

# Fiat Money and Cryptocurrency: What Is Money?

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## Lesson Authors

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## Standards and Benchmarks (see page 17)

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## Lesson Description

In this lesson, students will attempt to make a purchase without the benefit of a common currency: They will learn how a stable, unified money system can act as a medium of exchange, a unit of account, and a store of value. Students will also learn about the societal benefits of using fiat money in transactions before evaluating cryptocurrency to determine if it also serves as money.

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## Grade level

6-8

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## Concepts

Barter	Money
Conversion value	Store of value
Fiat money	Unit of account
Medium of exchange	

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## Objectives

Students will be able to

- define barter, conversion value, fiat money, medium of exchange, money, store of value, and unit of account;
  - explain how money facilitates trade and creates benefits for society; and
  - use the functions of money to evaluate whether another currency is a good form of money.
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## Compelling Question

Why do societies use money?

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## Time Required

45 minutes

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## Materials

- PowerPoint slide deck
  - Visual, one copy for classroom display
  - Handouts 1, 3, and 4, one copy of each for each student
  - Handout 2, one copy cut apart
  - Handouts 1 and 3 Answer Keys, one copy of each for the teacher
  - Stapler
  - Marker
  - Bag of chips or other highly valued item (e.g., marshmallows, a new t-shirt, or a bathroom pass)
  - Dollar bill
  - Bag of ice or a picture of one
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## Procedure

1. Hold up a stapler and discuss the following:
    - What purpose does a stapler serve? (*It staples papers together and keeps pages from getting out of order.*)
    - How does a stapler make life easier or better? (*It makes grouping things and keeping them in order easier, releasing time for other uses.*)
  2. Tell students that “purpose” can also be called “function.” The function of the stapler is to push staples through sheets of paper so that they stay together. Things that serve functions are all around us. Hold up a marker and discuss the following:
    - What is the purpose or function of a marker? (*It can be used to write on a board or paper, to highlight, or to add color to a drawing.*)
  3. Display slides 2 and 3 and tell students that they will learn about the purposes or functions of money.
  4. Show students a bag of potato chips or another highly valued item while displaying slide 4. Discuss the following:
    - Who wants this item and what are you willing to trade for it? (*Students may offer pencils, notebooks, or lunch items. If a student offers money, tell them to find something other than money, as it will be discussed soon.*)
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- What is hard about trading items for other items? *(You may not have something another person wants to trade for; or, you might think your item is more valuable than does the person with whom you're trading.)*
  - What if everyone had to trade everything without money? *(Answers will vary but may include that it would take a lot of time or that trades wouldn't happen if both parties don't think it's a gain.)*
5. Tell students that when people trade one item directly for another item, it is called **barter**. Define barter as trading goods and services for other goods and services without using money. It can be challenging because everyone sees things differently, and, consequently, we don't all attach the same values to items (as they saw previously with the chip example.)
6. Hold up a dollar bill or other currency and ask students to identify what it is you're holding. *(Money)* Define **money** as anything widely accepted in exchange for goods and services. In other words, money can be used in trade instead of bartering one item for another item. Discuss the following:
- Why do societies and the people who make them up use money? *(Rather than bartering, it can be used to buy and sell goods, services, labor, and other resources across diverse groups of people.)*
  - What purpose or function does money serve? *(It makes trading easier because both parties will accept it in exchange for goods or services.)*
  - How does money make our lives better? *(It makes trade simpler and easier to do.)*
7. Remind students that they had indicated the purpose or function of money was to make purchases. Discuss the following:
- If you want to buy something from a store, what would you trade for it? *(Money)*
  - Is bartering with something other than money easier? *(No)* Why is trading any item for money at a store easier than finding something to barter? *(Everyone universally wants money, especially at stores. You don't have to bring something to trade that the store owner values more than what you want from the store. Imagine how difficult that would be!)*
8. Distribute a copy of *Handout 1: Note-Taking Sheet* to each student and tell them to use it to record important information. (NOTE: The lesson has students walk through an example or illustration of the functions of money before pausing for them to write in definitions on Handout 1.)
9. Tell students that one of the purposes or functions of money is as a **medium of exchange**, which is anything that is generally acceptable in exchange for goods and services. By using money as the medium of exchange instead of bartering (as with the bag of chips), more trades can take place. Larger and more-diverse groups have access to trading opportunities, as everyone is willing to accept and use the same form of money. Display slide 5 and instruct students to write the definition of medium of exchange on their copy of Handout 1. Discuss the following:

