

# ***"Vacation Adventure"***

Grades 4-5

Athens Elementary School

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***Organizer - What strategies do I need to learn and use that will help me be an effective problem solver?***

## ***Academic Expectations and Demonstrators***

Primary Expectations:

- 1.2 - Students make sense of the variety of materials they read.
- 1.5-1.9 - Students use mathematical ideas and procedures to communicate, reason, and solve problems.

Secondary Expectations:

- 1.1 - Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs and research tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.
- 1.3 - Students make sense of the various things they observe.
- 1.4 - Students make sense of the various messages to which they listen.
- 4.2 - Students use productive team membership skills.
- 5.1 - Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
- 5.4 - Students use a decision-making process to make informed decisions among options.
- 5.5 - Students use problem-solving processes to develop solutions to relatively complex problems.
- 6.1 - Students connect knowledge and experiences from different subject areas.

## *Essential Questions*

- What are the problem solving strategies?
- How do I determine the best problem solving strategy to use?
- How will we use these problem solving strategies in real-world problem solving?

## *Evidence of Progress*

- **Pretest/Posttest**

## *Culminating activity*

The students will choose a destination and plan a vacation within a limited budget. Activities will include

- Choosing a method of travel
- Choosing a place to stay
- Budgeting money for food
- Budgeting money for entertainment and/or educational activities

The students will create a PowerPoint presentation summarizing their "vacation adventure" and present it to the class.

## *Rubric*

|          |   |
|----------|---|
| <b>4</b> | Student stayed within vacation budget.<br>Student exceeded criteria for PowerPoint presentation.<br>Student exceeded criteria for problem solving notebook. |
| <b>3</b> | Student stayed within vacation budget.<br>Student met all criteria for PowerPoint presentation.<br>Student met all criteria for problem solving notebook.   |
| <b>2</b> | Student stayed within vacation budget.<br>Student met most criteria for PowerPoint presentation.<br>Student met most criteria for problem solving notebook. |
| <b>1</b> | Student stayed within vacation budget.<br>Student met some criteria for PowerPoint presentation.<br>Student met some criteria for problem solving notebook. |

## ***Knowledge (Core Content)***

- **MA-E-3.1.3** The process of using data to answer questions (e.g., pose a question, plan, collect data, organize and display data, interpret data to answer question)
- **MA-E-1.2.2** Add, subtract, multiply, and divide whole numbers using a variety of methods (e.g., mental, paper and pencil, calculator)
- **MA-E-3.2.5** Make predictions and draw conclusions based on data
- **MA-E-3.3.1** How data are used to draw conclusions
- **PL-E-3.1.2** Products and services are compared and evaluated based on price, quality, and features.
- **PL-E-3.2.1** There are appropriate factors (e.g., fixed or projected income, ways to obtain additional income, expenditures) to consider when planning and saving for specific goals.
- **WR-E-1.1** Reflective writing includes the writer's examination of his/her writing skills, abilities, approaches, and products.

## ***Technology Standards***

- T4.4 Locate information using the Internet
  - T4.4.1 Determine when Internet search may be effective
  - T4.4.2 Access and navigate web sites
- T3.1 Use proper citations
  - T3.1.3 Cite web pages
- T4.6.4 Locate and use web sites for additional assistance to resolve problems
  - T4.7 Locate information from application software (word processor, database, spreadsheet)
- T5.3 Evaluate information from the Internet
  - T5.3.1 Determine what information/products are copyright protected
  - T5.3.2 Scan for information within an Internet document
  - T5.3.3 Distinguish between fact and opinion
  - T5.3.4 Evaluate web site results from a search
- T5.7.2 Enter, manipulate and create visual representation of data.
  - T5.7.2.1 Copy graphs/charts into various applications (Word, Powerpoint, etc.)

