

STEM Project: Plan a Cultural Celebration**Grade Level: 3****Time: Approximately 6 Days****Lesson Rationale:**

The essential question for this project is “How can I plan a party to celebrate one of my cultural celebrations while staying in my budget?” Students will use real world mathematical and logical thinking to plan a party that represents their culture or family traditions. They will have a budget of \$100. Students will use resources such as catalogues and store advertisements to determine the prices of the items. This project will allow students to think and reflect on an important celebration in their culture, while also applying critical thinking skills and real-world math applications.

This engaging STEM project reinforces mathematical skills involving computation, problem solving, and money. There are several important goals for this project. One goal is for students to share information about their cultural celebrations to promote a better understanding of the students in our classroom and their traditions. Another goal is for students to practice math skills needed for everyday life such as sticking to a budget and comparing prices to make the best consumer choices. Students will also use technology to share and communicate with each other. Students will have the opportunity to work on the project individually or with a partner.

Several extension activities have been added that incorporate engineering, art, writing, and social studies. These follow-up activities include using Makerspace materials or Legos to create a decoration for the celebration, writing a song for the celebration, considering the opportunity costs, and designing and creating invitations.

This lesson has been revised in several ways. Last year I had my students do a similar project in which they planned a birthday party. I decided to change it make it more culturally relevant for my students. This course has made me realize that some students might have never had a birthday party so this project would be difficult. I also thought about how students might not know about other cultural traditions and celebrations that they do not celebrate. I decided to change the focus to a cultural celebration or party that the students are familiar with based on their own culture. This would allow the students to learn more about each other and their traditions.

I added an introduction to the lesson that includes a story about various holidays that people celebrate. I also wanted to incorporate more technology so I decided to add a Flipgrid component. Communication is very important in helping to make lesson culturally relevant so I allowed for opportunities to have conversations with other students, work with partners, and provide feedback to each other.

Background:

I work in a third-grade inclusive classroom in a public school. My school is located in the suburbs about 20 minutes from Philadelphia, PA. The student diversity demographics for my school are as follows: 63.3% white, 14% Asian (primarily Korean, Chinese, and Indian), 10.4% African American, 6.4% Hispanic, .1% Native American, .1% Pacific Islander.

I have an ESL certificate and special education certification so I often have a diverse classroom and students with various needs. Most of the students in my class speak English, but several also speak other languages at school and at home. The most common languages spoken

besides English are Spanish and Korean. Several of the students I teach have IEPs which contain goals for their learning. Several students have learning disabilities and emotional concerns.

These are all considerations I keep in mind when planning lessons and doing activities.

Differentiated activities are important to allow each student to learn best. For this lesson, there are choices of extension activities so that students can choose what is best for their learning style and interest. Teacher support and assistance will be provided as needed. Students also have the opportunity to work with a partner if they prefer.

As a teacher, you cannot create a culturally responsive classroom if you don't take the time to get to know your students as individuals (Deady, 2017). This project will give the teacher an opportunity to better understand and appreciate the various backgrounds of the students. Students who might be hesitant to share aloud about their backgrounds and customs, will tend to be more willing to express themselves through the use of engaging projects and technology.

Highlighted Multicultural Components:

My lesson included many aspects of multicultural education. There is an emphasis on sharing students' cultural experiences and traditions. There will be discussions based on the various holidays and celebrations that are familiar to the students from various cultures. The book, What Do You Celebrate? Holidays and Festivals Around the World by Whitney Stewart will be read for students to learn about the various holidays that people celebrate and the important foods, clothing, decorations, symbols, and activities associated with each.

This project will focus on our classroom community of learners and build on making connections among each other. Hammond and Jackson (2015) emphasize the need to create a

community of learners by building on students' values of collaboration and connection. This promotes intellectual safety and reduces stereotype threats. This project focuses on social aspects such as celebrations and festivals that the students partake in. It is also a social activity because students will have the opportunity to discuss, collaborate, and share ideas with other students as well as the teacher. One way to help make a classroom culturally responsive is to make activities that are social (Hammond and Jackson, 2015).

