STUDENT FIRST & LAST NAME:_____

SCHOOL:_____ **GRADE:**_____ **ID# / LUNCH#**_____

Christina School District Assignment Board

Grade Level: 2

Week 10 (6.8.20)

	Day 1	Day 2	Day 3	Day 4	Day 5
ELA	Good readers compare and contrast to think about how details in a text are similar and different. Read *Inventions Then and Now.*	Read *Inventions Then and Now* again to increase fluency. Answer questions 1-3.	Read *Inventions Then and Now* again to increase fluency. Answer questions 4-6.	Read the Word Study sheet. Use the words to write your own sentences.	Proper nouns are the names of particular people, places, and things. They always begin with a capital letter. Circle the proper nouns you find in *Inventions Then and Now*.
Math	**More Story Problems Pages 1 & 2** *Please complete the attached activity titled More Story Problems pages 1 and 2*	**Fact Strategy Practice Pages 1 & 2** *Please complete the attached activity titled Fact Strategy Practice pages 1 and 2*	**Tens, Dollars, & Quarters Pages 1 & 2** *Please complete the attached activity titled Tens, Dollars, and Quarters Pages 1 & 2*	**How Many Tennis Balls? Pages 1 & 2** *Please complete the attached activity titled How Many Tennis Balls? Pages 1 and 2*	**Cubes & Tens Pages 1 & 2** *Please complete the attached activity titled Cubes & Tens pages 1 and 2*
Science	**Seed Dispersal Activity (part 1):** Follow the directions on the attached handouts to create the “Glider Seed Pod”. With a grown-up’s permission, have a family member stand on a chair to be a “tree”. The “tree” will drop the glider seeds, trying to avoid the “Zone of Darkness” (create this	**Seed Dispersal Activity (part 2):** Follow the directions on the attached handouts to create the “Rotocopter Seed Pod”. With a grown-up’s permission, have a family member stand on a chair to be a “tree”. The “tree” will drop each of the types of seeds, trying to avoid the “Zone of Darkness” (create this zone with dark paper or	**Seed Dispersal Activity (part 3):** Follow the directions on the attached handouts to create the “Spinner Seed Pod”. With a grown-up’s permission, have a family member stand on a chair to be a “tree”. The “tree” will drop each of the types of seeds, trying to avoid the “Zone of Darkness” (create this zone with dark paper or towels or fabric	**Seed Dispersal Questions:** Think about what you have learned for the past few weeks about seeds and how they travel. Write your best answers to the following: a) Why is it good for a seed to land away from a tree? b) Why do so many coconut trees grow near	**Woolly Sock Walk Activity:** Burrs are seeds that travel by hitching a ride on an animal’s fur or a person’s socks. If you have a weedy area near you, you can discover what hitchhiking seeds live in your area by going on a woolly sock walk. (This activity works best later in the summer or

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<table>
<tr>
<td></td>
<td>zone with dark paper or towels or fabric on the floor under where the “tree” branches might be). You don’t want the seed to fall into this zone, otherwise, it might not have enough sunlight to be able to grow. After investigating with the glider seed pods, write your best answers to the following:
Did the glider seed pods successfully avoid the Zone of Darkness? How did the seed flyer’s structure (shape) help them disperse? What is missing indoors, but could have affected your results if you did this activity outside?</td>
<td>towels or fabric on the floor under where the “tree” branches might be). You don’t want the seed to fall into this zone, otherwise, it might not have enough sunlight to be able to grow. After investigating with the rotocopter seed pods, write your best answers to the following:
Did the rotocopter seed pods successfully avoid the Zone of Darkness? How did the seed flyer’s structure (shape) help them disperse? What is missing indoors, but could have affected your results if you did this activity outside?</td>
<td>on the floor under where the “tree” branches might be). You don’t want the seed to fall into this zone, otherwise, it might not have enough sunlight to be able to grow. After investigating with the spinner seed pods, write your best answers to the following:
Did the spinner seed pods successfully avoid the Zone of Darkness? How did the seed flyer’s structure (shape) help them disperse? What is missing indoors, but could have affected your results if you did this activity outside?</td>
<td>the ocean?
c) How do birds help plants grow in new places?
d) Try to fill in as many blanks as you can below:
<table>
<tr><th>Ways seeds can travel:</th><th>Example of a seed that uses this way:</th></tr>
<tr><td>By _____ __</td><td>maple tree seed, _____ ____</td></tr>
<tr><td>By _____ __</td><td>_____ ____</td></tr>
<tr><td>By animals</td><td>_____ ____</td></tr>
</table>
</td>
<td>early in the fall, so you can save it for another time, if you choose)
Wear a woolly sock that is big enough to wear over your shoe. Go for a walk through the weeds (make sure you are careful to watch out for poison ivy!). After your walk, pull of the seeds that you collected on your socks and figure out how the seeds stuck to the socks. You can even plant the seeds and see what plants grow! Enjoy!</td>
</tr>
<tr>
<td>Social Studies</td>
<td>Complete Activity 1 from the document titled, “Money! & It’s Characteristics”</td>
<td>Complete Activity 2 from the document titled, “Money! & It’s Characteristics”</td>
<td>Complete Activity 3 from the document titled, “Money! & It’s Characteristics”</td>
<td>Complete Activity 4 from the document titled, “Money! & It’s Characteristics”</td>
<td>Complete Activity 5 from the document titled, “Money! & It’s Characteristics”</td>
</tr>
</table>

Inventions: Then and Now

Inventions solve problems and help make our lives easier. The Wright brothers invented the first airplane in 1903. The first flight traveled about half the length of a football field and lasted 12 seconds. Today's airplanes can travel long distances. Look at the ways that some inventions have changed over the years.

Discover how some inventions have changed over time.

Telephone

Then

Alexander Graham Bell invented the telephone in 1876. The first phone had

a trumpet-shaped part that was used to speak and to listen.

Now

Many people carry small cell phones. They have no wires, unlike earlier phones. Cell phones let people talk all over the world.

Calculator

Then

The first calculator was invented in Asia nearly 500 years ago. People moved beads on a wooden rack to help them count.

Now

Calculators come in many shapes and sizes. They can even be part of other inventions, including computers, watches, and cell phones.

