

WAMC Lab Template

Math Concept(s): Budgeting, financial planning, cost analysis

Source / Text: Various sources including Travelocity, Orbitz, Priceline, and other travel and budgeting websites

Developed by: Chester Hoberg E-Mail: choberg@sheltonschools.org

Date: WAMC Summer Conference 2024

Attach the following documents:

- Lab Instructions
- Student Handout(s)
- Rubric and/or Assessment Tool

Short Description (Be sure to include where in your instruction this lab takes place):

This lab involves students planning a budget-friendly spring break trip. Students will research travel costs, create a detailed budget, and present their trip plan to the class. This activity aims to teach students about personal finance, budgeting, and cost analysis within the context of a real-life scenario.

Lab Plan

Lab Title: Planning a Budget-Friendly Spring Break Trip

Prerequisite skills: Basic knowledge of budgeting, spreadsheet usage, and research skills.

Lab objective:

Students will understand and apply budgeting principles to plan a realistic spring break trip. They will develop critical thinking, problem-solving, and data analysis skills in financial contexts and promote collaboration and teamwork.

Standards: (Note SPECIFIC relationship to Science, Technology, and/or Engineering)

Mathematics K–12 Learning Standards:

- - N.Q.A.1: Use units to understand problems and guide solutions.
- - N.Q.A.2: Define appropriate quantities for descriptive modeling.
- - N.Q.A.3: Choose appropriate levels of accuracy for measurements.
- - A.SSE.A.1: Interpret expressions in terms of their context.
- - A.CED.A.1: Create equations and inequalities to solve problems.
- - A.CED.A.4: Rearrange formulas to highlight quantities of interest.

Standards for Mathematical Practice:

- - Reason abstractly and quantitatively.
- - Model with mathematics.
- - Use appropriate tools strategically.
- - Attend to precision.

K-12 Learning Standards-ELA (Reading, Writing, Speaking & Listening):

- - RST.9-10.2: Determine central ideas or conclusions of a text.
- - RST.9-10.4: Determine the meaning of domain-specific words and phrases.
- - RST.9-10.7: Translate quantitative or technical information between different forms.

- - RST.9-10.10: Read and comprehend science/technical texts independently and proficiently.

K-12 Science Standards

- Technology

- Engineering

- Leadership/21st Century Skills:

21st Century Interdisciplinary themes (Check those that apply to the above activity.)			
<input type="checkbox"/> Global Awareness	<input checked="" type="checkbox"/> Financial/Economic/Business/Entrepreneurial Literacy	<input type="checkbox"/> Civic Literacy	
<input type="checkbox"/> Health/Safety Literacy	<input type="checkbox"/> Environmental Literacy		
21st Century Skills (Check those that students will demonstrate in the above activity.)			
LEARNING AND INNOVATION	INFORMATION, MEDIA & TECHNOLOGY SKILLS	LIFE & CAREER SKILLS	Productivity and Accountability
<u>Creativity and Innovation</u>	<u>Information Literacy</u>	<u>Flexibility and Adaptability</u>	<u>Accountability</u>
<input checked="" type="checkbox"/> Think Creatively	<input checked="" type="checkbox"/> Access and Evaluate Information	<input type="checkbox"/> Adapt to Change	<input checked="" type="checkbox"/> Manage Projects
<input checked="" type="checkbox"/> Work Creatively with Others	<input checked="" type="checkbox"/> Use and manage Information	<input checked="" type="checkbox"/> Be Flexible	<input checked="" type="checkbox"/> Produce Results
<input type="checkbox"/> Implement Innovations	<u>Media Literacy</u>	<u>Initiative and Self-Direction</u>	<u>Leadership and Responsibility</u>
<u>Critical Thinking and Problem Solving</u>	<input checked="" type="checkbox"/> Analyze Media	<input checked="" type="checkbox"/> Manage Goals and Time	<input checked="" type="checkbox"/> Guide and Lead Others
<input checked="" type="checkbox"/> Reason Effectively	<input checked="" type="checkbox"/> Create Media Products	<input type="checkbox"/> Work Independently	<input checked="" type="checkbox"/> Be Responsible to Others
<input checked="" type="checkbox"/> Use Systems Thinking	<u>Information, Communications and Technology (ICT Literacy)</u>	<u>Social and Cross-Cultural</u>	
<input checked="" type="checkbox"/> Make Judgments and Decisions	<input checked="" type="checkbox"/> Apply Technology Effectively	<input type="checkbox"/> Interact Effectively with Others	
<input checked="" type="checkbox"/> Solve Problems		<input type="checkbox"/> Work Effectively in Diverse Teams	
<u>Communication and Collaboration</u>			
<input type="checkbox"/> Communicate Clearly			
<input type="checkbox"/> Collaborate with Others			

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Teacher Preparation: (What materials and set-up are required for this lab?)