- Provide an example of how money, as a medium of exchange, benefits you and society. *(Answers will vary.)* Invite a few students to share their definitions and examples with the class.
10. Ask students if they have any questions about money serving as a medium of exchange and provide answers before moving on to the next item.
  11. Distribute one piece of classroom money from *Handout 2: Classroom Currency* to each student. Ask them to note the type of currency they have and its number of units. (NOTE: All currency pieces have different pictures and amounts or units listed on them. No student will possess what is called “teacher bucks,” as only teachers have these.) Invite a couple of students to describe their currency. *(When sharing, students will notice that the currencies and units vary.)*
  12. Tell students that a bag of chips (or another item in your possession) is now “priced” at two teacher bucks. Discuss the following:
    - What are your bids on the item for sale at the bargain price of two teacher bucks? *(Students will respond that they don’t have teacher bucks.)*
    - How many teacher bucks is your student money worth? *(Students may guess but ultimately will not know the answer.)*
    - What are the obstacles to trading, given the classroom problem of having so many currencies and units? *(Answers will vary, but students may say that they all have different currencies. No one knows what their currency is worth or trades for in teacher bucks. In other words, no one knows how to convert their currencies into teacher bucks.)*
  13. Explain that a **conversion value** is the number of units of one currency that can be exchanged for another. For example, let’s say one teacher buck can be exchanged for four sticks or two stones. In real life these are called exchange rates.
  14. Without a common classroom currency broadly accepted, there is a lot of work involved to determine whether trade is beneficial. This extra work is what economists call costly: It takes time, energy, and effort away from doing other things and slows exchanges in communities.
  15. Display slide 6 and ask students to consider the following conversion problem: Let’s assume everyone in class today is asked to measure the dimensions of the classroom. It is fixed in length and width. However, a third of the class is given rulers, a third is given yardsticks, and a third is given pieces of string of varying lengths. Each group provides a “correct” measurement. The measurement provided by each group is accurate. Discuss the following:
    - Will the measurements be the same? *(No, because sections of the class used different units)*
    - Could we make all the measures the same if we converted them? *(Yes)*

16. Tell students that trying to convert yards to inches, inches to pieces of strings, and pieces of strings to yards would be somewhat complicated and involve time, which could be used to do something else. It would be simpler and much faster to measure the classroom using the same units. Discuss the following:
  - Thinking “entrepreneurially,” what is something you can suggest to address the classroom currency problem? *(Answers will vary but may include that the class move to one currency—possibly teacher bucks or dollars and cents.)*
  - Why does one classroom currency make sense for the classroom economy? *(Answers will vary but may include that having one currency with a standard unit accepted by everyone makes converting the value of something into units of another easier, which expands trading opportunities. Less time is spent figuring out the value of what others hold. This frees time for other uses.)*
17. Explain to students that like when trying to measure the classroom, trading items using different types of money and units is similarly difficult and confusing. To compare values accurately, items should be measured using the same units. **Unit of account** is a common measurement used to compare the value of goods and services.
18. Tell students that dollars are the unit of account in the U.S. They help us measure the value of goods and services, which allows us to trade more smoothly, find trading partners more easily, and trade at different locations with people we don’t know. Imagine how difficult it would be for anyone to buy food, a tank of gas, a smart device, Wi-Fi, or a game without dollars and cents.
19. Display slide 7. Instruct students to write the definition of unit of account on their copy of Handout 1, explain how the U.S. dollar serves as its unit of account, and illustrate how the U.S. dollar benefits society when transactions run more smoothly and the amount of trade per hour increases.
20. Ask students if they have any questions about money serving as a unit of account and provide answers before moving on to the next item.
21. Show students a bag of ice or a picture of one. Display slide 8 and discuss the following:
  - What is the purpose or function of ice? *(To keep things cold or help soothe an injury)*
  - Would you accept a bag of ice in trade for a good or service? *(Students will emphatically say no.) Why not? (Ice melts before it can be used again.)*
  - Explain that ice and similar objects are not useful items to serve as money because they do not hold value for use in the future, as ice melts so quickly.
22. Display slide 9 or hold up the dollar bill again. Discuss the following:
  - Could this dollar today be used tomorrow to make a purchase? *(Yes)* How about in a week? *(Yes)* A Year? *(Yes)*

