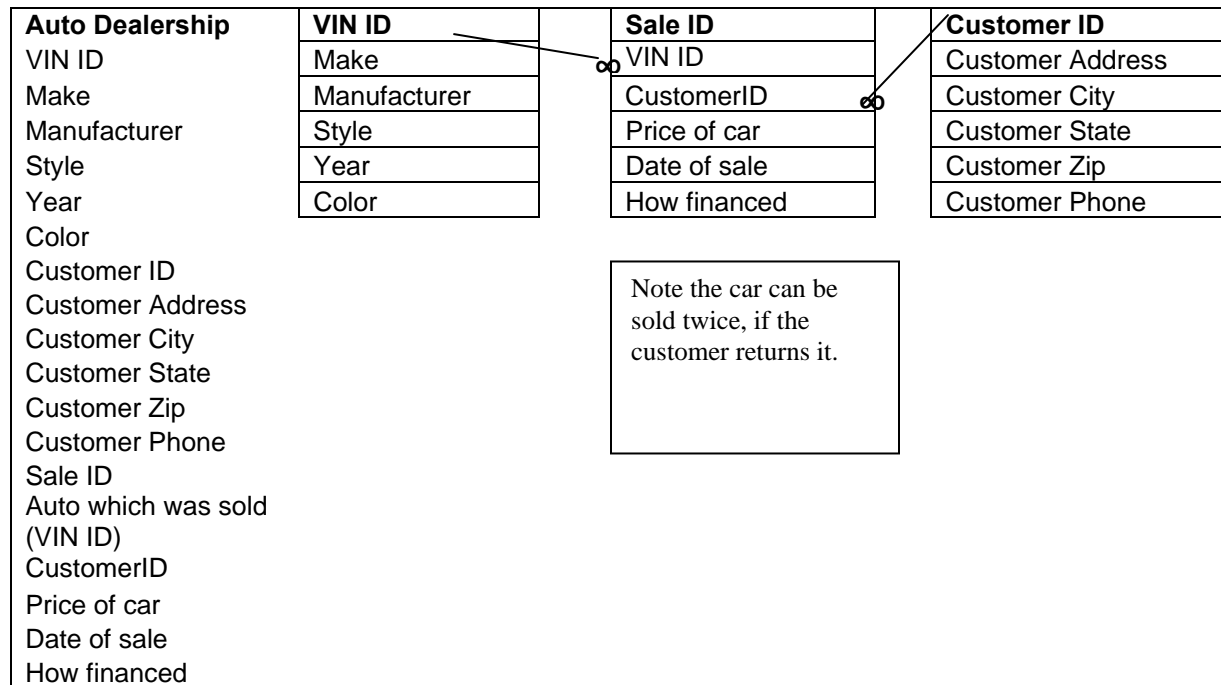
Example

Fields	Type	Size	Field	Type	Size	Field	Type	Size
Owner ID	Number	Long Integer	Pet ID	Number	Long Integer	Visit ID	Number	Long Integer
Owner's Last Name	Text	20	Pet Name	Text	20	Date of Visit	Date	
Owner's First Name	Text	20	Pet Type	Text	15	Pet ID	Number	Long Integer
Owner's Street Address	Text	30	Owner ID	Number	Long Integer	Visit Diagnostic	Text	75
Owner's City	Text	15				Medicine prescribed	Text	30
Owner's State	Text	2				Cost of visit	Currency	Fixed, Decimal places 2
Owner's Zip	Text	10						
Owner's Phone	Text	12						

Now You Try It

Customers			Sales			Product		
Field	Type	Size	Field	Type	Size	Field	Type	Size
CustomerID			InvoiceID			ProductID		
FirstName			CustomerID			Manufacturer		
LastName			ProductID			Price Per Item		
Address			Quantity			Minimum Reorder #		
City			PricePerItem			Quantity on hand		
State								
Zip								
Phone								

Appendix Seven: Sample Answer Key, ALT 3 It's All in the Relationship
Exercise One: Now You Try It