Materials

-

Set-Up Required:

-

Lab Organization Strategies:

Leadership (Connect to 21st Century Skills selected):

-

Cooperative Learning:

-

Expectations:

-

Timeline:

-

Post Lab Follow-Up/Conclusions:

Discuss real world application of learning from lab

-

Career Applications

-

Optional or Extension Activities

-

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Plan a Spring Break Trip Activity - Teacher Instructions

Step 1: Introduce the Activity

Explain to students that they will be planning a spring break trip. This activity will help them understand personal finance concepts such as budgeting, researching travel costs, and making financial decisions.

Step 2: Form Student Groups

Divide the students into small groups (3-4 students each) to encourage collaboration and discussion.

Step 3: Set the Budget

Provide each group with a hypothetical budget for the trip (e.g., \$1,500 per person). Explain that they need to plan their trip within this budget, considering all expenses such as travel, accommodation, food, and activities.

Step 4: Research Destinations

Ask each group to choose a destination for their trip. They should research different options and compare costs for flights, hotels, and local activities. Encourage them to look for deals and discounts to maximize their budget.

Step 5: Create an Itinerary

Instruct each group to create a detailed itinerary for their trip, including daily activities, travel arrangements, and accommodation plans. They should ensure that all planned activities and expenses fit within the given budget.

Step 6: Calculate Expenses

Have the groups calculate the total cost of their trip, including all major and minor expenses. They should create a budget spreadsheet to track their spending and ensure they are staying within their budget.

Step 7: Present the Trip Plan

Each group will present their trip plan to the class, explaining their destination choice, itinerary, and how they managed their budget. Encourage students to highlight any cost-saving strategies they used.

Step 8: Discuss and Reflect

Discuss the challenges students faced in staying within budget and the importance of financial planning in real-life scenarios. Reflect on the skills learned during the activity.

Step 9: Assessment

Evaluate each group based on their research, budget management, presentation, and teamwork. Provide feedback and highlight areas for improvement.

10-Day Completion and Activity Schedule for Plan a Spring Break Trip

Day	Activity
Day 1	Introduction to the Project
Day 2	Research and Initial Planning
Day 3	Detailed Budgeting - Part 1
Day 4	Detailed Budgeting - Part 2
Day 5	Detailed Budgeting - Part 3
Day 6	Presentation Preparation - Part 1
Day 7	Presentation Preparation - Part 2
Day 8	Presentations - Part 1
Day 9	Presentations - Part 2
Day 10	Reflection and Feedback

Day 1: Introduction to the Project

Introduction to the Spring Break Trip project. Discuss objectives and expectations. Explain the project requirements including the need to plan, budget, and present a spring break trip. Divide students into groups and assign roles.

Day 2: Research and Initial Planning

Students select a destination and type of trip (e.g., beach, skiing, landmark visit). Begin researching costs for transportation, lodging, food, and activities. Each group member is assigned a specific expense category to research.

Day 3: Detailed Budgeting - Part 1

Students continue to research and input data into the Budget Spreadsheet. Teacher circulates to assist with questions and provide guidance on cost estimation.

Day 4: Detailed Budgeting - Part 2

Groups finalize their budget ensuring it meets the criteria for being realistic and cost-effective. Continue to refine and adjust the budget as needed.

Day 5: Detailed Budgeting - Part 3

Complete the final touches on the budget. Ensure all expenses are accounted for and the budget is balanced.

Day 6: Presentation Preparation - Part 1

Students transfer key details from their budget to the Presentation Template. Emphasize the importance of clarity, visual appeal, and thorough explanation in their presentations.

Day 7: Presentation Preparation - Part 2

Groups practice their presentations focusing on timing and delivery. Make necessary adjustments based on peer feedback.

Day 8: Presentations - Part 1

Each group presents their spring break trip plan to the class. Classmates fill out Peer Evaluation Sheets during each presentation focusing on fun, realism, and value. Teacher evaluates presentations using a rubric.

Day 9: Presentations - Part 2

Continue with group presentations. Complete peer evaluations and teacher assessments.

Day 10: Reflection and Feedback

Discuss what students learned about budgeting and financial planning. Review peer and teacher feedback. Reflect on the importance of financial literacy in real-world situations.

PROJECT: Plan a Spring Break Trip

Name: _____

1. Before each group presents, write their team name in the top box.
2. Listen carefully to the details of each group's presentation.
3. When they're done presenting, give them a numeric score for each component as follows:
 - 1 = Not so good
 - 2 = Good but not great
 - 3 = Outstanding!
4. Tally up their total score in the bottom box.
5. You will NOT grade your own group.

	Group 1	Group 2	Group 3	Group 4	Group 5
Team Name					
Is the trip fun?					
Is the trip realistic?					
Is the trip a good value?					
Total Score					

According to your scoring, which group has the best trip?



