



Topic: Room Design

Grade: Seventh

An integrated lesson plan covering 5 sessions of approximately 1 hour each.



Lesson-Planning Approach

Some learners perceive their “world” as a whole, where all things are interconnected and dependent upon each other. These “integrated” students face major challenges in coping with our dominant educational, social, and economic systems, which tend to present information in a linear fashion without the necessity of integration into meaningful context. Integrated students are at-risk of failing as they attempt to grasp information in ways that do not match their experience. Among large populations of at-risk students are many from Native American and similar cultures who do not regard their world as a sum of parts but as a blend of all that they experience.

This lesson plan does include some traditional, linear approaches to delivering information (checklists, rules, analysis, problem solving and organization). In addition to the traditional, linear delivery of information, this lesson plan also includes some of the following strategies, designed to appeal to at-risk students as they learn academic/life skills:

- ✘ Integration of technology
- ✘ Story telling/anecdotal information
- ✘ Non-competitive group and team work
- ✘ Performance-based assessment and rubrics
- ✘ Project-based assignments that integrate family and community
- ✘ Activities appealing to multiple intelligences (Gardner)

Lesson Overview

This lesson allows students to redesign their bedroom. They will shop on line and make an Excel spreadsheet to keep track of what they have spent. The spreadsheet will include all the information about the items purchased.

Lesson Objectives

Project Objectives: When students complete this session, they will be able to...

- ✘ Produce a complete bedroom plan designed by the student for the student.
- ✘ Explain the equations used in the spreadsheet.
- ✘ Compute fluently with the computer by using the spreadsheet formulas.

Integration of Other Functional/Academic Skills: (Critical thinking is required throughout the lesson.) Students will be able to...

- ✘ Technology: Use the formulas in Excel to create a spreadsheet with an account of what has been spent.

State/National Standards (Complete as Appropriate)

Colorado State Standards:

- ✘ Standard 2: Students use algebraic methods to explore, model and describe patterns and functions involving numbers, shapes, data, and graphs in problem-solving situations and communicate the reasoning used in solving these problems.
- ✘ Standard 6: Students link concepts and procedures as they develop and use computational techniques, including estimation, mental arithmetic, paper-and-pencil, calculators, and computers, in problem-solving situations and communicate the reasoning used in solving these problems.

NCTM Standards:

- ✘ Students should be able to understand numbers, ways of representing numbers, relationships among numbers, and number systems.
- ✘ Students should be able to solve problems that arise in mathematics and in other contexts.

Websites

Required:

All major stores have web sites. I contacted every store I needed by just putting in **www. the name of the store. com.** They will give shipping information when you put the items in your cart.

Pre-requisites

- ✘ Knowledge of equations.

Required Materials

- ✘ None

Handouts

- ✘ Handout 1-Shopping Technology Checklist
- ✘ Handout 2-Spreadsheet Technology Checklist
- ✘ Handout 3-Sample Heading for the Spreadsheet
- ✘ Handout 4-Rubric

Required Equipment/Technology

- ✘ Excel spreadsheet program
- ✘ Computers

Name

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THE LESSON

Note: Students do not learn from what you do but from what you have them do.

Preparation

Day One

Activity	Instructor Notes
Discuss the idea of being able to redecorate your bedroom any way you want.	Tell the students in the class that they are Cinderellas (or Cindfellas) and they have been rescued by the prince (or princess). He (or she) has given you an unlimited amount of money to decorate your room in the castle in any way you want.

Presentation

Day Two and Three

Complete the technology checklists for using the Internet to shop.	This checklist is handout 1.
Complete the technology checklists for making a table on the spreadsheet.	This checklist is handout 2.

Performance and Practice

Day Four and Five

Instructions for students	Teacher notes
Read and discuss the rubric. Be sure you understand what is required.	Pass out handout 4.
Set up your spreadsheet with the columns that are needed for the project. (Look at the sample spreadsheet.) Keep it on the desktop so that you can go back and forth between the Internet and the spreadsheet. Do not enter the formulas until you are finished with your shopping.	Pass out handout 3 (the sample heading sheet). Students should know how to make the heading from doing the checklist on making a spreadsheet. After the information is all entered, students may enter the formulas. And complete the spreadsheet.
Use the Internet to shop for all the things you want in your bedroom. Keep a list of what you get in the spreadsheet. Put it in immediately.	As the students find the information on the Internet, they should just click the spreadsheet from the bottom of the page and enter it into the spreadsheet.
Enter the formulas into the cells of the spreadsheet. Do not enter the same formula more than once. Use	Check the formulas to be sure they are correct. Have the students use a calculator(either the one on the computer or a separate one) and check

Name _____

4

<p>the drag box in the lower right hand corner. When the spreadsheet is complete, save it to your disk and print it out to turn in.</p>	<p>their answers as a way of checking their formulas.</p>
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Lesson Assessment Strategy (Formative – As the lesson progresses)

Preparation, Presentation and Overall Implementation (Instructor)

1. Are the instructions and expectations for the class clear from the beginning?
2. Am I spending sufficient time on modeling the skills I want students to acquire?
3. Is there enough variety in the lesson to appeal to most learning preferences?
4. How many learning intelligences am I addressing?
5. Are students “connecting” to the lesson objectives? How?
6. How is this lesson “integrated?”