Exercise Two: Now You Try It

Customer s			Sales			Product		
Field	Type	Size	Field	Type	Size	Field	Type	Size
CustomerID	Number	Long integer	InvoiceID	Number	Long integer	ProductID	Number	Long integer
FirstName	Text	20	CustomerID	Number	Long integer	Manufacturer	Text	20
LastName	Text	20	ProductID	Number	Long integer	Price Per Item	Currency	Fixed, decimal Places 2
Address	Text	30	Quantity	Number	Long integer	Minimum Reorder #	Number	Long integer
City	Text	15	PricePerItem	Currency	Fixed, decimal Places 2	Quantity on hand	Number	Long integer
State	Text	2						
Zip	Text	10						
Phone	Text	12						

Appendix Eight: Student Peer Evaluation Rubric, ALT 3 It's All in the Relationship

Your Name _____ Your Team's Name: _____ Date: _____

The following is a peer evaluation rubric. The purpose is to evaluate the work ethic of each of your teammates during *It's All in the Relationship* activities. Please evaluate each peer on a separate section of the rubric, based solely on their work ethic during your team's *It's All in the Relationship* activity and only in the areas outlined below. Turn in your peer rubric directly to the instructor. You do not need to show your team members this evaluation.

1. Name of team member being evaluated: _____ Total Score _____

CATEGORY	3	2	1	Score 3, 2, or 1
Time-management	Stayed on task well throughout the team discussions/ activities and ensured all things were done on time. Did not procrastinate.	Tended to stray off task during team discussions/ activities OR procrastinated on one or more individual tasks but team schedules did not have to be adjusted. However, all team tasks were done on time.	Seldom focused on tasks during team discussions/ activities OR procrastinated on most individual tasks. OR Prevented the team from turning in one or more tasks on time.	

2. Name of team member being evaluated: _____ Total Score _____

CATEGORY	3	2	1	Score 3, 2, or 1
Time-management	Stayed on task well throughout the team discussions/ activities and ensured all things were done on time. Did not procrastinate.	Tended to stray off task during team discussions/ activities OR procrastinated on one or more individual tasks but team schedules did not have to be adjusted. However, all team tasks were done on time.	Seldom focused on tasks during team discussions/ activities OR procrastinated on most individual tasks. OR Prevented the team from turning in one or more tasks on time.	

3. Name of team member being evaluated: _____ Total Score _____

CATEGORY	3	2	1	Score 3, 2, or 1
Time-management	Stayed on task well throughout the team discussions/ activities and ensured all things were done on time. Did not procrastinate.	Tended to stray off task during team discussions/ activities OR procrastinated on one or more individual tasks but team schedules did not have to be adjusted. However, all team tasks were done on time.	Seldom focused on tasks during team discussions/ activities OR procrastinated on most individual tasks. OR Prevented the team from turning in one or more tasks on time.	

3 Points = A; 2 Points = B; 1 Point = C

Appendix Nine: Instructor’s Database Rubric, ALT 3 It’s All in the Relationship

Team’s Name: _____

Date: _____

Team Members: _____

Total Score _____

CATEGORY	3	2	1	Score 3, 2, or 1
Keys	Correctly identified the primary and foreign keys	Correctly identified the primary key for each table but foreign keys did not correlate	Did not identify the primary or foreign keys	
Relationships	Correctly related the tables and used appropriate referential integrity	Related the tables but did not use appropriate referential integrity OR did not relate the correct fields	Did not relate the tables OR created a flat database of only one table	

6 Points = A
 5 Points = B
 4 Points = C

3 Points = D
 1-2 Points = F

Team’s Name: _____

Date: _____

Team Members: _____

Total Score _____

CATEGORY	3	2	1	Score 3, 2, or 1
Keys	Correctly identified the primary and foreign keys	Correctly identified the primary key for each table but foreign keys did not correlate	Did not identify the primary or foreign keys	
Relationships	Correctly related the tables and used appropriate referential integrity	Related the tables but did not use appropriate referential integrity OR did not relate the correct fields	Did not relate the tables OR created a flat database of only one table	

6 Points = A
 5 Points = B
 4 Points = C

3 Points = D
 1-2 Points = F

Appendix Ten: Instructor’s Sample Career Survey, Take This Job

(Page 1)

Name _____ Date _____

Title _____ Company _____

Career Survey Participant:

Thank you in advance for taking the time to complete this career survey. Feel free to leave blank any questions that make you uncomfortable to answer. Your responses will be compiled and analyzed along with others.