Trip Destination Type Date

GROUP NAME



LODGING

DETAILS

Details goes here



Cost per person:



TRANSPORTATION TO THE TRIP

DETAILS

Details goes here



Cost per person:



TRANSPORTATION DURING THE TRIP

DETAILS

Details goes here



Cost per person:



FOOD

DETAILS

Details goes here

\$

Cost per person:



ACTIVITIES

DETAILS

Details goes here



Cost per person:



DETAILS

Details goes here

\$

Cost per person:



OTHER

DETAILS

Details goes here

\$

Cost per person:



OTHER

DETAILS

Details goes here

\$

Cost per person:



OTHER

DETAILS

Details goes here

\$

Cost per person:



TOTAL COST PER PERSON

TOTAL COST PER PERSON:

**AMOUNT EACH PERSON
MUST SAVE PER MONTH:**

DESTINATION:

TYPE OF TRIP:

TRIP:

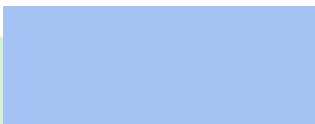
Category	Brief Description	Member	Details	Whole	Person
Lodging					
Trip					
during Trip					
Food					
Activities					
Fees					
Other					
Other					
Other					

TOTAL

Amount each person must save PER MONTH (starting the previous June) to afford the trip:

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 **washington**
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Estimate Came From

<https://wa-appliedmath.org/>

PROJECT: Plan a Spring Break Trip

Pretend you're a college freshman. You and a few friends want to plan a spring break trip to celebrate (almost) completing Year 1 of college. You will work in a group to:

- A. Plan a spring break trip for your group.
- B. Make a budget for your trip.
- C. Present your trip to the class. The class will vote on whose trip is best using these criteria:
 - How fun is your trip?
 - How realistic is your trip for a college freshman?
 - Is the trip a good value for how much you are paying?



Part I: Trip Requirements

Read through the details for your group's spring break trip.

Trip Requirements	
<ul style="list-style-type: none"> ● Plan to attend with the same # of people in your group; no more/no less. ● Your teacher will give you a college and a spring break time frame for planning your trip. <i>(Everyone in the class needs to start at the same college, or the contest isn't fair!)</i> ● You all have class on Friday before break and Monday after break, and you cannot miss class. 	<ul style="list-style-type: none"> ● Your trip <u>can</u> be shorter than spring break. ● You must <u>leave</u> campus for your spring break trip; it cannot be a staycation. ● You cannot get "free" accommodations, meals, etc. unless it would be free for ANYONE going on the trip. Ex: You cannot "stay with Grandma in Seattle" or "use your parent's car to drive there." But if you're going to a museum with free admission for everyone, then that's fine.

Part II: Set Up Your Project

Follow these steps to set-up the project appropriately.

1. ONE group member creates a copy of this [Spring Break Budget](#)¹²³.
 - Name it “TEAM NAME spring break budget”
 - Click on the SHARE button in the top right corner. At the bottom, change VIEWER to EDITOR. Then click the COPY LINK button to share it with the teacher and the other members of your group.
 - Everyone should open the spreadsheet on their computer so you can edit simultaneously.
2. ONE group member creates a copy of this [Spring Break Presentation](#).
 - Name it “TEAM NAME spring break presentation”
 - Click on the SHARE button in the top right corner. At the bottom, change VIEWER to EDITOR. Then click the COPY LINK button to share it with the teacher and the other members of your group.
 - Everyone should open the presentation on their computer so you can edit simultaneously.

Part III: Collaborate on Your Trip

3. Collaboratively agree on a destination
4. Collaboratively agree on a type of trip (i.e: a camping trip, a beach trip, a skiing trip, a trip to a landmark, etc.)
5. Collaboratively agree on the length of your trip & exact dates
6. Put all of this information at the top of your team’s SPRING BREAK BUDGET.

Part IV: Brainstorm All Expenses

¹ [How To: Entering & Editing Data](#)

² [How To: Equations with Relative Cell References](#)

³ [How To: Using the SUM Function](#)

7. Expenses might include lodging, transportation to the trip, transportation once on vacation, food, beverages, activities/entertainment, fees
8. Decide which group member will be in charge of researching each
9. Put all of this information on your team's SPRING BREAK BUDGET under "Brief Description" and "Group Member". *An example is provided to the right.*

	A	B	C	D
1	DESTINATION:	Washington, DC		
2	TYPE OF TRIP:	Sightseeing		
3	DATES FOR TRIP:	March 26 - 30		
4				
5				
6	Category	Brief Description	Group Member	Details
7	Lodging	Hotel	Andrew	
8	Transportation to Trip	Fly	Jessica	
9	Transportation during Trip	Public Transportation	Tim	
10	Food	Restaurants	Andrew	
11	Activities	Visit Museums	Jessica	
12	Fees	none		
13	Other	Explore Natl. Monuments	Tim	
14	Other			