Performance and Practice (Student)

1. Do all students have the skills needed to follow instructions? If not, what measures am I taking to address the challenge?
2. Are all students participating in the activities either by active observation or by voicing their thoughts?
3. Am I identifying the strengths of each student and pairing/grouping people accordingly? What results am I getting?
4. How are students performing? Are all of them able meeting 80% of the lesson objectives? If not, what am I doing to help them achieve more?

Technology

1. Is the technology working?
2. How are students reacting to the technology?
3. How are students applying or wanting to apply their technical skills in other areas? What do I need to remember when I teach this lesson again?
4. What do I need to remember when I teach this lesson again?

Handouts

My Dream Bedroom

Item Cost Tax Shipping Total Cost % of Total Cost Delivery Time Store

Activity Checklist

	Discuss the idea of being able to redecorate your bedroom any way you want.
	Complete the technology checklists for using the Internet to shop.
	Complete the technology checklists for making a table on the spreadsheet.
	Read and discuss the rubric. Be sure you understand what is required.
	Set up your spreadsheet with the columns that are needed for the project. Keep it on the desktop so that you can go back and forth between the Internet and the spreadsheet. Do not enter the formulas until you are finished with your shopping.
	Use the Internet to shop for all the things you want in your bedroom. Keep a list of what you get in the spreadsheet. Put it in immediately.
	Enter the formulas into the cells of the spreadsheet. Do not enter the same formula more than once. Use the drag box in the lower right hand corner. When the spreadsheet is complete, save it to your disk and print it out to turn in.

Technology Checklist

Internet Shopping Checklist (Handout 1)

1. Open Explorer.	
2. Type www.penneys.com in the address bar.	
3. Click "For the Home" at the left of the web page.	
4. Click "Furniture" at the left of the web page.	
5. Click "Youth Furniture" at the left of the web page.	
6. Click "Next page" at the top of the web page twice.	
7. Click on Ashley Tamarack Pine Loft Bed Set	

8. Notice delivery information below the description. (Make a note of the weight.)	
9. Click quantity one.	
10. Click “Add to Bag”	
11. Click “View Shopping Bag”	
12. Click “Shipping Rate” at the bottom.	
13. Figure you shipping charge using the information given.	
14. Click “Return to Shopping Help”	
15. Under “Payment Information” click “Sales Tax”	
16. Notice the sales tax.	
17. At the left of the Explorer menu click the arrow of the back button. Choose “JCPenney: Shopping Bag”.	
18. Click “Remove Item”.	
19. Click “Apply Change”.	
20. Go to File: Close.	

Spreadsheet Checklist (Handout 2)

	Open MS Excel.
	In A1 enter your title “Math Grades in January”
	Merge and Center your title over 8 cells (through cell H)
	Enter the assignments in row 2. Slant these assignments 45°. Click on wrap text.
	Enter the dates in row 3.
	Shade the three headings with three different colors.
	Enter the total points in row 4.
	Enter the names and grades.
	Enter formula for total points in G4: =SUM(B4:F4) Drag the formula down using the right bottom corner.
	Select H4 through H7 and Format percentage to 1 point.
	Enter the formula for percent in H4: =G4/\$G\$4 Drag the

Name

Mountain Plains Distance Learning Partnership 2001

	formula down using the right bottom corner.
	Save your spreadsheet on your disk and print it to turn in.

Rubric

	Internet	Spreadsheet
5	<ul style="list-style-type: none"> <input type="checkbox"/> Has the basics in a bedroom (bed and dresser) <input type="checkbox"/> Has at least five extra things in the room <input type="checkbox"/> Uses at least five different stores to "buy" things 	<ul style="list-style-type: none"> <input type="checkbox"/> Has all the headings <input type="checkbox"/> Has all the information under all the headings <input type="checkbox"/> Formulas are all correct
4	<ul style="list-style-type: none"> <input type="checkbox"/> Has the basics <input type="checkbox"/> Has four extra things <input type="checkbox"/> Uses four stores 	<ul style="list-style-type: none"> <input type="checkbox"/> Has all the headings <input type="checkbox"/> Has most of the information <input type="checkbox"/> Formulas are all correct
3	<ul style="list-style-type: none"> <input type="checkbox"/> Has the basics <input type="checkbox"/> Has three extra things <input type="checkbox"/> Uses three stores 	<ul style="list-style-type: none"> <input type="checkbox"/> Has most of the headings <input type="checkbox"/> Has half the information <input type="checkbox"/> Did not drag down, but formulas are correct
2	<ul style="list-style-type: none"> <input type="checkbox"/> Has the basics <input type="checkbox"/> Has two extra things <input type="checkbox"/> Uses two stores 	<ul style="list-style-type: none"> <input type="checkbox"/> Has half the headings <input type="checkbox"/> Has less than half of the information <input type="checkbox"/> Has one formula correct
1	<ul style="list-style-type: none"> <input type="checkbox"/> Has only the basics <input type="checkbox"/> Uses only one store 	<ul style="list-style-type: none"> <input type="checkbox"/> Has two headings <input type="checkbox"/> Has only correct item and price <input type="checkbox"/> Has no formulas