Television

Then

Television became popular in the 1950s. The first TVs did not have a remote control. The screens showed pictures in black and white, and the sound was poor.

Now

Many modern TVs have flat screens. Some can be hung on a wall. Today's televisions have very clear, colored pictures, and excellent sound.

Clock

Then

Long ago, people kept track of time by recording the movement of the sun across the sky. The first clock was called a sundial.

Now

Clocks keep time for us. With a quick glance at a clock or watch, we know the time of day. What time is it now?

Name: _____ **Date:** _____

1. According to the passage, what is the purpose of inventions?

2. How has the telephone changed since it was invented?

3. Compare and contrast the television invented in the 1950s with the televisions many people watch today. How are these two TVs similar and how are they different?

4. What is the main idea of this passage?

5. The question below is an incomplete sentence. Choose the word that best completes the sentence.

Nowadays calculators are often found on computers and cell phones, _____ the first calculator was a wooden rack with beads.

A. but

B. because

C. so

6. Which person is NOT glancing at something?

Word Study Warm Up (1 minute)

The long o sound is sometimes spelled *oa* or *ow*.
The long e sound is sometimes spelled *ee* or *ea*.

seated	speed	seen
clean	groan	roast
crow	owe	grown

High Frequency Words (1 minute)

almost	door	from
money	pushed	remember
sometimes	together	years

Fluency sentences (1-2 minutes)

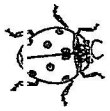
1. Stay seated and keep the door closed.
2. A cheetah runs at a speed of almost 70 miles per hour.
3. Have you seen my money?
4. Sometimes it doesn't take long to clean my room.
5. I heard a loud groan from my brother when he was pushed.
6. I remember it took a long time to roast the potatoes.
7. The crow and squirrel were in the tree together.
8. I owe you lunch for the next two years!
9. It seems like you have grown overnight!

NAME | DATE

More Story Problems page 1 of 2

A story problem gives you some facts and asks a question. For each problem:

- Underline the facts.
- Put a box around the question.
- Solve the problem and show your work.
- Write the answer on the line.



ex There were 7 ladybugs on the leaf. Then 6 more landed on the leaf. How many ladybugs in all?

$$7 + 6 = 13$$

There were 13 ladybugs in all.

1 There were 10 ladybugs sitting on a leaf. A bird came and chased 4 of them away. How many ladybugs were left?

_____ ladybugs were left.

2 There are 4 ladybugs on the leaf. How many legs in all? (Ladybugs have 6 legs.)

There are _____ legs in all.

(continued on next page)

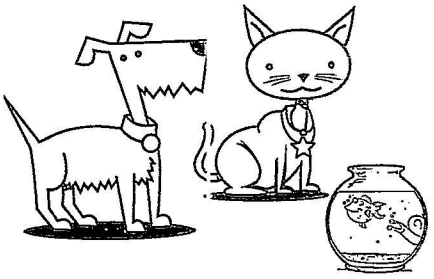
NAME | DATE

More Story Problems page 2 of 2

3 There were 5 ladybugs on a leaf. Some more ladybugs came. Then there were 12 ladybugs on the leaf. How many ladybugs came?

_____ ladybugs came.

4 Mark has 3 dogs, 5 cats, and 8 fish. How many pets does he have in all? Show your work.



Mark has _____ pets in all.

5 **CHALLENGE** Here are two clues.

- Carly has 2 more nickels than dimes in her pocket.
- She has 40 cents.

How many nickels does Carly have? How many dimes does Carly have? Show your work.

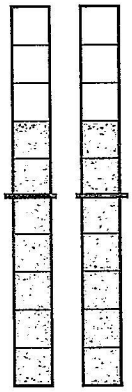
Carly has _____ nickels. Carly has _____ dimes.

NAME | DATE

Fact Strategy Practice page 1 of 2

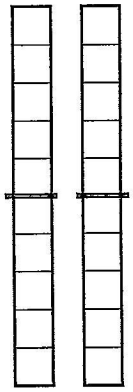
1 Color the ten-strips to match each addition problem. Write the answer.

ex



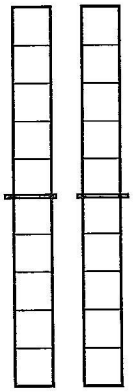
$$\begin{array}{r} 7 \\ +\,7 \\ \hline 14 \end{array}$$

a



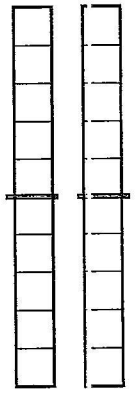
$$\begin{array}{r} 7 \\ +\,8 \\ \hline \end{array}$$

b



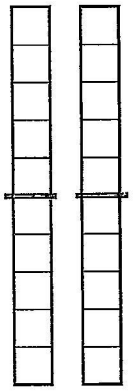
$$\begin{array}{r} 6 \\ +\,6 \\ \hline \end{array}$$

c



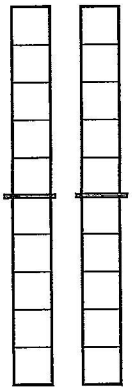
$$\begin{array}{r} 6 \\ +\,7 \\ \hline \end{array}$$

d



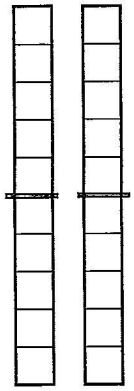
$$\begin{array}{r} 8 \\ +\,8 \\ \hline \end{array}$$

e



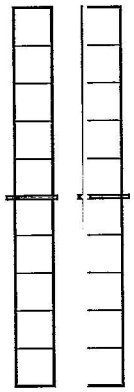
$$\begin{array}{r} 9 \\ +\,8 \\ \hline \end{array}$$