Culturally responsive pedagogy is a student-centered approach to teaching in which the students' unique cultural strengths are identified and nurtured to promote student achievement and a sense of well-being about the student's cultural place in the world (Lynch, 2018). Students are encouraged to learn about each other. Teachers should have their students research and share information about their ethnic background as a way of fostering a trusting relationship with other students in the class. Students are encouraged to analyze and celebrate similarities and differences in traditions, beliefs, and social aspects of various cultures. (Lynch, 2108)

Technology Component

This project incorporates Flipgrid, which is something recently introduced to the class. Flipgrid allows students to create videos of themselves. This is an effective tool for engaging and empowering the students and will be used to share their cultural stories. I thought this would be a fun way for students to share their posters about their celebrations. They will record a video that shows their posters and includes a discussion of the celebration.

Flipgrid is also an interactive way for student to provide feedback to their classmates. Prior to using Flipgrid, there will be a discussion reviewing the importance of appropriate comments that provide supportive and non-judgmental comments. In creating a culturally

responsive classroom, it is very important to make the classroom a judgement-free zone (Deady, 2017). These interactions stress collectivity as well as individuality which is essential in creating a classroom that is culturally responsive. Other extension activities use technology through the use of software and websites to create an invitation for the party and creating a song for the party.

Objectives:

Students will be able to:

- Plan a party or celebration that represents their culture
- Identify and compare various prices of products
- Calculate the amount of money spent for the party
- Organize and interpret data to display their findings
- Support their conclusions with evidence collected
- Use technology to share their project
- Use technology to provide feedback to their classmates

Materials:

- Post-it notes
- Chart paper
- Book-What Do You Celebrate? Holidays and Festivals Around the World by Whitney Stewart
- Store advertisements and catalogues
- Poster board
- Laptops or iPad
- Scissors
- Glue
- Pencil
- Crayons or Markers
- Smartboard
- Makerspace materials
- Legos
- Party Planning Brainstorming paper (Appendix A)
- Party Planning Budget paper (Appendix B)
- Grading Rubric (Appendix C)

Advanced Preparation:

- Collect catalogues and store advertisements that can be cut (grocery store weekly advertisements, party supply catalogues, etc.)
- Write the word, “Celebrations” on a piece of chart paper and display it on an easel near the class carpet.
- Set up Flipgrid for the class.

Standards:**Math Common Core Standards**CCSS.MATH.CONTENT.3.OA.A.1

Interpret products of whole numbers

CCSS.MATH.CONTENT.3.OA.A.3

Use multiplication and division within 100

CCSS.MATH.CONTENT.3.OA.D.8

Solve two-step word problems using the four operations

CCSS.MATH.CONTENT.4.MD.A.2

Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals

Next Generation Science Standards

3-5-ETS 1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

3-5-ETS 1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

ELA/Literacy StandardsCCSS.ELA-Literacy.R.1.5.7

Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.

CCSS.ELA-LITERACY.W.5.2. D

Use precise language and domain-specific vocabulary to inform about or explain the topic.

Vocabulary Words previously taught:

- Culture
- Tradition
- Festival
- Holiday

Justification:

By doing a real-life problem-solving activity using authentic data, students will work as mathematicians to explore, inquire, and calculate. They will use their backgrounds and culture to determine the items that will be part of the celebration they are planning. Students will have choices such as what celebration to choose, which items to buy, how to display their information, and if they would prefer to work individually or with a partner.

Many components of STEM will be incorporated in this activity. Students will practice math computation for the calculations, work with money, and demonstrate problem solving. The art component will be seen through the poster that they will create with their information. The use of technology is evident in the follow-up Flipgrid activity in which students record themselves to share their posters and provide feedback to others.

This project is exciting and engaging for students and allows them to share about themselves and their cultures. It allows them to see “real-life” math applications. Students can develop skills such as critical thinking, problem solving, recording data, comparing and contrasting, and communicating, while learning more about their classmates.