1. How many different jobs/positions have you held? (Check one.)
 0-5 6-10 11-15 16-20 20↑

2. Was your first job in your present career field? Yes No

3. Did your first job give you skills that you use today? Yes No

4. If you answered yes to #3, what are those skills? (Please list.)

5. Are you in a career that is satisfying? Yes No

6. Why are you staying in this job? (Check one.)
 I need the money and/or benefits
 I have put in a number of years here, so I feel it is too late to change
 I haven’t taken the initiative to look into something else
 I like it I’m not staying Other

7. How long have you worked? Years

8. Why did you turn down a job? (Check one.)
 Fear Pay Location
 Another job I never turned down a job
 Other (please list: _____)

9. Do you feel you were ever mistreated on the job? Yes No

10. Do you feel you were ever discriminated against? Yes No

11. What tasks do you perform on a regular basis? (Check all that apply.)
 use the phone use email use FAX
 compose documents handle money do research
 use mathematics work in teams solve problems
 do repetitive work key documents enter data
 manage records supervise others make decisions
 work w/clients/customers use computers (how? _____)
 other (please list: _____)

Appendix Ten: Instructor's Sample Career Survey, Take This Job

(Page 2)

12. Have you ever been removed from a job? Yes No

13. If you answered yes to #12, why? (Check all that apply.)

Lay offs Fired Promotion
 Downsized company Outsourced job
 Other (please list: _____)

14. What do you consider to be your "dream job?" _____

15. Are you working now in your "dream job?" Yes No

If you answered "No" to Question 15, then please respond to Questions 16 and 17.

16. If you are not in your "dream job," how long before you can achieve it? _____ Years

17. If you are not in your "dream job," what do you think it will take to achieve it?
 (Check one.)

Initial capital to invest More education
 More experience On-the-job training
 Know someone in the business
 Other (please listed: _____)

Appendix Eleven: Student Instruction Sheet Handout, Take This Job

New employees often wish they had asked more questions and talked with current employees before accepting a new job and/or working for a new company. As a team, you will create a list of career survey questions to be merged into a single class survey and create a database of the class' set of survey data for analysis, reporting and presentation. As an individual, you will interview an employed person for inclusion in the final database.

Throughout this final culminating activity, keep in mind the rubric evaluations (ask to see one). At the end of *Take This Job*, each team member will evaluate other team members with a rubric, and each team's database, analysis, and reports will be evaluated by the class instructor. Each team member will receive a final project combined grade based on 50% of his or her peer evaluations and 50% of the team's database evaluation by the instructor.

Check each instruction as (you/your team) completes it:

- ___ 1. Brainstorm with your team to create a consensus list of 15 qualitative and quantitative questions you wish you could ask an employee in a career field or company of interest.
- ___ 2. Participate with your team in the whole class discussion to create the final class career survey document created by questions presented by the teams.
- ___ 3. On your own, use the final career survey document to interview at least one employed person. This employee should be in a related career pathway of your team members.
- ___ 4. From the career survey, collect and add your team's data to the class composite data for inclusion in your team's database.
- ___ 5. As a team, create the relational database for the career survey, while keeping in mind the rubric that will evaluate your team's database (ask to see one), including:
 - Use at least three tables with relational primary keys
 - Pay close attention to choice of appropriate titles and data types for the fields so that the data passes from one relational record to another without error (via data validation and referential integrity)
- ___ 6. As a team, analyze the results of the class career survey data and present an appropriate portion of the information in two different database reports that your team feels show any important results.
- ___ 7. As a team, agree on and prepare an appropriate presentation method to show your reports and analysis to the class.
- ___ 8. On your own, use the peer rubric to decide how well your team members worked together and turn in the evaluations to your instructor.
- ___ 9. Give the instructor one printout of all relational database tables, reports, and written analysis; and all handwritten employee career surveys conducted by your team.
- ___ 10. Conduct your team presentation.