f



$$\begin{array}{r} 9 \\ +\,9 \\ \hline \end{array}$$

g



$$\begin{array}{r} 10 \\ +\,9 \\ \hline \end{array}$$

2 Find each difference.

$$\begin{array}{r} 10 \\ -\,5 \\ \hline \end{array} \qquad \begin{array}{r} 11 \\ -\,5 \\ \hline \end{array} \qquad \begin{array}{r} 8 \\ -\,4 \\ \hline \end{array} \qquad \begin{array}{r} 9 \\ -\,4 \\ \hline \end{array} \qquad \begin{array}{r} 6 \\ -\,3 \\ \hline \end{array} \qquad \begin{array}{r} 7 \\ -\,3 \\ \hline \end{array} \qquad \begin{array}{r} 4 \\ -\,2 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ -\,7 \\ \hline \end{array} \qquad \begin{array}{r} 15 \\ -\,7 \\ \hline \end{array} \qquad \begin{array}{r} 12 \\ -\,6 \\ \hline \end{array} \qquad \begin{array}{r} 13 \\ -\,6 \\ \hline \end{array} \qquad \begin{array}{r} 16 \\ -\,8 \\ \hline \end{array} \qquad \begin{array}{r} 17 \\ -\,8 \\ \hline \end{array} \qquad \begin{array}{r} 18 \\ -\,9 \\ \hline \end{array}$$

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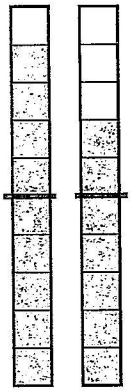
Fact Strategy Practice page 2 of 2

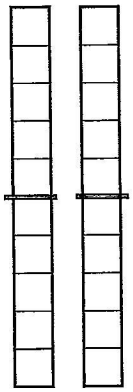
3 Color the ten-strips to match each addition problem. Write the answer.

ex



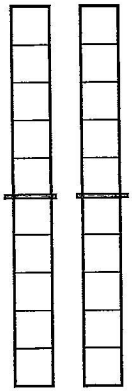
$$\begin{array}{r} 9 \\ +\,7 \\ \hline 16 \end{array}$$

a



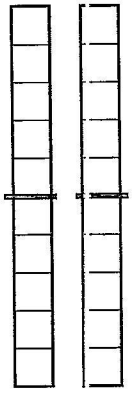
$$\begin{array}{r} 9 \\ +\,3 \\ \hline \end{array}$$

b



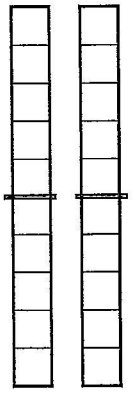
$$\begin{array}{r} 6 \\ +\,9 \\ \hline \end{array}$$

c



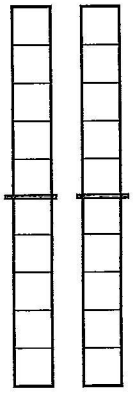
$$\begin{array}{r} 10 \\ +\,8 \\ \hline \end{array}$$

d



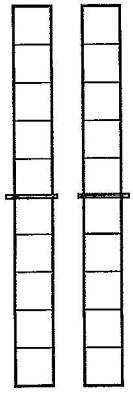
$$\begin{array}{r} 9 \\ +\,5 \\ \hline \end{array}$$

e



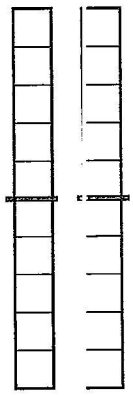
$$\begin{array}{r} 4 \\ +\,9 \\ \hline \end{array}$$

f



$$\begin{array}{r} 9 \\ +\,8 \\ \hline \end{array}$$

g



$$\begin{array}{r} 10 \\ +\,7 \\ \hline \end{array}$$

4 Find each difference.

$\begin{array}{r} 16 \\ -\,10 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ -\,9 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ -\,10 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ -\,9 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ -\,10 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ -\,9 \\ \hline \end{array}$	$\begin{array}{r} 18 \\ -\,10 \\ \hline \end{array}$
$\begin{array}{r} 18 \\ -\,9 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ -\,10 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ -\,9 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ -\,10 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ -\,9 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ -\,10 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ -\,9 \\ \hline \end{array}$

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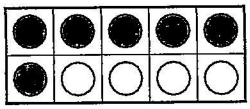
Tens, Dollars & Quarters page 1 of 2

1 Circle the two numbers in each box that add up to 10.

ex		a		b		c	
(9)	3	5	4	7	2	2	8
5	(1)	6	2	3	0	5	3

2 Write two addition equations and two subtraction equations to match each ten-frame.

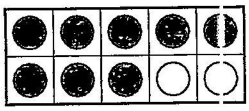
ex



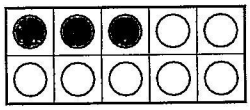
6 + 4 = 10 10 − 4 = 6

4 + 6 = 10 10 − 6 = 4

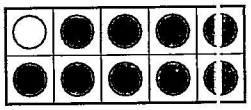
a



b



c



3 Find each difference.

10	10	10	10	10	10	10
− 7	− 5	− 6	− 3	− 4	− 9	− 2

4 Fill in the missing numbers.

3 + _____ = 10 _____ + 5 = 10 4 + 6 = _____ 9 + _____ = 10

10 = 7 + _____ 10 = 8 + _____ 6 + _____ = 10 1 + 4 + 5 = _____

(continued on next page)

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Tens, Dollars & Quarters page 2 of 2

5 Jana has 7 dollars. How many more dollars does she need to have 14 dollars in all? Show your work.

Jana needs _____ dollars.

6 **CHALLENGE** Timmy has 7 dollars. How many more quarters does he need to have 12 dollars in all? Show your work.

Timmy needs _____ more quarters.

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How Many Tennis Balls? page 1 of 2

There are 10 tennis balls in each bucket. Count by 10s and 1s to find out how many tennis balls there are in each row. Then tell how many more or how many fewer it would take to make the number at the end of the row. You can use the grids at the bottom of each page to help.

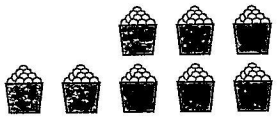
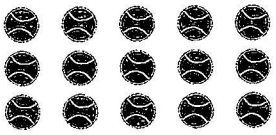
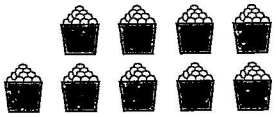
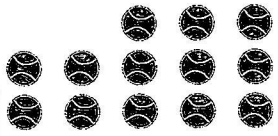
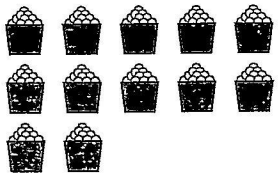
Buckets (10 each)	Extra Balls	Total	More or Fewer
1		34	How many more to make 40?
2			How many fewer to make 20?
3			How many more to make 50?
4			How many fewer to make 50?
5			How many fewer to make 10?