Part V: Complete the Budget Spreadsheet

10. Once decisions are made, determine costs and other key details for each expense
 - o For example, for hotels, rental cars, and flights, you may want to try Travelocity, Orbitz, or Priceline. Do NOT actually purchase anything -- just use the sites as reference.
 - o For attractions or amusements, use websites to find admission fees. You may want to search "Top 10 things to do in..." for ideas.
 - o For food, you don't need exact costs. Instead, create a budget for how much you can realistically plan to spend on each meal.
11. Put all of this information on your team's SPRING BREAK BUDGET in the remaining columns. *Examples are provided below:*

For definite cost available online:

Category	Brief Description	Group Member	Details	Cost for Whole Group	Cost Per Person	Source Where Estimate Came
Lodging	Hotel	Andrew	Best Western for 4 nights, 1 room, \$229/night	\$916	\$305	http://www.priceline.com
Transportation to Trip	Fly	Jessica	\$229/night * 4 nights	\$916 / 3 people		website
Transportation during Trip	Public					

For cost estimated by group:

Transportation during Trip	Public	Tim				
Food	Restaurants	Andrew	Light breakfast, fastfood lunch, dinner out for 5 days	\$540	\$180	Estimated: Breakfast (\$6), Lunch (\$10), Dinner (\$20)
Activities	Visit Museums	Jessica	\$180 * 3 people			
Fees	none					
Other	Explore Natl. Monuments		\$36/day * 5 days			Rough estimate

Part VI: Create & Present

12. Once decisions are made, add key details about your trip to the presentation slides.
13. You can add or delete slides, if needed.
14. Remember, you will be judged on:
 - How fun is the trip?
 - Is the trip realistic, as you've planned it?
 - Is the trip a good value?
15. Put all of this information on your team's SPRING BREAK PRESENTATION.
16. Practice your group presentation. You'll have THREE MINUTES to present!
17. While other teams are presenting, fill out the [Peer Evaluation Sheet for Group Presentations](#).

PROJECT: Plan a Spring Break Trip [Answer Key]

ANSWER DOCUMENTS FOR TEACHER USE:

1. [Sample Budget](#)
2. [Sample Presentation](#)



TEACHER TIP: There is no maximum spending limit for this activity due to the fluctuating nature of travel, lodging and food. You may want to set a maximum spending limit based on the current average prices when you complete this activity.

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[1] [How To: Entering & Editing Data](#)
 [2] [How To: Equations with Relative Cell References](#)
 [3] [How To: Using the SUM Function](#)

Rubric for Planning a Spring Break Trip Activity

Rubric Criteria	Advanced (4 points)	Proficient (3 points)	Developing (2 points)	Emerging (1 point)
Collaboration	Actively collaborates with team, consistently shares ideas, listens to others, and helps peers.	Collaborates with team, shares ideas, listens to others, but occasionally dominates.	Participates in team activities but rarely shares ideas or listens to others.	Minimal participation in team activities, does not listen to others or share ideas.
Critical Thinking and Problem Solving	Effectively uses critical thinking to solve all challenges, demonstrates exceptional problem-solving strategies.	Uses critical thinking to solve most challenges, demonstrates solid problem-solving strategies.	Solves some challenges but struggles with others, demonstrates basic problem-solving strategies.	Struggles to solve challenges, lacks effective problem-solving strategies.
Application of Financial Math Concepts	Accurately applies financial math concepts to all problems, demonstrates a deep understanding of financial principles.	Applies financial math concepts to most problems, demonstrates a good understanding of financial principles.	Applies financial math concepts to some problems, demonstrates a basic understanding of financial principles.	Fails to apply financial math concepts accurately, lacks understanding of financial principles.
Use of Resources	Utilizes all available resources efficiently, including financial calculators and online tools, to enhance	Utilizes most available resources effectively to aid problem-solving.	Utilizes some available resources but may not use them efficiently.	Fails to utilize available resources, relies solely on own calculations.

Rubric for Planning a Spring Break Trip Activity

problem-solving.

	Highly	Mostly	Somewhat	Lacks
Engagement and Effort	engaged throughout the activity, shows consistent effort and enthusiasm.	engaged, with minor distractions, shows good effort and enthusiasm.	engaged, with several distractions, shows moderate effort.	engagement, frequently distracted, shows minimal effort.
Completion of Activity	Completes all tasks and presents a comprehensive plan within the allotted time, demonstrates exceptional time management skills.	Completes most tasks and presents a comprehensive plan with minor time extension, demonstrates good time management skills.	Completes some tasks and presents a partial plan, needs significant time extension, demonstrates basic time management skills.	Fails to complete most tasks and does not present a comprehensive plan, lacks time management skills.

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