5E Lesson Plan
Reading and Writing Decimals

***teach*HOUSTON Student Name(s):**

Mentor Teacher Name: **Grade Level:** 5th

Lesson Teaching Date:

Concept(s): A decimal is a number written with a decimal point which is used to separate the whole number part from the part less than one. Decimals are used in money and measurement.

TEKS: 5.1 Number, operation, and quantitative reasoning. The student uses place value to represent whole numbers and decimals.
The student is expected to:
(B) use place value to read, write, compare, and order decimals through the thousandths place.

Objectives The student will be able to:	Evaluation Questions for each Objective
1. Write decimals through the hundredths place, using place value.	
2. Translate between decimals presented in different forms: money, pictorial, verbal, and numerical forms.	
3. Order and compare decimals through the hundredths place.	

Materials List
For the teacher:
- A dime and a penny

For each student:
- Puzzle of Partial Parts Worksheet

- Evaluation Worksheet

For each group:
- Set of decimal cards

Advanced Preparations:
- Print and cut apart a set of decimal cards for each group
- Make copies of worksheets

ENGAGEMENT		
What the Teacher Will Do	**Eliciting Questions/ Student Responses**	**What the Students Will Do**
	Where do you see decimals in everyday life? *Prices of things I buy at the store (i.e. $3.99)* What are some different ways we represent decimals? *With numbers, words, or pictures*	Students provide examples of decimals in everyday life. Students suggest different ways to represent decimals.
The teacher will place a dime and a penny on the overhead.	Which coin is more valuable? How do you know? *A dime is more valuable because it is worth 10 cents and the penny is only worth 1 cent*	
Hold up the dime.	How can I write a dime in decimal form? *$0.10* How can I write a dime in word form? ten cents ten hundredths of a dollar	Students describe different ways to represent the value of a dime.
Hold up the penny.	How can I write a penny in decimal form?	Students describe different ways to represent the value

	$0.01 How can I write a penny in word form? *one cent* *one hundredth*	of a penny.

TRANSITION
Now that you have seen how to write decimals in different forms you are going to try additional examples with your partner.

EXPLORATION		
What the Teacher Will Do	**Eliciting Questions/ Student Responses**	**What the Students Will Do**
The teacher will pass out a set of decimal cards to each pair of students.	What does a money card look like? *It has pictures of coins on it* What does a pictorial card look like? *It has a grid that has some boxes shaded* What does the grid represent? *The grid has 10 rows or 100 squares which represent parts of a whole. The boxes or rows that are shaded represent a decimal* What does a word card look like? *It has words that represent decimals on it* How do you read a word card? *Have a student read a sample word card out loud*	

The teacher will explain the directions for the matching activity. The teacher will walk around the class while students work in pairs to monitor progress.	Why did you match these 2 cards together? *Answers will depend on what cards students have matched in their pairs*	In pairs, students will place a money card in the money column and match the other decimal forms with the money card. Students will continue matching money, pictorial, word, and numerical cards until all the decimal cards have been used.

TRANSITION
You have matched the pictorial, word, numerical, and money representations of decimals. Now you will have an opportunity to share the matches you have made.

EXPLANATION		
What the Teacher Will Do	**Eliciting Questions/ Student Responses**	**What the Students Will Do**
The teacher will select pairs of students to present their matches to the class.	How do you know the cards belong together? *I see the number of shaded squares matches the number in the decimal and word.* Do you agree with these matches? Why or why not? *Answers will depend on the matches that are presented.* Did anyone match their cards in a different way? How? *Answers will depend on the matches that are presented.*	Selected pairs of students will share one set of 4 matched cards and explain the reasoning for their matches. The remaining students will evaluate the matches that are presented.

TRANSITION
In the previous activity you simply had to match pictorial, word, numerical and money forms of decimals. In this next activity, you will be given one of the four forms (money, pictorial, word, numerical) and you will produce the other three forms.