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130

(continued on next page)

NAME | DATE

How Many Tennis Balls page 2 of 2

Buckets (10 each)	Extra Balls	Total	More or Fewer
6 			How many fewer to make 80?
7 			How many more to make 60?
8 			How many fewer to make 100?
9 			How many more to make 125?

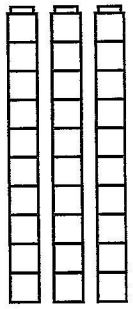
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130

NAME | DATE

Cubes & Tens page 1 of 2

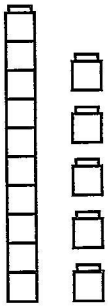
1 Write a number to show how many tens and ones are in each box below.

ex



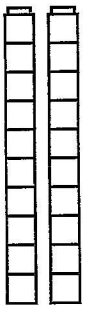
Tens	Ones
3	0

a



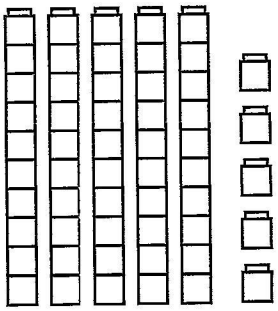
Tens	Ones

b



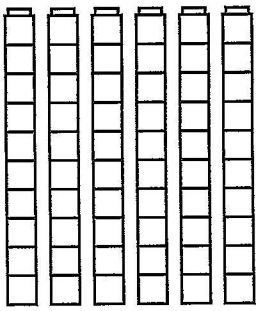
Tens	Ones

c



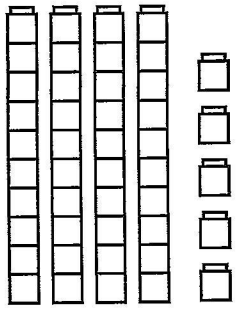
Tens	Ones

d



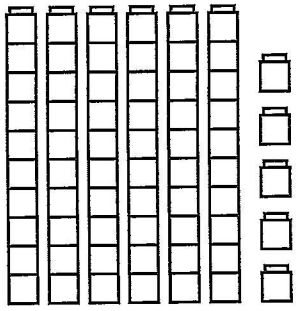
Tens	Ones

e



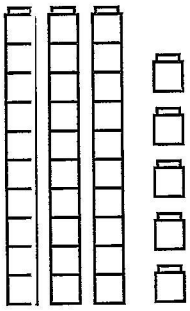
Tens	Ones

f



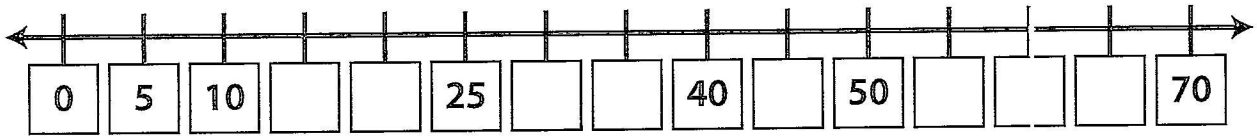
Tens	Ones

g



Tens	Ones

2 Fill in the missing numbers on the number line below.



3 Find each sum.

20	10	30	40	50	15	25
+ 10	+ 5	+ 8	+ 6	+ 10	+ 5	+ 5

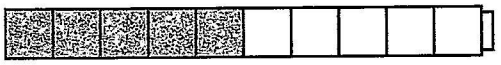
(continued on next page)

NAME _____ DATE _____

Cubes & Tens page 2 of 2

4 Write an equation to match each cube train.

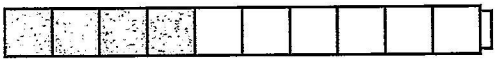
ex



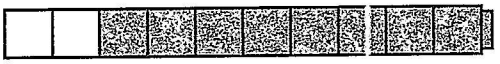
5 + 5 = 10

a

b



c

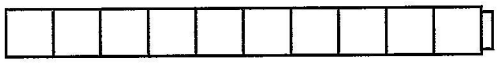


5 Color in the cube train to match the equation.

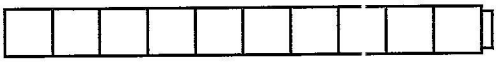
ex 6 + 4 = 10

a 8 + 2 = 10

b 3 + 7 = 10



c 1 + 2 + 3 + 4 = 10



6 Find each difference.

10 – 0 = _____ 10 – 3 = _____ 10 – 9 = _____ 10 – 2 = _____

10 – 4 = _____ 10 – 1 = _____ 10 – 5 = _____ 10 – 8 = _____

9 – 4 = _____ 10 – 6 = _____ 10 – 7 = _____ 10 – 10 = _____

7 Fill in the missing numbers.

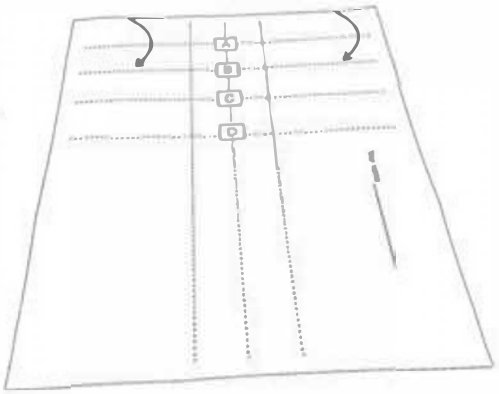
5 + _____ = 10 _____ + 7 = 10 10 = 6 + _____ 10 = 1 + _____

Glider Seed Pod - Directions

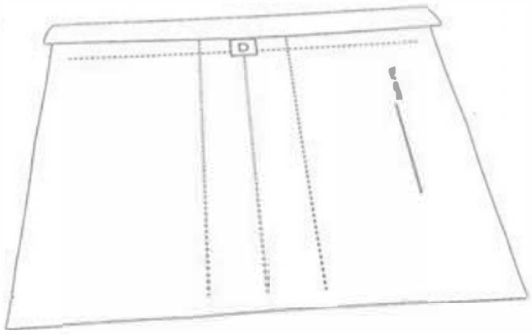
This seed pod flies through the air, like the amazing seed of the Javan cucumber.