Appendix Twelve: Student Peer Evaluation Rubric, Take This Job

Your Name _____

Date: _____

Your Team's Name: _____

Name of team member you are evaluating: _____

The following is a peer review rubric. The purpose is to evaluate the work ethic of each of your teammates during *Take This Job*.

Please evaluate each peer with a separate rubric, based solely on their work ethic during your team's final project, *Take This Job*, and only in the areas outlined below. Turn in your peer rubrics directly to the instructor. You do not need to show your team member this evaluation.

CATEGORY	3	2	1	Score 3, 2, or 1
Contributions	Always gave positive suggestions, participated in all team activities, and did the individual work required	Usually made positive suggestions, participated in some team activities, and did the individual work required	Seldom made positive suggestions, OR participated very little in team activities, OR did not do the individual work required	
Listening	Always listened to and valued the opinions of others	Usually listened to but sometimes did not value the opinions of others	Seldom listened to AND/OR seldom valued the opinions of others	
Cooperation	Frequently worked agreeably with other team members and encouraged the team	Sometimes had a negative attitude when working with other team members but tried to encourage the team	Always had a negative attitude OR did very little to encourage the team	
Time-management	Stayed on task well throughout the team discussions/ activities and ensured all things were done on time. Did not procrastinate.	Tended to stray off task during team discussions/ activities OR procrastinated on one or more individual tasks but team schedules did not have to be adjusted. However, all team tasks were done on time.	Seldom focused on tasks during team discussions/ activities OR procrastinated on most individual tasks. OR Prevented the team from turning in one or more tasks on time.	

Source: Frye, Debbie L., Cynthia V. Koniczny, Martha L. Taylor. *Collaborative Work Skills: Peer Evaluation for Take This Job*. Rubistar. 2006. 27 Jun 2006. <http://rubistar.4teachers.org/index.php?screen=ShowRubric&rubric_id=1286043&>.

10-12 Points = A
8-9 Points = B
5-7 Points = C
1-4: Points = D

Appendix Thirteen: Instructor Relational Database Rubric, Take This Job

Team's Name: _____

Date: _____

Team Members: _____

CATEGORY	3	2	1	Score 3, 2, or 1
Naming and saving database	Correctly named and stored the database without assistance	Either incorrectly named OR stored the database to an incorrectly designated location	Needs improvement naming and saving	
Tables, reports and forms	Correctly named the tables, reports and forms	Needed help with naming convention	Used default names	
Naming Fields	Correctly named (no spaces) the fields, set the data type correctly, described the field and set the most efficient size	Did <u>most</u> of the following correctly: Named (no spaces) the fields, set the data type, described the field and set the most efficient size	Used default field names and did not describe them OR did not change the data type or size	
Keys	Correctly identified the primary and foreign keys	Correctly identified the primary key for each table but foreign keys did not correlate	Did not identify the primary or foreign keys	
Relationships	Correctly related the tables and used appropriate referential integrity	Related the tables but did not use appropriate referential integrity OR did not relate the correct fields	Did not relate the tables OR created a flat database of only one table	
Populating database	Populated the database completely with meaningful data collected from the career surveys	Populated the database completely with all or part unrelated data from sources other than career surveys	Database was not populated at all OR database was incompletely populated with several empty fields void of data	

Source: Konieczny, Cynthia V., Martha L. Taylor. *(Database) Relationships that Work: Take This Job*. Rubistar. 2006. 29 Jun 2006. <http://rubistar.4teachers.org/index.php?screen= ShowRubric&rubric_id=1287021&>.

Total Points _____ **Letter** _____

16-18 Points = A

13-15 Points = B

10-12 Points = C 7-9 Points = D

6 Points = F

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