- T6.3 Integrate two or more programs
  - T6.3.3 Determine product outcome/presentation and use software effectively
- T6.5 Create a presentation or product using application software.
  - T6.5.1 Choose appropriate information for purpose and audience

## ***Skills and Procedures***

- Problem Solving Strategies
  - Work Backwards
  - Make an organized list
  - Guess and check
  - Act it out
  - Brainstorm
  - Look for a pattern
  - Use logical reasoning
  - Make it simpler
  - Use or make a table
  - Make a picture or diagram
- Reading for information
- Basic Computation
- Researching/Collecting data
  - Internet
  - Text-Based
  - Excel
  - Word
- Reflective writing
- Oral/Visual Communication (Presentation - PowerPoint)
- Group Work Skills

## ***Instructional Activities***

### **Make an Organized List:**

The Chin Family is planning a summer vacation. They are trying to decide whether to travel by plane, train, or car. They will go to Yosemite National Park, Yellowstone National Park, or the Grand Canyon. They can stay in a motel or campground. What are the different trips that the Chins could plan?

**Guess and Check:**

The Robinson family is on their annual summer vacation. They like to count road signs while they travel in their car. At the end of their trip Johnny reported that he had counted 150 road signs. His sister, Julie bragged that she had counted  $1\frac{1}{2}$  as many as Johnny. How many road signs did Julie count? How many more signs did Julie count than Johnny?

**Make it Simpler:**

Carrie's family met in Atlanta, GA for a family reunion on July 4. They are setting up tables outside. They can put three chairs on each side of the table. If they set up eight tables in a long row, with the tables together on one side, how many family members can sit down to eat?

**Make a Table:**

Mark is going to the beach. He is looking for a towel, a T-shirt, and something to play with. He finds three T-shirts: red, green, and blue. He finds three towels: striped, plaid, and dotted. He finds three things he can play with at the beach: a Frisbee, a kite, and a ball. He picks out one towel, one T-shirt, and one thing to play with. What are all the different combinations of things he could choose?

**Use or Look for a Pattern:**

Susan and Billy found seashells on the beach outside their hotel. The first day they collected 12 seashells, and the second day they collected 15. On the third day they collected 20, 31 the fourth day, and 34 on the fifth day. On what day did they count 66 seashells?

**Act Out or Use Objects:**

At the end of their vacation the Smith family decided to have a picnic. Dana's mother was telling her where to find things in the six sections of the Aisle E at the supermarket. Her mom said the soda and chips were at opposite ends of the same aisle. She said the cheese was across from the chips, and next to the crackers. She said the cookies were not on the same side as the chips. Where did Dana find the soda, chips, cheese, crackers, and cookies on Aisle E?

**Make a Picture or Diagram**

Someone who loved stairs built the House-of-Stairs Hotel. When building the hotel, the builder created 4 different stairways from the 1<sup>st</sup> floor to the 2<sup>nd</sup> floor, and 5 different stairways from the 2<sup>nd</sup> to 3<sup>rd</sup> floor. How many different ways could you get from the 3<sup>rd</sup> floor to the 1<sup>st</sup> floor in the House of Stairs Hotel?

**Logical Reasoning:**

The Miller family is having terrible luck on their vacation; it keeps raining! Due to the bad weather the family decides to go see a movie. Missy, Kelly, and Steve are trying to decide whether to go see, "The Yellow Ghost," "The Lost Pelican" or

“Mission to Mars.” Steve loves to read books about science fiction. Kelly loves solving mysteries and Missy hates scary programs on T.V. Which movie do you think each of them will choose?

**Work Backwards:**

Susie went shopping when she was on vacation in Disney World. The first hour she spent  $\frac{1}{2}$  of her money and the second hour she spent  $\frac{1}{2}$  the money she had left. She continued spending  $\frac{1}{2}$  of her money for the next two hours. Now she has \$20.00 left. How much money did she have when she started shopping?

**Brainstorm:**

You are buying a souvenir to take home with you from vacation. The total cost of the item is \$4.99. Is it better to pay with a new \$5 bill or an old one?

**Problem Solving Scoring Rubric**

**Student-**

**Date-**

|          |  |
|----------|--|
| <b>4</b> | Student follows all directions clearly.<br>Student clearly answers question asked correctly.<br>Student's work is neat and has much detail.              |
| <b>3</b> | Student follows most of the directions.<br>Student answers question correctly but not in a clear fashion.<br>Student's work is neat and has some detail. |
| <b>2</b> | Student follows some of the directions.<br>Student attempts to answer the question, but has few details or is incorrect.                                 |
| <b>1</b> | Student shows minimal effort and is unable to follow directions.   |

Comments:

# Journal Reflections Rubric

Describe the strategy(ies) you used and the steps you took to solve today's problem. Explain why you used this strategy and why another strategy would not work as well.