Here's what you do:

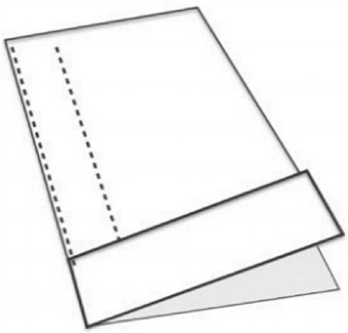
1. Write your name on your Glider, then fold the top of the paper down so it lines up with dotted line B. Run your fingernail over the fold to make a sharp crease.



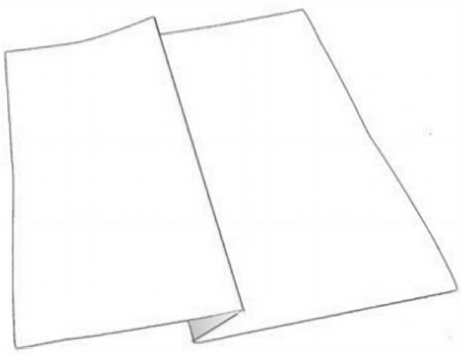
2. Repeat step 1 two times, folding down to line up with dotted line C, and then dotted line D. Your paper will look like this.



3. Flip the paper over so the folded part is on the bottom. Then fold the paper in half like this.

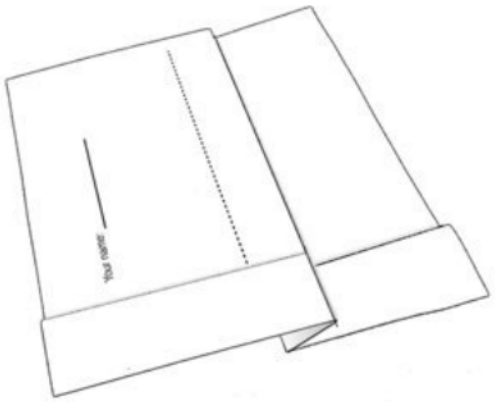


4. Fold on the dotted line to make one wing.

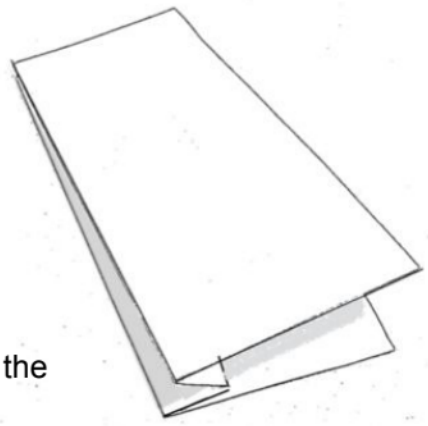


Glider Seed Pod Directions

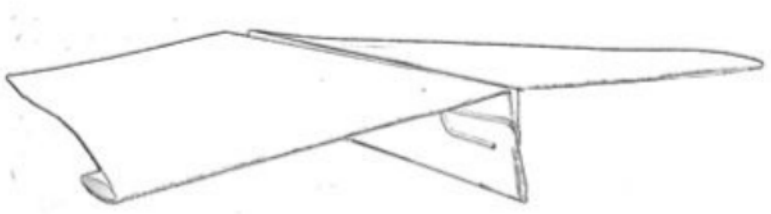
5. Turn the paper over. It will look like this:



6. Fold on the other dotted line to make another wing.



7. Spread the wings to the sides and slide the paper clip onto the folded part of the Glider, so it looks like this.



8. Your Glider is ready to fly. Hold it with the paper clip pointing to the side and drop it.

9. Does dropping the Glider with the paper clip pointing to the side change the way it falls? How about dropping it with the paper clip pointing up? Figure out which way you want to drop the Glider when you are trying to avoid the Zone of Darkness.

Rotocopter Seed Pod - Directions

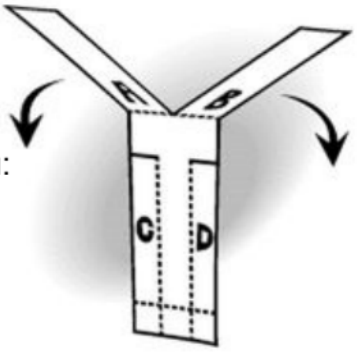
This seed pod spins through the air. It's a little bit like a maple seed.

Here's what you do:

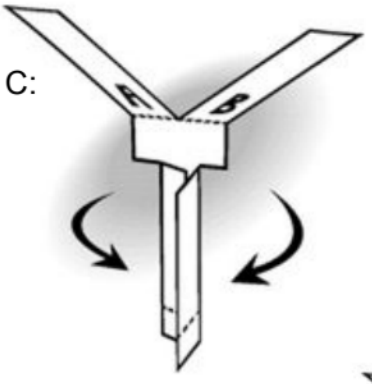
1. Write your name on your Rotocopter. When your seed flies away, you'll want to be able to find it again.

2. Cut along the solid lines of your Rotocopter pattern.

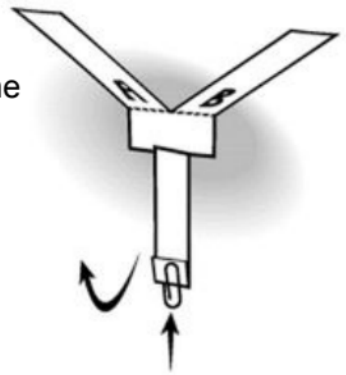
3. Fold on the dotted lines. Fold A toward you and fold B away from you:



4. Fold C toward you. Then fold D on top of C:



5. Fold the bottom up and slide the paper clip on. The paper clip is the seed in this seed pod.



6. Now your Rotocopter is ready to fly. Hold it with the paper clip pointing down and drop it.

7. Does dropping the Rotocopter with the paper clip pointing sideways change the way it falls? How about dropping it with the paper clip nose pointing up? Figure out which way you want to drop the Rotocopter when you are trying to avoid the Zone of Darkness.