5E Lesson Plan	
<p>Engage The purpose for the ENGAGE stage is to pique student interest and get them personally involved in the lesson, while pre-assessing prior understanding.</p>	<p>Day 1:</p> <ul style="list-style-type: none"> • Give each student a post-it note. Have students write down or draw a picture on a post-it note to share a holiday or festival that they celebrate. As students are coming to the carpet to begin the lesson, students should display the post-it note on the chart paper labeled “Celebrations.” • When everyone is gathered at the carpet, read some of the celebrations that are written. • Read the book <u>What Do You Celebrate? Holidays and Festivals Around the World</u> by Whitney Stewart. Stop and discuss while reading. Share pictures. Discuss how people all over the world as well as students in our class often have different traditions and celebrations. • Have students return to their seats and take out their notebooks. They should brainstorm the celebrations that they take part in and then choose one. • Tell students that over the next few days they will be doing a fun project in which they will be planning a party or festival to celebrate a holiday or tradition that they celebrate. Give the students a few minutes to walk around the classroom and talk to several students to ask them what celebrations they take part in.
<p>Explore The purpose for the EXPLORE stage is to get students involved in the topic; providing them with a chance to build their own understanding</p>	<ul style="list-style-type: none"> • Explain the “Plan A Party/Cultural Celebration” project. Tell students that the party should be based on a holiday, tradition, or festival that they celebrate. • Allow student to work individually or with another student with a similar tradition. • Review the requirements of the project: Students cannot spend more than \$100, they must plan a party or celebration that is important to their culture, they can invite how many people they would like, they must provide at

	<p>least snacks and drinks for their guests.</p> <ul style="list-style-type: none"> • Hand out the “Party Planning Brainstorming” paper. Have student work on this to gather ideas about the type of party they would like to plan. • As part of the students’ homework, ask them to discuss the tradition or festival they chose with their parents or other family members. Have them discuss important foods, decorations, clothing, etc. that they might have at the celebration. <p>Days 2-4:</p> <ul style="list-style-type: none"> • Review the discussion from yesterday about traditions and celebrations. • Hand out the “Party Planning Budget” papers and go over this. Tell students that they will need to plan their party using \$100 or less and must have at least 10 items at the party. Explain that they can use the advertisements and catalogues to cut out pictures or can draw their own pictures and create realistic prices. • Model several calculations on the whiteboard and remind students it is better to have more of something than not enough. • Explain to students that they will create their budgets and then display their items by creating a poster to share their information. • Explain to students that when their project is finished, they will use Flipgrid to share their projects and learn about their classmates’ projects. • Allow students to use flexible seating to find the best place to work. • As students are working, teacher will circulate around the room and ask questions and have discussions with students about their culture, traditions, and celebrations.
<p>Explain The purpose for the EXPLAIN stage is to provide students with an opportunity to communicate what they have learned so far and figure out what it means.</p>	<p>Day 5:</p> <ul style="list-style-type: none"> • The teacher will remind students how to use Flipgrid. • When students have finished their budget and poster, they will share their projects using Flipgrid. Students will use the Flipgrid code provided to create a video in which they share about their culture and celebration. They will describe their budget and show their poster. They can share what they enjoyed about this project and any challenges. • Students will review each other’s Flipgrid videos and

	<p>provide feedback to at least three classmates.</p> <ul style="list-style-type: none"> • Teacher will also leave comments on each students' project.
<p>Elaborate/Extend The purpose for the EXTEND stage is to allow students to use their new knowledge and continue to explore its implications.</p>	<p>Day 6:</p> <p>Students will have the choice of the following extension activities:</p> <ul style="list-style-type: none"> • Engineering connection-Using the Makerspace materials or classroom Legos, create a decoration for your party or celebration. • Writing and music connection-Write a song that could be sung at the celebration. • Art and technology connection-Design and create an invitation to the celebration using the laptop or iPad • Social Studies/Economics and writing connection-Were there any items that you wanted to include but couldn't afford? When you have to choose one thing instead of the other, this is called opportunity cost. Write about these items and why you made the choices you did.
<p>Evaluate The purpose for the EVALUATION stage is for both students and teachers to determine how much learning and understanding has taken place.</p>	<p>Formative assessment will include the following:</p> <ul style="list-style-type: none"> • During the lesson, teacher will ask questions. • While students are working on their projects, the teacher will have discussions with students. • Teacher will check math problem solving and calculations as students are working on their projects. <p>Summative assessment will include the following:</p> <ul style="list-style-type: none"> • Budgets and math calculations will be graded using the project grading rubric (Appendix C). • Poster will be graded based on information included, creativity, language mechanics, and neatness. • Flipgrid videos will be reviewed and the teacher will post comments on each Flipgrid to provide personal feedback to the students.