23. Explain that money in a modern society holds its value in the future and can be saved. So, it serves as a **store of value**, which is the ability to retain worth. A dollar will still be valuable in a day, week, or year and used in future trades. (NOTE: Inflation or prices are held constant for illustration purposes.) Display slide 10 and discuss the following:
- Why might you want to use something that can store value for the future as money?  
(Answer will vary but may include that if it can hold value in the future, it can be saved, so you wouldn't have to spend all your money now.)
24. Tell students that using an object with a store of value as money allows you to save for the future. This means you could save up for a large purchase, retirement, or just a "rainy day" without fear that the money won't be accepted or useful (unlike the ice).
25. Instruct students to write the definition of store of value on their copy of Handout 1, provide an example of how U.S. dollars serve as a store of value, and explain how store of value benefits society. Call on a few students to share.
26. Tell students that today's modern money is **fiat money**. Define fiat money as a substance or device used as money that has no intrinsic value (no value of its own) or representational value (does not represent anything of value, such as gold). It is money because a government says it has value and because we, as members of society, accept it as a medium of exchange that serves as a unit of account and store of value. It facilitates the exchange of resources, goods, and services. There is no precious metal such as gold or silver backing it, and it has no value of its own.
27. State the functions of money again and discuss the following:
- Give a thumbs up or a thumbs down if you agree that U.S. fiat money serves each of the three functions of money—medium of exchange, unit of account, and store of value.  
(Students should display a thumbs up for all three.)
  - How are lives made easier in a country with common money, or where a single money is broadly accepted? (It is easier to buy things because cost is known in money terms. No one has to change or convert money before making a trade. No one has to barter or find someone who wants their item in exchange for another. Rather, everyone can use money to trade. If they want, they can save or hold onto money because it will be valuable in the future and can still be used for trade.)
  - How does society at large benefit from using common money? (More people can trade for more products. It is easier to know how much an item is being sold for. People in society are able to save for the future.)
28. Tell students that U.S. fiat money is used by billions of people in countries with their own currencies. Discuss the following:
- What are some other currencies you have used in your lives in gaming, at school or elsewhere?  
(Gaming or online currencies, school currencies, and other currencies exist; e.g., Minecraft or Animal Crossing have in-game currencies.)

- Can an in-game currency be used to freely make purchases within that game? (Yes) Can an in-game currency be used to make purchases at your local grocery store? (No)
    - Which function of money does an in-game currency not serve in this example? (*Medium of exchange*)
  - Can an in-game currency be placed in a college fund to use in the future? (No)
    - Which function of money does an in-game currency not serve in this example? (*Store of value*)
  - How can you measure the value of any good or service in terms of an in-game currency? (*You can't.*) What would you have to do to find this information? (*Convert currencies*)
    - Which function of money does an in-game currency not serve in this example? (*Unit of account*)
  - Why aren't in-game currencies generally accepted by workers as wages, by businesses as payment for goods and services, or by government as payment for taxes? (*Because in-game currencies are not widely accepted as a medium of exchange, accepting these currencies as payment means you would have a difficult time using them to make other purchases.*)
29. Explain to students that if a currency isn't accepted as payment for goods and services, cannot be easily converted, and cannot hold future use, then that currency makes trade difficult and costly for different individuals and groups; it limits overall trade progress. This means fewer gains from trade and fewer trade opportunities. Discuss the following:
- Do you think in-game currency is a good form of money for society? (*Answers will vary. Make sure students utilize the lesson vocabulary in supporting their answers.*)
  - Have you heard of Bitcoin or another cryptocurrency? (*Answers will vary.*) What is it? (*Students will likely struggle to provide a complete definition.*)
30. Display the *Visual: Cryptocurrency, Fiat Money, and Gaming Currency Compared* and read aloud with students.

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## Closure

31. Display a copy of *Handout 3: Bitcoin and the Functions of Money* and distribute one copy of the handout to each student. Work through it as a class, using the *Handout 3: Bitcoin and the Functions of Money—Answer Key* as a guide. Discuss the following:
- Why do societies use money? (*Money facilitates trade across large groups. It is all inclusive; everyone uses it. It makes trade quick and easy across large, diverse groups.*)



## Assessment

32. Distribute one copy of *Handout 4: Assessment* to each student. Instruct students to respond to the questions on the handout either individually or as a class. Answers are provided below.