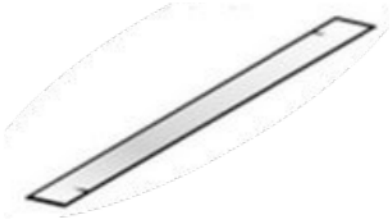
Spinner Seed Pod - Directions

This seed pod spins through the air as it falls, just like the seeds of a Tree of Heaven.

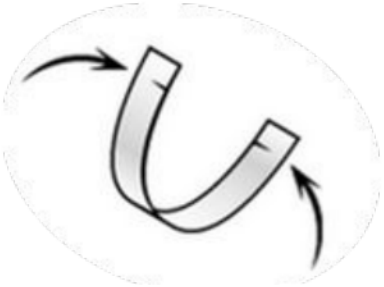
Here's what you do:

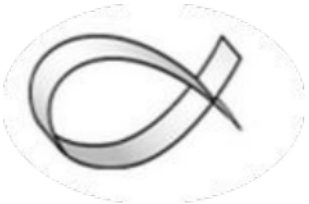
1. Write your name on the Spinner.

2. Cut along the solid lines of your Spinner pattern to make a strip that looks like this:



3. Slip the slot at one end into the slot at the other end. You'll make something that looks like a little fish, with the seed at the nose of the fish.





4. Your Spinner is ready to fly. Hold it sideways and drop it to watch it spin to the floor.

5. Does dropping the Spinner with its nose pointing down change the way it falls? How about dropping it with its nose pointing up? Figure out which way you want to drop the Spinner when you are trying to avoid the Zone of Darkness.