References

- Deady, K. (2017, August 11). 5 steps to becoming a Culturally Responsive Teacher. Retrieved September 2, 2019, from <https://www.teachaway.com/blog/5-steps-becoming-culturally-responsive-teacher>.
- Hammond, Z., & Jackson, Y. (2015). *Culturally Responsive Teaching and the Brain: Promoting Authentic Engagement and Rigor Among Culturally and Linguistically Diverse Students*. Thousand Oaks, CA: Corwin, a SAGE Company.
- Lynch, M. (2016, September 23). Top 5 Techniques for Culturally Responsive Teaching. Retrieved September 25, 2019, from <https://www.theedadvocate.org/top-5-techniques-for-culturally-responsive-teaching/>.
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from <https://www.teacherspayteachers.com/Product/Math-Project-Plan-a-Party-205390>
- Stewart, W., & Engel, C. (2019). *What Do You Celebrate?: Holidays and Festivals Around the World*. New York: Sterling Children's Books.

Appendix A-Party Planning Brainstorming

Name _____ Date _____

**Party Planning**

There are many things to consider when planning a party. Use this page to help you with your planning. Feel free to record other considerations on another sheet of paper.

1. What is the theme of your party? _____

2. How many people will you invite? _____

3. What beverages will you serve? _____

4. What foods and snacks will you serve? _____

5. What desserts will you serve? _____

6. Did you decide to do homemade or store-bought? Why did you choose that option?

7. Will you give a goody bag? If so what is in it? If not, explain your thinking.

8. Will you play party games? If so which ones? _____

9. What types of decorations will you have? _____

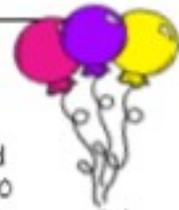
10. Will there be entertainment? _____

Appendix B-Party Planning Budget

Name _____ Date _____



Party Planning Budget



Use this chart to help you plan your party. You must have at least 10 party items, and you may have more. Your items must cost \$100 or less. You may NOT exceed the \$100 budget. Use an additional page if necessary. When you choose your items, always keep in mind the number of guests that will attend. For example, if there are 10 guests, but plates come in packs of 8, how many packs will you have to buy? If you said 2, you are correct because you can't have 2 guests with no plates! Use the supply price list provided or find prices from a party supply store. Review your Party Planning sheet for ideas.

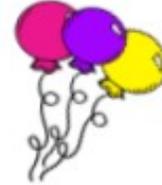
Item	Price per Item	Total Quantity Needed	Total Cost
Total			

Appendix C-Grading Rubric

Name _____



Plan a Party Grading Checklist



	<i>Points Possible</i>	<i>Points Earned</i>
Planning	8 points	
Planning sheet is completed and accurate.	2 points	
Student considered all major elements of the party.	2 points	
Student made realistic party choices.	2 points	
Student supported choices with explanations.	2 points	
Budget	12 points	
Budget is \$100 or less.	2 points	
At least 10 items are included.	2 points	
Quantities represent enough for the people attending.	2 points	
Budget is based on party planning sheet.	2 points.	
The party budget is realistic, functional, and could be applied to a real party.	2 points	
The budget chart is complete and accurate.	2 points	
Math Connections	5 points	
Math calculations are correct and accurate.	5 points	
Total	25 points	
Comments		Grade