### ***Handout 4: Assessment—Answer Key***

1. *Medium of exchange, store of value, unit of account: These functions make it easier to trade because there is a shared value measuring system, and they make it easier to find someone who will accept money in trade, compared with bartering.*
2. *SOURCE: Adejumo, O. "Issues Arise with NFL's Star Bitcoin Salary." Yahoo! January 26, 2022; <https://www.yahoo.com/video/issues-arise-nfl-star-bitcoin-163331473.html>.*
  - a. *On November 12, 2021, Beckham held 11.58 Bitcoins (= \$750,000/\$64,774)*
  - b. *Teachers can use <https://www.coindesk.com/calculator/>.*
  - c. *Answers will vary based on current conversion values; see <https://www.coindesk.com/calculator/>.*
  - d. *Answers will vary.*
  - e. *Stayed the same.*
  - f. *Regardless of the change in dollar value of Beckham's Bitcoin wallet, using Bitcoin to transact outside of the Bitcoin world is similar to the in-game currency world. Using cryptocurrency to trade involves many costs that are not part of the dollars-and-cents world. Compared with U.S. fiat money, Bitcoins are used by a relatively small community as a medium of exchange. Therefore, finding others willing to transact using them is difficult and costly. Cryptocurrencies swing wildly in value and, therefore, do not serve as store of future value. Plus, converters are required to determine the dollar equivalent of what is held in a digital wallet. This makes it difficult for cryptocurrencies to serve as a unit of account. At this point in time, cryptocurrency is not a form of money that parallels fiat money and, therefore, does not presently serve the broad needs of a commercial society.*



## **Visual: Cryptocurrency, Fiat Money, and Gaming Currency Compared**

Cryptocurrency (crypto) is a digital currency. It allows people to make transactions without banks or financial institutions. It is not regulated or insured by government.

Like fiat money:

- Crypto is money because the people using it say it is money.
- It has no precious metal or anything else backing it.

Unlike fiat money:

- Crypto has no government backing it as money or insuring its value.
- There is much volatility in its exchange rate, making its value difficult to predict.

Like gaming currency:

- Crypto is accepted by a relatively small community as a medium of exchange.

Unlike gaming currency:

- Crypto has market value outside of a game. The number of businesses transacting with cryptocurrency or the number of people holding it is small but growing.

## Handout 1: Note-Taking Sheet

**Fiat money** is money backed by the government and broadly accepted by the people in a country. The U.S. dollar is fiat money.

### Medium of exchange

Describe how money fills this function and helps diverse groups of people.

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### Unit of account

Describe how money fills this function and helps diverse groups of people.

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### Store of value

Describe how money fills this function and helps diverse groups of people prosper.

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**Notes:** \_\_\_\_\_  
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## Handout 1: Note-Taking Sheet—Answer Key

**Fiat money** is money backed by the government and broadly accepted by the people in a country. The U.S. dollar is fiat money.

### Medium of exchange

*Anything that is generally acceptable in exchange for goods and services.*

Describe how money fills this function and helps diverse groups of people.

*Money can be both given and accepted in exchange for goods and services. This allows more trade transactions for a greater variety of items to take place than when we barter.*

### Unit of account

*A common measurement used to compare the value of goods and services.*

Describe how money fills this function and helps diverse groups of people.

*Money allows us to compare the trade value of items using a common measure, which allows us to accurately compare value to determine if we want to trade.*

### Store of value

*The ability to retain worth.*

Describe how money fills this function and helps diverse groups of people prosper.

*Money can be used today or in the future for purchases. This allows people the option to save for the future.*