Your name:_____

Glider Seed Pod

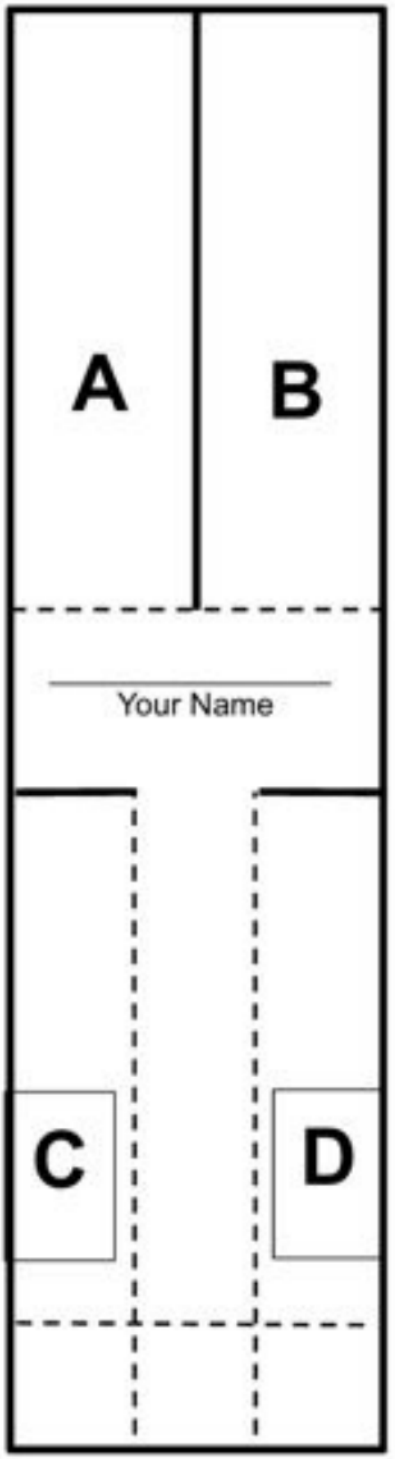
D

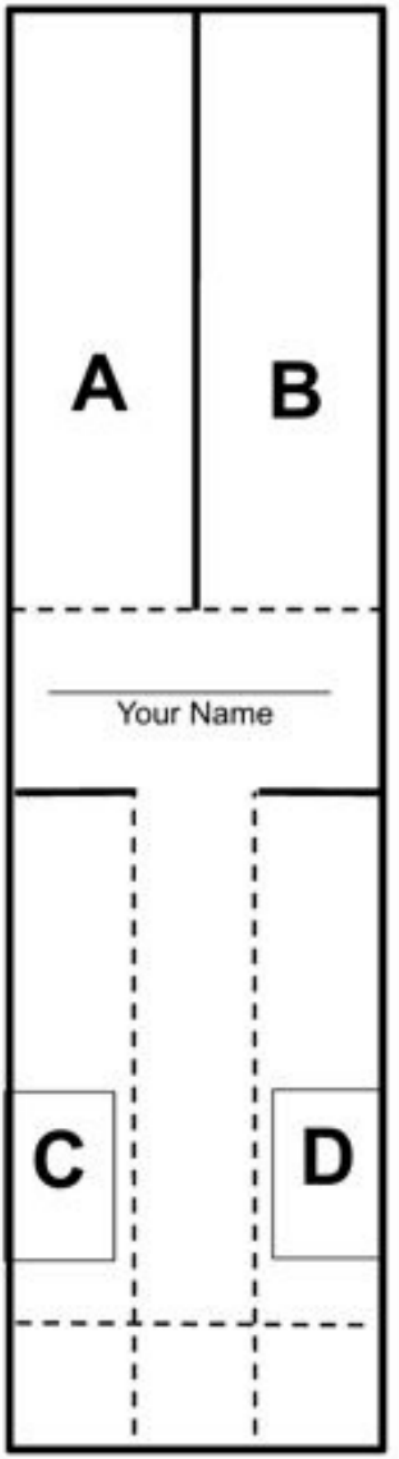
C

B

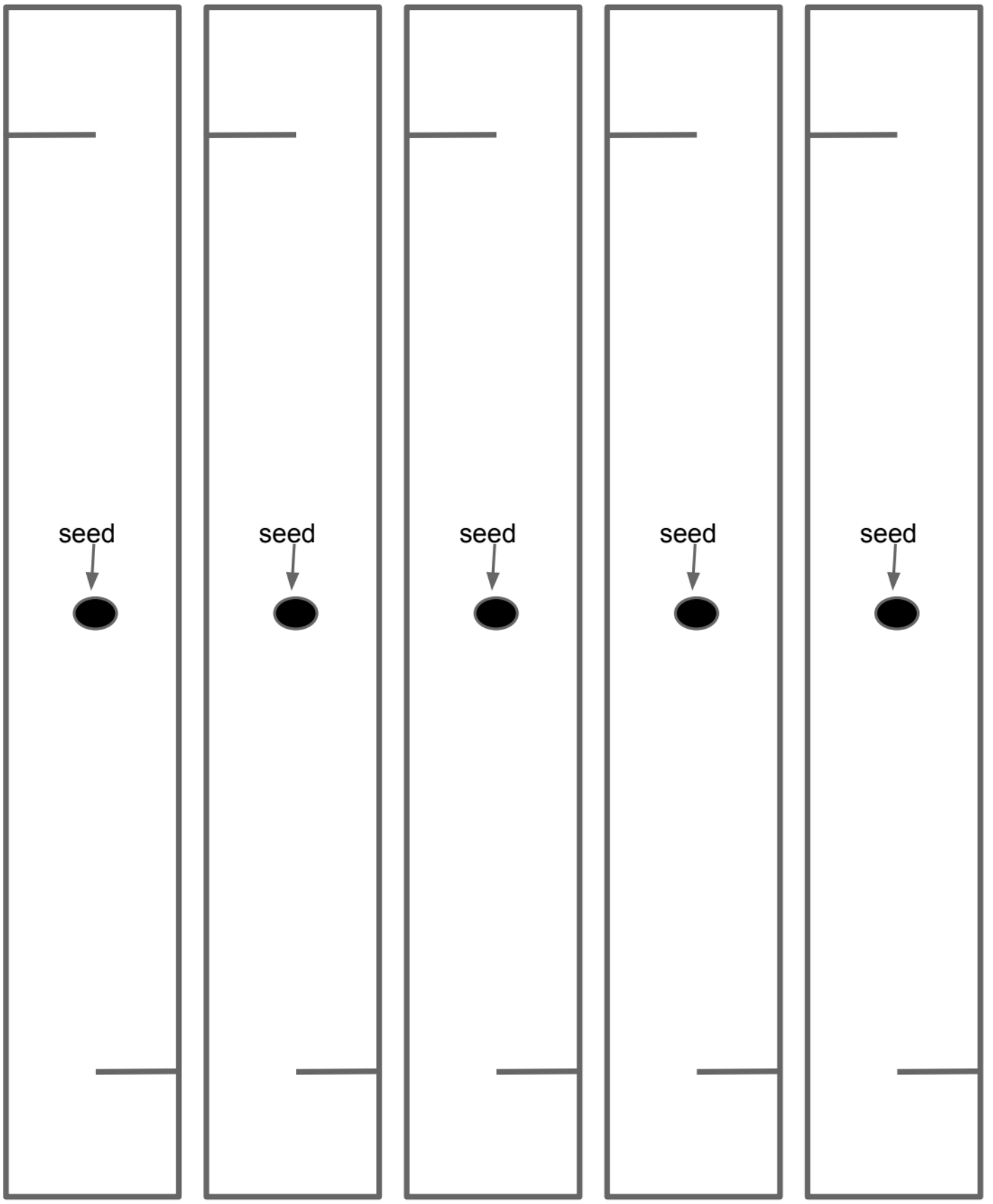
A

Rotocopter Seed Pod (includes one extra)





Spinner Seed Pod (includes four extras)



Money! & it's Characteristics

Standard Benchmark	Economic Standard 2a: Students will understand how barter, money, and other media are employed to facilitate the exchange of resources, goods, and services.
Grade Band	K-3 for Grades 2-3
Vocabulary/ Key Concepts	Money: anything widely accepted in exchange for goods and services. Characteristics of Money: acceptable, divisible, durable, uniform, scarce, portable

What is money? Money is anything that is widely accepted in exchange for goods and services. Throughout history many goods such as beads, shells, nails, and cocoa beans have been used as money. Some worked better than others. What makes something useful as money?

Activity 1: Answer the questions with the information from the video or from the transcript of the video (found at the end of this document).

Watch the video, "What Makes Something Useful as Money?"
https://www.stlouisfed.org/education/exploring-economics-video-series/episode-3-what-makes-something-useful-as-money ***(Transcript is at the end of this document)***

1. Why couldn't Tyrone use his shells to buy a new bike, video game, or chocolate candy bar?_____

_____

_____

2. Name at least two characteristics of money._____

_____

_____

3. You rake leaves for your grandmother. She wants to pay you with dried fish. Would you accept dried fish? _____

Explain your answer. _____

_____

Activity 2

Match each characteristic of money with the correct definition.

___ 1. Portable

___ 2. Durable

___3. Acceptable

___ 4. Divisible

___ 5. Uniform

___ 6. Scarce

A. There is a limited amount available.

B. Easy to carry around, not too heavy, not too big

C. The same size and shape.

D. People will take it in payment for things you want.

E. Easily divided into smaller amounts

F. Can last a long time and stay in good condition

Activity 3:

Playing Cards

Rai Stones

Fur Pelts

Cattle

Playing cards, Rai stones, fur pelts, and cattle have been used as money in the past. Pick one. Circle the picture. Does it meet the characteristics that make something useful as money? Place a check mark next to each characteristic that would make your choice a useful form of money.

_____ scarce _____durable _____acceptable

_____uniform _____ portable _____divisible

Activity 4:

Draw a picture of your own money! What will you include? Look at the characteristics listed in Activity 2 or Activity 3. Make sure your money meets the 6 characteristics that make something useful as money. When you are done, share your image with someone and explain how your money meets the 6 characteristics of money.

Activity 5

Challenge Question

In 2008 people in Argentina could not find enough coins to pay for goods and services like a bus ticket or to make change. They began using candy as money.

