## Sample Mathematics Learning Plan - Money

### Big Idea/ Topic
- Develop an understanding of time and money to solve problems

<table>
<thead>
<tr>
<th>Standard Alignment</th>
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<tr>
<td>MGSE2.MD.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately.</td>
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### Diagnostic Assessment

The following is a sample assessment that can be given to assess student understanding of coins and their values.

1. Sort the coins shown below in order from least value to greatest value.

2. What is the total value of the coins shown?

3. What are some possible combinations of dollar bills ($1, $5, $10) that equals $12?
Instructional Design

Desmos Activity link: One For the Money

Engage

If you have 2 dimes and 3 pennies, how many cents do you have?

How much money do you think she might have? Make an estimate based on what you can see.

- **Synchronous** Complete during a classroom discussion while pausing the activity to highlight student responses.
- **Asynchronous** Using the teacher dashboard, restrict slide 7. Introduce the problem to students in a virtual platform; this can be done via e-document or video. Allow students to share responses within the Desmos platform and provide feedback via the teacher dashboard. Additionally, students could use an audio/video to share. Provide feedback to individual student responses.
- **Unplugged/ Offline** Provide the paper version of the activity for students to engage in the task. Have students share ideas through email/text/phone. Provide feedback to students and share other students’ ideas before engaging in the remaining sections.

Explore

Drag the bills to count the money from Lya’s piggy bank.

How much money does she have?
Teacher Moves

Allow students time to work through this screen with a partner with coins or coin manipulatives if needed. As a class, students should find multiple solutions, which the teacher can share. The teacher may wish to follow up with the question, “How could we know when we’ve found all of the possible ways to make 37 cents?” This may lead to a rich discussion about organizing information in a table and looking for patterns, which will help students feel confident when they have found all possible solutions.

Sample Responses

Multiple solutions are possible and encouraged. The goal here is for students to practice working with coins and predicting how many coins are in Ms. Powell’s hand is an interesting context. On the next screen, students receive a hint about the coins in Ms. Powell’s hand to help narrow down the possibilities.

Student Supports

Coins on this screen are draggable. Coins or coin manipulatives may also be used as needed. It is suggested that students work with a partner on this task to encourage discourse in problem solving.

Teacher Moves

Teachers may choose to use this screen to help students as they begin to organize their solutions. Highlight interesting solutions and organizational strategies using the teacher dashboard to promote discourse.

Student Supports

It is recommended that students continue to work with a partner to promote discourse.

Teacher Moves

Restrict this slide until all students have had a chance to provide a solution.
Apply

- **Synchronous**: Complete Desmos activity during synchronous learning, either face to face, virtual, or blended.
- **Asynchronous**: Ensure that enough time is provided for students to participate and respond to your feedback and edit responses as needed.
- **Unplugged/Offline**: Provide the paper version of coins and the activity for students to engage in the task. Allow students time to complete the work and submit through email/text or other means. Provide feedback and share with other students and provide access to other students’ thinking.

Reflect

Students could have an opportunity to reflect with an exit ticket. Wrapping up the lesson with “Today we combined coins. What strategy did you use for combining the money amounts?”

- **Synchronous** - Students will reflect upon the Desmos lesson in a journal. Students will share 1 way to combine money amounts. Share reflections anonymously with the class.
- **Asynchronous** - Students will reflect upon the Desmos lesson in a journal. Students will share 1 way to combine money amounts. Students could utilize a video/recording application.
- **Unplugged/Offline** - A paper copy could be sent to the student to reflect with pencil and paper. If math notebooks are a part of teacher routines, the reflection could be performed here.
Evidence of Student Success

Formative Assessment Questions:

- How is adding money amounts like adding amounts that aren’t represented as money?
- What strategies did you use for combining the money amounts? What did you do to check your work?
- Did anyone else create the same amount you did but use different toys? Why did this happen?

Student Learning Supports

Establish mathematics goals to focus learning.

- Make instructions and expectations clear for the activities.
- Make explicit connections between current and prior lessons or units.

Facilitate meaningful mathematical discourse.

- Explicitly model and teach good “discussion board” etiquette.

Pose purposeful questions.

- Predetermine when you will call on the student or use the pause feature within the activities.
- Break class into small discussion groups to work collaboratively and then have groups report back to the whole group.

Support productive struggle in learning mathematics.

- Offer outlines and other scaffolding tools and share tips that might help students learn.
- Provide feedback using the feedback feature within activities and offer corrective opportunities.
- Consider the pacing of the lesson.

Elicit and use evidence of student thinking.

- Anticipate any misconceptions or questions students might have about the task, materials or technology. Proactively address them with readily available and accessible resources.

Engaging Families

- GPB Kids offers the game Count On It for students to practice with money. Count On It! is a fun and innovative way to teach children mathematics. 
  http://www.gpbkids.org/

Count On It! For Teachers and Parents

Episode 208 – Blossom and Snappy Go Shopping

Georgia Department of Education
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Money – Next time you need to buy a present for someone, let your child help pick it out. Let him/her help in the decision-making process. Finding the right gift at the right price can be a challenge, but it can also be a fun learning experience." Counting – Go to the zoo and count all the different types of animals. Figure out how many snakes are in the reptile house. Add the chimps, gorillas, and orangutans to find out how many primates there are.