**Student-**

**Date-**

|          |   |
|----------|---|
| <b>4</b> | Student follows all directions clearly.<br>Student's work is neat and has thoughtful detail.<br>Problem-solving strategy and steps are clearly explained.                   |
| <b>3</b> | Student follows most of the directions.<br>Student's work is neat and has some detail.<br>Problem-solving strategy and steps are present but not clearly explained.         |
| <b>2</b> | Student follows some of the directions.<br>Student attempts to answer the question, but has few details.<br>Strategy present, but incorrect or steps do not support answer. |
| <b>1</b> | Student shows minimal effort and is unable to follow directions.  |

Comments:

## Timeline for Unit

| Week | Date  | Objective                         | Suggested Activities   | Assessment                                      | Critical Resources  |
|------|-------|-----------------------------------|--|---|---|
| 1    | 10/1  | Problem of the Week               | Weekly question will be posted to school website   | Student Submissions                             | FrontPage, Internet   |
|      |       | Pre-Test                          | Give Problem-Solving Pre-Test  |   |   |
|      |       | Introduce Problem Solving         | Distribute and discuss features of Problem-Solving Notebook, Introduce Work Backwards, Guided Practice, Independent Practice | Problem of the Day (see Problem Solving Rubric) | The Problem Solver, <a href="http://www.mathstories.com">www.mathstories.com</a> , Problem-Solving Notebook |
|      |       | Introduce Problem Solving         | Introduce Make Organized List, Guided Practice, Independent Practice   | Problem of the Day                              | The Problem Solver, <a href="http://www.mathstories.com">www.mathstories.com</a>                            |
|      |       | Introduce Problem Solving         | Introduce Guess and Check, Guided Practice, Independent Practice   | Problem of the Day                              | The Problem Solver, <a href="http://www.mathstories.com">www.mathstories.com</a>                            |
|      |       | Introduce Problem Solving         | Introduce Act It Out, Guided Practice, Independent Practice  | Problem of the Day                              | The Problem Solver, <a href="http://www.mathstories.com">www.mathstories.com</a>                            |
|      |       | Introduce Problem Solving         | Introduce Brainstorm, Guided Practice, Independent Practice  | Problem of the Day                              | The Problem Solver, <a href="http://www.mathstories.com">www.mathstories.com</a>                            |
|      |       | Introduce Excel (Lab)             | Guide students through creating budget and basic Excel functions   |   | Excel   |
| 2    | 10/8  | Introduce Problem Solving         | Introduce Look For Pattern, Guided Practice, Independent Practice  | Problem of the Day                              | The Problem Solver, <a href="http://www.mathstories.com">www.mathstories.com</a>                            |
|      |       | Introduce Problem Solving         | Introduce Use Logical Reasoning, Guided Practice, Independent Practice   | Problem of the Day                              | The Problem Solver, <a href="http://www.mathstories.com">www.mathstories.com</a>                            |
|      |       | Introduce Problem Solving         | Introduce Make It Simpler, Guided Practice, Independent Practice   | Problem of the Day                              | The Problem Solver, <a href="http://www.mathstories.com">www.mathstories.com</a>                            |
|      |       | Introduce Problem Solving         | Introduce Make a Table, Guided Practice, Independent Practice  | Problem of the Day                              | The Problem Solver, <a href="http://www.mathstories.com">www.mathstories.com</a>                            |
|      |       | Introduce Problem Solving         | Introduce Make a Picture or Diagram, Guided Practice, Independent Practice   | Problem of the Day                              | The Problem Solver, <a href="http://www.mathstories.com">www.mathstories.com</a>                            |
|      |       | Introduce PowerPoint (Lab)        | Guide students through basic PowerPoint use and provide tips and suggestions   |   | PowerPoint  |
| 3    | 10/15 | Introduce Culminating Performance | Presentation from Travel Agent, Distribute and discuss "Vacation Adventure" Packet and Materials, Divide                     | Reflective Writing                              | Travel Agent, "Vacation Adventure" Packet, maps,  |

