

Money

(*) = Optional

Materials for a small group of children: real coins (approximately 20 pennies, 5 nickels, 10 dimes, and 4 quarters); 6 money boards; 6 sets of money cards (stamped with coin stamps); money die (1¢, 2¢, 3¢, 4¢, 5¢, 10¢); (*) small magnifying glasses



Children need opportunities to experience each of the following activities (and variations of these activities) many times. Start with whole group and small group experiences. Later, provide opportunities for the children to independently explore the coins.

Free Exploration

- Ask the group to free explore the coins together. Find as many coin attributes as possible.

(*) The children or teacher could make a list of what they discover about the coins.

- Some of the information gathered about the coins may need to be researched (Why is Lincoln's head facing to the right? Why do some coins have ridges? ...and so on). Children may also ask additional questions regarding the coins (e.g., How are coins made? How many coin mints are there in the U.S.? Where are the mints located? Which coin mint is located closest to our home?) Don't give all the answers. Encourage the children to research this information together. Use the school and town library. Two good books to have on hand in the classroom are: Money (Eyewitness Books) by Joe Cribb; published by Alfred A. Knopf, N.Y., 1990. The Kid's Money Book by Neale S. Godfrey; published by Checkerboard Press, N.Y., 1991.



Organizing the Coins

• Small group

Ask the group to choose a way to sort and organize the coins. Discuss the way the coins are sorted. Ask the children to think of a different way. Repeat several times. Some groups of children may need to experience a directed activity to model one way to sort or organize the coins.

Example of a directed lesson:

How can we organize the pennies by the dates on them?

Once the pennies are organized, ask: *Who can tell me something about the penny dates?*

If the children need help, ask: *The dates on the pennies go from _____ to _____. Which date is on most of the pennies? ...least? Are any of the groups of pennies the same? Do you think the range would be the same for dimes? ...nickels? ...quarters? Organize the other coins to show their range of dates. Discuss the results.*

• Whole Group

Divide the class into small groups. Ask each group to decide on a way to organize the coins. Once all the groups are finished organizing their coins, ask the groups to walk around the room and try to guess the way each group has organized their coins.



How Many Different Ways?

Additional materials: The group will need more of each type of coin as the amounts get larger.

Start with quantities under 20¢. Gradually increase the amount.

- Choose an amount for the group to make with their coins. Observe to see if the children in the group did it different ways. Encourage the group to find other ways to make the amount. *Make _____ cents with your change. Can you make the same amount in a different way?*
- The group works together to find all the different ways a specified amount can be made with coins. In order to be sure all the ways are chosen, the group will have to decide on a way to organize their coins. Allow this process to develop naturally. *How many ways can you make _____ cents with coins? Organize the coin combinations so I can tell that you have, in fact, shown all the possible ways.*

Note: Some teachers use the day's date as the amount (i.e., On May 26, the children would find all the different ways to make 26¢). The children sometimes use the number of days they have attended school that year as the amount.

Note: Encourage the children to ask questions using the coin attributes. (i.e., Do you have any coins with bearded presidents? Do you have any copper colored coins? Do you have coins with any buildings on them? Is Monticello on any of the coins? Is the total amount more than 30¢? Do you have less than 5 coins? Do you have more than 7 coins? ...and so on.)

Non-acceptable yes / no questions include: Is it a penny? Do you have any dimes? Do you have 10¢. Do you have 5 coins in your pocket?

Coins In the Pocket

The following activities encourage children to listen to each other, cooperatively gather information, make predictions, and then draw conclusions from the information. Children should always have access to coins when they play "Coins in the Pocket". The answer is never revealed until everyone in the group knows the answer. Children who know the answer can help others in the group by asking yes / no questions that provide helpful information.

- **Level One — Identification of a Coin**

I have a coin in my pocket. Ask me yes / no questions that will help you determine which coin I have. Place one of each kind of coin in front of you. Use your coins as you go. If a kind of coin is eliminated by my answer, push it to one side. Continue until one coin is left.

- **Level Two — Identifying Coins**

I have 17¢. Ask me questions that will help you guess which coins are in my pocket. Use the coins as you guess. If a type of coin is eliminated, push all of them to one side. If you know one type of coin is part of the 17¢, push them to the other side. Continue asking yes / no questions until you are sure you have the same coins I have that equal 17¢.

- **Level Three — Identifying Coins and Quantities**

I have 3 coins in my pocket. Ask me yes / no questions that will help you determine which coins and the amount of change I have in my pocket. (Children follow the same procedure as above while they ask questions.)

- **Level Four — Identifying Coins and Quantities with the Fewest Questions**

This is a very difficult activity. It's not appropriate for most kindergarten and first grade children. Be sure the children involved have had many experiences playing Coins in the Pocket (Levels 1-3), How Many Different Ways to Make Change, and the Money Board Games before trying this level.

I have coins in my pocket. What are the coins and how much are they worth? I'd like you to make a group list of all the questions you can ask me to find the answer. Choose one person to be the recorder. (Allow the group 5-10 minutes or so before going on to the next step.)

Look at your list of yes / no questions. I'd like your group to select the 5 - 6 most important questions. Prioritize the 5 - 6 questions in the order you think they should be asked. (Allow the group 5 -10 minutes to discuss and choose their questions.)

Try out your questions. I'd like one person at the table to hide a few coins in his or her pocket. I'd like the rest of the group to ask the "coin" person the questions the group chose. The order of the group questions may vary a bit, depending on the "coin" person's answers. Use the coins as you ask the questions.