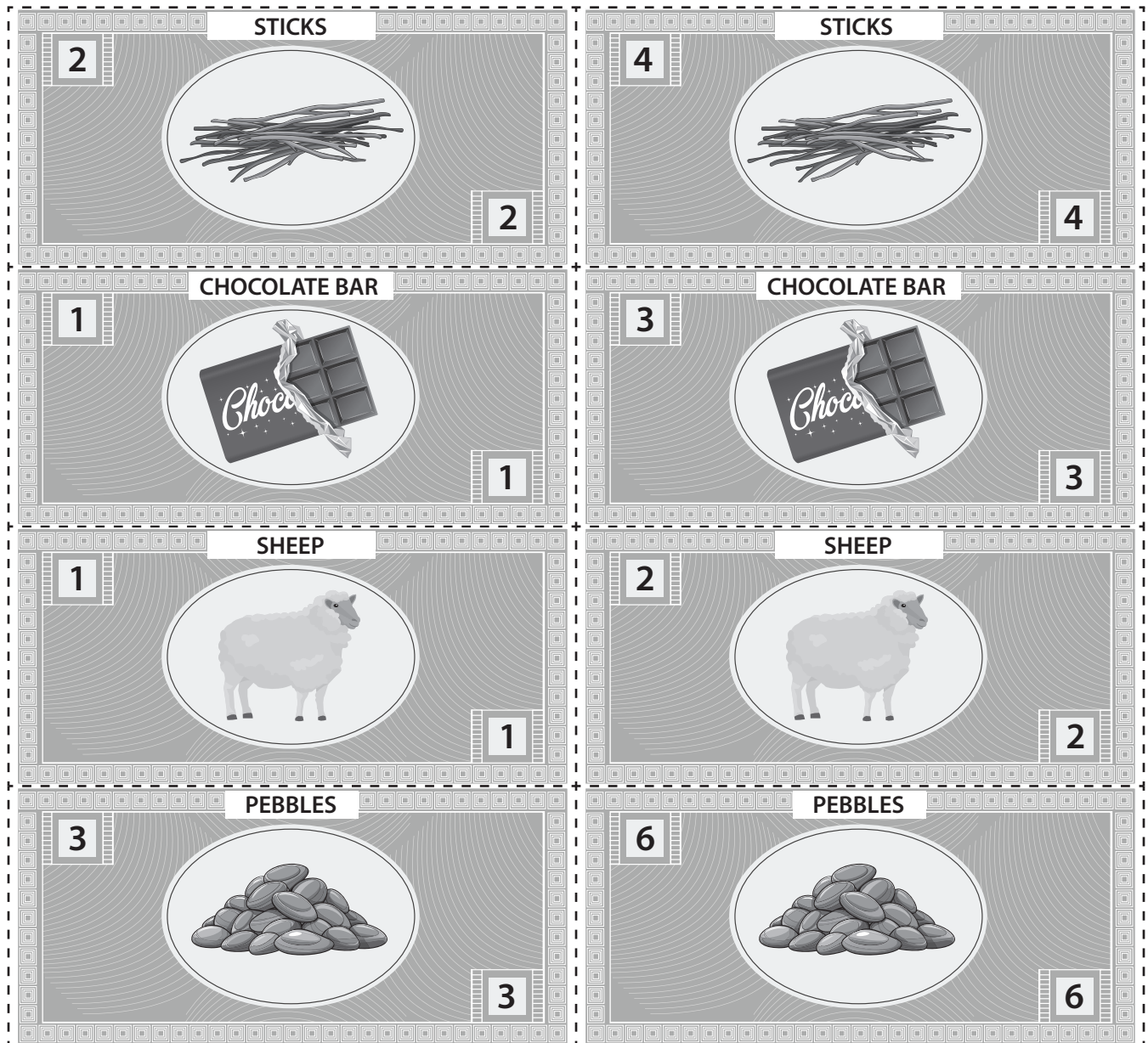
**Notes:** \_\_\_\_\_

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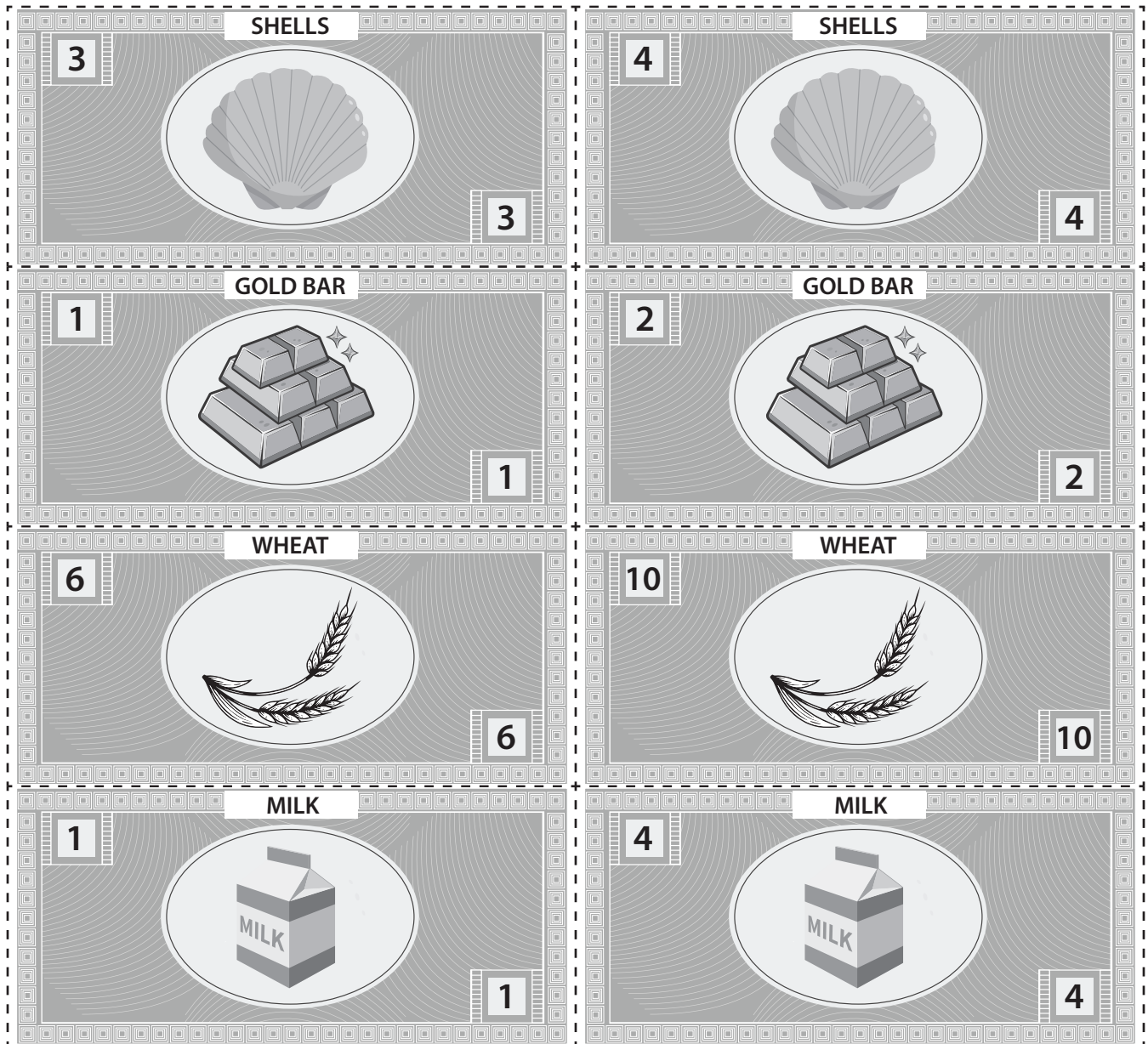
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## Handout 2: Classroom Currency (page 1 of 2)



## Handout 2: Classroom Currency (page 2 of 2)



## Handout 3: Bitcoin and the Functions of Money

### Compelling question: Why do societies use money?

Evaluate each item and determine if it serves in the following three functions across widely diverse populations in a society. State yes or no and back your answer with an explanation.

		Item	
		U.S. fiat money (U.S. paper money and coins)	Bitcoin (or another cryptocurrency)