ELABORATION		
What the Teacher Will Do	**Eliciting Questions/ Student Responses**	**What the Students Will Do**
The teacher will hand out the Puzzle of Partial Parts Activity Sheet.	When you were given the word form, what strategies did you use to find the other forms? When you were given the numerical form, what strategies did you use to find the other forms? When you were given the pictorial form, what strategies did you use to find the other forms? When you were given the money form, what strategies did you use to find the other forms? Which form do you think is easiest to generate? Why? *Any answer is valid as long as students can give a reason for their answer* Which form do you think is the hardest to generate? Why? *Any answer is valid as long*	Students will work in pairs to fill in the missing columns of the activity sheet.

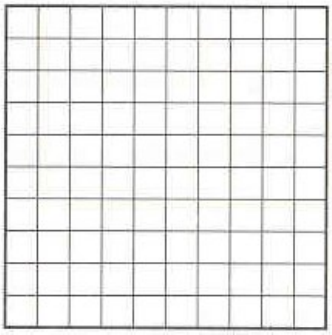
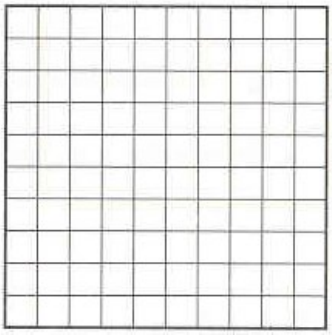
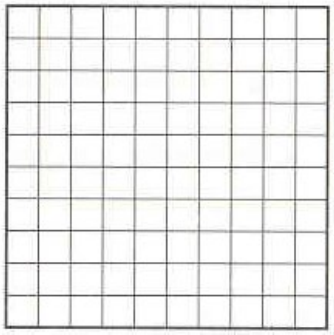
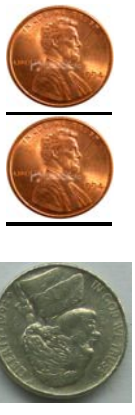
	as students can give a reason for their answer	
Teacher asks students to compare the six decimals on the activity sheet.	How can we compare the six given decimals from the Activity Sheet? *We can look at the pictorial form and see which one has the most shaded in*	Students explain how they ordered the six decimals from greatest to smallest.

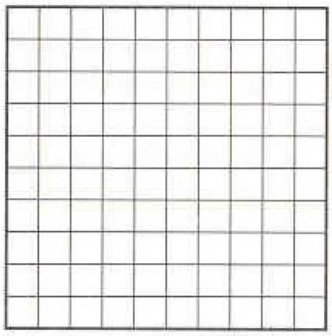
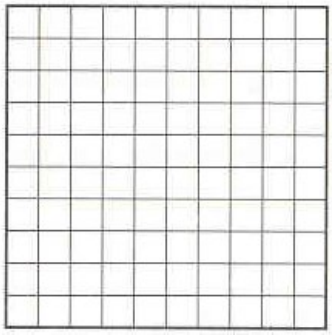
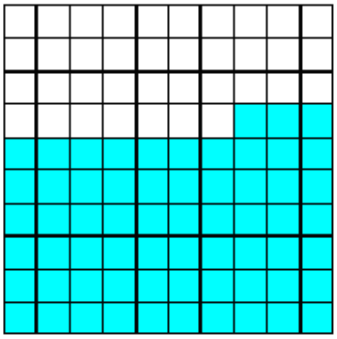
TRANSITION
The goal of this activity was to prepare you to read, write, and order decimals. Now you will have an opportunity to show what you have learned.

EVALUATION
An evaluation instrument is to be created. It should have at least 3 questions. Identify one lesson objective that matches each question.

Name_____

Puzzle of Partial Parts

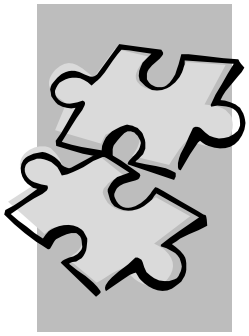
Decimal Square Picture Form	Word Form	Money Form	Decimal Form
1. 	**Forty-five Hundredths**		
2. 			**0.53**
3. 			

4. 	**Five Tenths**		
5. 			
6. 			

8. Which decimal is greater…the decimal from problem 1 or 2? Why?

9. Which decimal is smaller…the decimal from problem 3 or 4? Why?

10. Which decimal is greater…the decimal from problem 5 or 6? Why?



11. Order the decimals from questions 1-6 from least to greatest.