Now pose your questions to me to find out the coins and amount in my pocket. Use your coins as we go to keep track of the information you have learned. Push the coins that are eliminated to one side. Continue until the group has guessed the coins and their amount. Stop periodically to review the known information. The known information could also be recorded.



Additional Money Activities

- Read *Alexander Who Used to be Rich Last Sunday* by Judith Viorst. Discuss the story. Another time, ask the group to place 4 quarters on their money boards to represent the dollar Alexander received from his grandparents. The group changes the money on their money boards as they listen to the story of how Alexander spent his dollar. Another time, read "Smart" (*Where the Sidewalk Ends* by Shel Silverstein).
- Children can create their own money stories (either verbally or written) in a small group or independently. The stories could be acted out with real money and/or illustrated on paper. Encourage children to share real money stories that have happened to them.
- How much is your name worth if a=1¢, b=2¢, c=3¢, d=4¢, and so on? Does someone have a name that's worth the same amount as someone else? Ask the children to find words that equal the same amount as their name, \$1.00, 75¢, ... and so on. Another time, read and solve problems from the *\$1.00 Riddle Book* by Marilyn Burns.
- Set up a store. (see *MTW Summary Newsletter* p. 7.28)
- Pattern Book Experiments (see *MTW*, p. 332; *MTW Summary Newsletter*, p. 7.27 - 7.28).

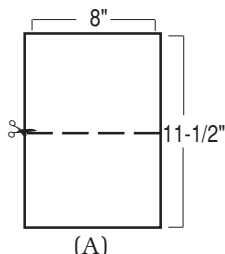


Making Directions

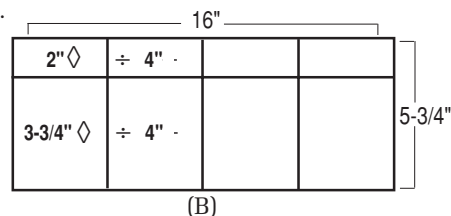
Money Boards

Materials needed: (9" x 11-3/4") file folders; permanent marker; paper cutter

(A) One file folder will make 2 money boards. Trim the sides so the outside of the file folder is 8" x 11-1/2". Cut the folder in half.



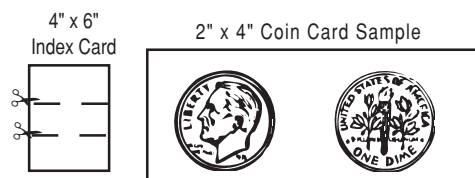
(B) Open the file folder and draw lines to make the boxes.



Coin Cards

Materials needed: 4" x 6" index cards (4 different colors); scissors or paper cutter; a set of coin stamps (heads and tails); library pockets

Choose different card colors for pennies, nickels, dimes and quarters. One index card will make 3 coin cards. Cut the index cards so they are 2" x 4". Stamp both sides of a coin on each card. Glue a library pocket on the back of the money board to store the 4 coin cards.



Optional: If you do not have coin stamps, duplicate the money card blackline (p. 4) onto white tagboard.

Money Die

Materials needed: die or wooden cube; permanent markers

Write (1¢, 2¢, 3¢, 4¢, 5¢, 10¢) on the cube or die.

Money Board Activities

Limit the types of coins being used when the money board games are first being introduced. Start with just dimes and pennies. When the children can comfortably exchange 10 pennies for 1 dime and vice versa, play the game with dimes, nickels and pennies. Before starting the game with nickels, be sure to place the nickel card between the dime and penny cards on the money board. Add quarters when the children are comfortable exchanging pennies, nickels and dimes.

• Adding Change to a Predetermined Amount

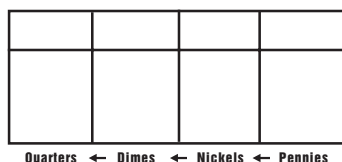
Before the game begins: Each player needs 1 money board, 4 coin cards and 1 money die. The players decide what amount to roll up to on their money boards. They place the coin cards in the small boxes on the top of their money boards. The players decide who the winner will be in advance, either the first person or the last person who reaches the predetermined amount. The first player rolls the die, chooses coins that equal the amount rolled and places them in the appropriate boxes on his/her money board. The next player rolls the die and places that amount on his/her board. The players continue taking turns until one person reaches the predetermined amount and a winner is determined.

Trading Coins: When the player has enough pennies to exchange for a dime or nickel, he/she can trade. It's not important for the players to change their coins to the highest value coin every time. For example, a child might not exchange his/her pennies for other coins until he/she has run out of pennies. When all the pennies are used, he/she must exchange them for other coins to continue playing the game. Children will gradually realize that it's easier to keep track of the total amount of change they have placed on their money boards when the amount is represented by the fewest number of coins possible.

• Subtracting Change from a Predetermined Amount

The players start with a designated amount on their money boards. The players decide who the winner will be in advance, either the first person or the last person to subtract all his/her coins off the money board. The first player rolls the die and takes that amount of change off his/her money board. The players continue taking turns rolling the die and subtracting coins until one player has subtracted all the coins off his/her money board and a winner is determined.

Money Board



Note: The coin cards and coins are always placed right to left from least valued coin to most valued coin on the money board.

Coin Cards

Use the blackline below to make coin cards. For best results, photocopy the blackline onto tagboard. Cut the cards apart on the dotted lines. Color code the backside of the cards by making a dot with permanent markers (a different color for each type of coin).