Function	Unit of account		
	Medium of exchange		
	Store of value		
Based on your evaluation across these three areas, describe at least two benefits stemming from the use of each item as money.			
Based on your evaluation across these three areas, identify which of the two items provides the most diverse and inclusive benefits to society. Explain.			

## Handout 3: Bitcoin and the Functions of Money—Answer Key

### Compelling question: Why do societies use money?

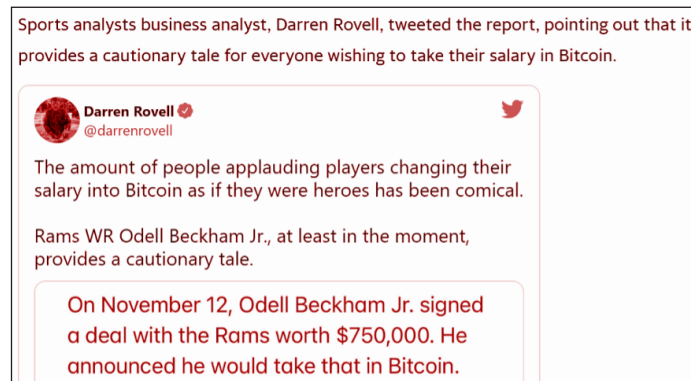
Evaluate each item and determine if it serves in the following three functions across widely diverse populations in a society. State yes or no and back your answer with an explanation.