|   |       |                     |   |                            |                               |
|---|-------|---------------------|---|----------------------------|-------------------------------|
|   |       |                     | students into groups, Go over budget, Choose destinations from list                               |                            | travel materials, Inspiration |
|   |       | Data Collection     | Determine Method of Travel  | Reflective Writing         | Internet Travel Websites      |
|   |       | Data Collection     | Determine Lodging   | Reflective Writing         | Lodging Websites              |
|   |       | Data Collection     | Determine Attractions/Activities  | Reflective Writing         | Location Websites             |
|   |       | Data Collection     | Determine Food  | Reflective Writing         |                               |
|   |       | Insert Data         | Insert Data into Excel (Lab)  | Reflective Writing         | Excel                         |
|   |       | Post-Test           | Give Problem-Solving Post-Test  |                            |                               |
| 4 | 10/22 | Create Presentation | Introduce Sample Presentation, assess using rubric, discuss group dynamics and working as a group | Reflective Writing         | PowerPoint                    |
|   |       | Create Presentation | Students work of group presentation   | Reflective Writing         | PowerPoint                    |
|   |       | Create Presentation | Students work of group presentation   | Group Conference w/teacher | PowerPoint                    |
|   |       | Create Presentation | Students work of group presentation   | Group Conference w/teacher | PowerPoint                    |
|   |       | Create Presentation | Students work of group presentation, Tips on giving presentations, Practice presentation          |                            | PowerPoint                    |
| 5 | 10/29 | Give Presentations  | Groups present vacations to class   | PowerPoint Rubric          |                               |
|   |       | Give Presentations  | Groups present vacations to class   | PowerPoint Rubric          |                               |



# Vacation Adventure Checklist

- Task List
- Budget Estimate
- Checkbook/Spending Sheet
- Running Record Sheet
- Daily Reflections

Your task as a group member will be to budget a vacation for four people. Your group will be given \$2500 and a list of possible destinations. You will need to choose your method of transportation, lodging, food and entertainment options.

## The Tasks

|              |   |   |
|--------------|---|---|
| <b>Day 1</b> | <b>Choose your Destination</b>            | Go to the <a href="#">destination choices page</a> and vote on the place your group wants to visit. Have an alternate choice since you will not be able to have the same location as another group.   |
| <b>Day 2</b> | <b>Choose your method of travel</b>       | Your group will need to decide how to get to your city. You can choose to travel by any method, but remember that you are on a budget.  |
| <b>Day 3</b> | <b>Choose your lodging</b>                | Now that you have finally arrived, where are you going to stay? Using the travel resource page, choose a place to lay your head at night. Don't blow all of the money yet! You can decide how many days you want to stay in your city.                  |
| <b>Day 4</b> | <b>Choose the attractions/ activities</b> | What do you want to see? Will you hide out in your hotel room or mingle with the other tourists? From the <a href="#">destination resource page</a> you can see what there is to do in your city or nearby. Don't forget to pay to get there. Have fun! |
| <b>Day 5</b> | <b>Choose your food</b>                   | Will you be eating like a king or at Burger King? Go to the resource page to decide how you are going to eat. Don't forget to budget for three meals a day.   |

## Running Record

Use this page to record the sources you use throughout the project.  
Please remember to use at least one source besides the Internet.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

## PowerPoint Criteria

1. **Minimum** of 10 slides, which include at least one slide for each of the following:

- Title slide with destination and group members' names
- Why you chose your destination
- Mode of transportation
- Lodging
- Food
- Entertainment/Educational activities
- Budget – imported from Excel
- Group Reflection
- Resource List/Bibliography
- Conclusion

2. Include the following PowerPoint features:

- Minimum of 3 pictures of your destination taken from the internet with proper citation
- Variety of transitions and slide animations
- Legible and visually attractive
- Arranged in a logical order
- Minimal grammatical, mechanical, and spelling errors

**3. The oral presentation shall include the following:**

- Equal speaking by every group member**
- Appropriate eye contact**
- Appropriate speaking level**
- Appropriate delivery (avoid direct reading from slides)**
- Use of effective language**