Is candy a useful form of money? _____ Explain your answer using what you have learned about the characteristics of money.

_____

_____

_____

_____

_____

_____

_____

Transcript from: https://www.stlouisfed.org/education/economic-lowdown-podcast-series/episode-9-functions-of-money

Today I'm talking about money.

Money is something that people use every day. We earn it and spend it but don't often think much about it. Economists define money as any good that is widely accepted as final payment for goods and services. Money has taken different forms through the ages; examples include cowry shells in Africa, large stone wheels on the Pacific island of Yap, and strings of beads called wampum used by

Native Americans and early American settlers. What do these forms of money have in common? They share the three functions of money:

- First: Money is a store of value. If I work today and earn 25 dollars, I can hold on to the money before I spend it because it will hold its value until tomorrow, next week, or even next year. In fact, holding money is a more effective way of storing value than holding other items of value such as corn, which might rot. Although it is an efficient store of value, money is not a perfect store of value. Inflation slowly erodes the purchasing power of money over time.
- Second: Money is a unit of account. You can think of money as a yardstick-the device we use to measure value in economic transactions. If you are shopping for a new computer, the price could be quoted in terms of t-shirts, bicycles, or corn. So, for instance, your new computer might cost you 100 to 150 bushels of corn at today's prices, but you would find it most helpful if the price were set in terms of money because it is a common measure of value across the economy.
- Third: Money is a medium of exchange. This means that money is widely accepted as a method of payment. When I go to the grocery store, I am confident that the cashier will accept my payment of money. In fact, U.S. paper money carries this statement: "This note is legal tender for all debts, public and private." This means that the U.S. government protects my right to pay with U.S. dollars.

In order to appreciate the conveniences that money brings to an economy, think about life without it. Imagine I am a musician-a bassoonist in an orchestra-who has a car that needs to be repaired. In a world without money, I would need to barter for car repair. In fact, I would need to find a coincidence of wants-the unlikely case that two people each have something that the other wants at the right time and place to make an exchange. In other words, I would need to find a mechanic who would be willing to exchange car repairs for a private bassoon concert by 9 AM tomorrow so I can drive to my next orchestra rehearsal. In an economy where people have very specialized skills, this kind of exchange would take an incredible amount of time and effort; in fact, it might be nearly impossible. Money reduces the cost of this transaction because, while it might be very difficult to find a mechanic who would exchange car repairs for bassoon concerts, it is not hard to find one who would exchange car repairs for money. In fact, without money, every transaction would require me to find producers who would exchange their goods and services for bassoon performances. In a money-based economy, I can sell my services as a bassoon player in an orchestra to those who are willing to pay for orchestra concerts with money. Then, I can take the money I earn and pay for a variety of goods and services.

Economists say that the invention of money belongs in the same category as the great inventions of ancient times, such as the wheel and the inclined plane, but how did money develop? Early forms of money were often commodity money-money that had value because it was made of a substance that had value. Examples of commodity money are gold and silver coins. Gold coins were valuable because they could be used in exchange for other goods or services, but also because the gold itself was valued and had other uses. Commodity money gave way to the next stage-representative money.

Representative money is a certificate or token that can be exchanged for the underlying commodity. For example, instead of carrying the gold commodity money with you, the gold might have been kept in a bank vault and you might carry a paper certificate that represents-or was "backed"-by the gold in the vault. It was understood that the certificate could be redeemed for gold at any time. Also, the certificate was easier and safer to carry than the actual gold. Over time people grew to trust the paper certificates as much as the gold. Representative money led to the use of fiat money-the type used in modern economies today.

Fiat money is money that does not have intrinsic value and does not represent an asset in a vault somewhere. Its value comes from being declared "legal tender"-an acceptable form of payment-by the government of the issuing country. In this case, we accept the value of the money because the government says it has value and other people value it enough to accept it as payment. For example, I accept U.S. dollars as income because I'm confident I will be able to exchange the dollars for goods and services at local stores. Because I know others will accept it, I am comfortable accepting it. U.S. currency is fiat money. It is not a commodity with its own great value and it does not represent gold-or any other valuable commodity-held in a vault somewhere. It is valued because it is legal tender and people have faith in its use as money. There have been many forms of money in history, but some forms have worked better than others because they have characteristics that make them more useful. The characteristics of money are durability, portability, divisibility, uniformity, limited supply, and acceptability. Let's compare two examples of possible forms of money:

- A cow. Cattle have been used as money at different points in history.
- A stack of U.S. 20-dollar bills equal to the value of one cow.

Let's run down our list of characteristics to see how they stack up.

1. Durability. A cow is fairly durable, but a long trip to market runs the risk of sickness or death for the cow and can severely reduce its value. Twenty-dollar bills are fairly durable and can be easily replaced if they become worn. Even better, a long trip to market does not threaten the health or value of the bill.
2. Portability. While the cow is difficult to transport to the store, the currency can be easily put in my pocket.
3. Divisibility. A 20-dollar bill can be exchanged for other denominations, say a 10, a 5, four 1s, and 4 quarters. A cow, on the other hand, is not very divisible.
4. Uniformity. Cows come in many sizes and shapes and each has a different value; cows are not a very uniform form of money. Twenty-dollar bills are all the same size and shape and value; they are very uniform.
5. Limited supply. In order to maintain its value, money must have a limited supply. While the supply of cows is fairly limited, if they were used as money, you can bet ranchers would do their best to increase the supply of cows, which would decrease their value. The supply, and therefore the value, of 20-dollar bills—and money in general—are regulated by the Federal Reserve so that the money retains its value over time.

6. Acceptability. Even though cows have intrinsic value, some people may not accept cattle as money. In contrast, people are more than willing to accept 20-dollar bills. In fact, the U.S. government protects your right to use U.S. currency to pay your bills.

Well, it seems "udderly" clear at this point that—based on the characteristics of money—U.S. 20-dollar bills are a much better form of money than cattle.

To summarize, money has taken many forms through the ages, but money consistently has three functions: store of value, unit of account, and medium of exchange. Modern economies use fiat money-money that is neither a commodity nor represented or "backed" by a commodity. Even forms of money that share these function may be more or less useful based on the characteristics of money.