		Item	
		U.S. fiat money (U.S. paper money and coins)  U.S. fiat money is money that the U.S. government deems legal tender. The central bank controls its supply. The general population accepts it as money, but it has no intrinsic value (no value of its own) or representational value (does not represent anything of value, such as gold).	Bitcoin (or another cryptocurrency)  Cryptocurrency is an emerging currency. It is digital money and is recorded, checked for authenticity, and made transparent in a peer-to-peer system of users. It allows people to make transactions around the world without banks or financial payment providers. It is not regulated or insured by the government.
Function	Unit of account	<i>Yes, U.S. fiat money is a common measurement used to compare the value of goods and services across the general population in the U.S.</i>	<i>No, Bitcoin is not a common measurement used to compare the value of goods and services across the general population in the U.S. It is very difficult to use Bitcoin as a unit of account.</i>
	Medium of exchange	<i>Yes, U.S. fiat money is generally acceptable in exchange for goods and services.</i>	<i>No, Bitcoin is not generally acceptable by most people in exchange for goods, services, or resources across markets.</i>
	Store of value	<i>Yes, U.S. fiat money has the ability to retain worth over time.</i>	<i>No, at present, Bitcoin does not have the ability to retain worth over time.</i>
Based on your evaluation across these three areas, describe at least two benefits stemming from the use of each item as money.		<i>Facilitates trade across large groups and is all inclusive Makes trade quick and easy across large, diverse groups</i>	<i>Provides new means to trade without government oversight but is not insured at any level by the government Innovative and creative means of trading with peers digitally but limited to a relatively small group</i>
Based on your evaluation across these three areas, identify which of the two items provides the most diverse and inclusive benefits to society. Explain.		<i>Fiat money consistently performs the three functions of money at a lower cost than Bitcoin; therefore, it provides society with the most benefits at the least costs to the most diverse groups.</i>	



## Handout 4: Assessment

1. Describe the three functions of fiat money and explain how this money benefits society.
2. On November 12, 2021, L.A. Rams wide receiver Beckham Jr. tweeted that he was accepting \$750,000 of his salary in Bitcoin (see screenshot below). At the close of the day on November 12, one Bitcoin was worth approximately \$64,774.



SOURCE: Adejumo, O. "Issues Arise with NFL's Star Bitcoin Salary." *Yahoo!* January 26, 2022; <https://www.yahoo.com/video/issues-arise-nfl-star-bitcoin-163331473.html>.

- a. Assume Beckham received his full Bitcoin payment on November 12, 2021. Determine how many Bitcoins Beckham received in his digital wallet on this day. (A digital wallet is where people keep their cryptos.) \_\_\_\_\_
- b. Search online to determine today's price of one Bitcoin in U.S. dollars. \_\_\_\_\_
- c. Using the current price of Bitcoin identified in the previous answer, determine today's dollar value of 11.58 Bitcoins. \_\_\_\_\_
- d. Identify the change in the U.S. dollar value of Beckham's Bitcoin holdings between November 12, 2021, and today.  
**Circle one:**      Increased                      Decreased                      Stayed the same
- e. Do the same for \$750,000. That is, if someone was paid \$750,000 on November 12, 2021, and simply held onto it, then its market worth today is \$750,000. Identify the change in the U.S. dollar value of the \$750,000 between November 12, 2021, and today. (This is not a trick question.)  
**Circle one:**      Increased                      Decreased                      Stayed the same
- f. Use the three functions of money to explain why Bitcoin is not a good form of money.

## Standards and Benchmarks

### Voluntary National Content Standards in Economics

#### Standard 11: Money and Inflation

- **Benchmarks: Grade 4**
  1. Money is anything widely accepted as final payment for goods and services.
  2. Money (currency, coins, or checks) makes trading easier by replacing barter.
- **Benchmarks: Grade 8**
  1. As a store of value, money makes it easier for people to save and defer consumption until the future.
  2. As a unit of account, money is used to compare the market value of different goods and services.
  3. Money encourages specialization by decreasing the costs of exchange.