

Ordering Decimal Numbers

Ordering Tenths on an Empty Number Line (Grade 4)

Materials

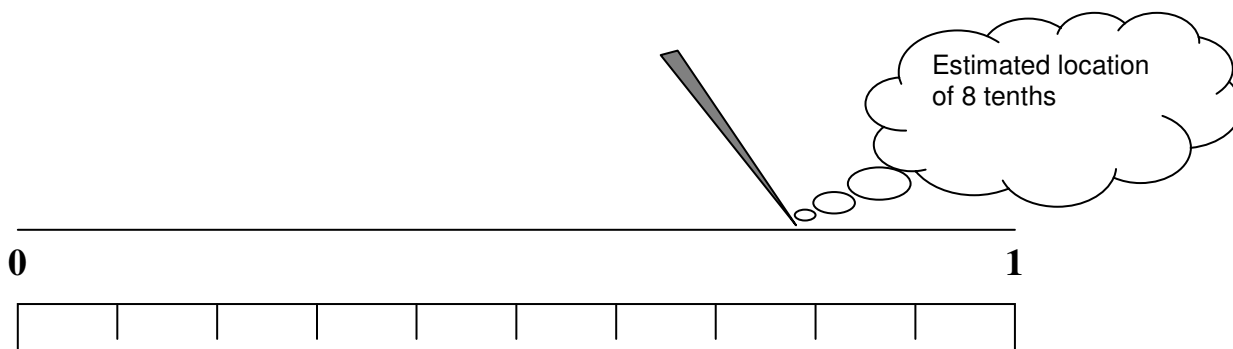
- toothpicks – 1 per pair of students
- copies of the page with a 0-1 Number Line and a Tenths Ruler (attached) – 1 per pair of students
- scissors – for each pair of students

Activity

Arrange the students in pairs. Provide each pair with a toothpick and a copy of the page showing a 0-1 number line and a tenths ruler. Ask them to cut out the ruler. Students may wish to label the tenths on the ruler after it is cut out.

Point out that the number line shows the position of 0 and 1, and explain that students will work with their partners to estimate the position of different tenths between 0 and 1.

Students take turns asking their partner to locate a certain decimal number on the number line (e.g., “Show me 8 tenths”). The partner estimates the location of the decimal number on the number line and places a toothpick above the number line so that it points to the estimated location. Next, students place the tenths ruler directly below the number line to check the accuracy of the estimated decimal-number location. Suggest to the students that they start with 5 tenths, 0 tenths, and 10 tenths, and then try other numbers.



After students have had an opportunity to estimate and check the location of several tenths, ask:

- “How did you estimate the location of 5 tenths?”
- “How do you know that 5 tenths is midway between 0 and 1?”
- “What strategies do you use to find the location of 1 tenth? 6 tenths? 9 tenths?”

Ordering Decimal Numbers

Grocery Shopping (Grades 4, 5, and 6)

Materials

- grocery store flyers (brought to school by students)
- glue
- scissors
- sheets of paper
- calculators

Note: Check with your local grocery store. Stores will often be happy to donate a class set of flyers to support a local classroom math activity.

Activity

Ask the students to imagine that they each have \$20 to spend at a grocery store. Have students “go grocery shopping” by having them cut out 5 food items and their prices from a grocery store flyer. Ask the students to glue the items onto a sheet of paper and then use calculators to find the total of their purchases. Encourage students to make total purchases that come close to but do not exceed \$20.

Organize students into groups of 4 or 5. Have students order their total purchases from least to greatest.

OTH (Ones, Tens, Hundreds)

A game for 2 or 3 players

Materials

- one deck of cards (with face cards and tens removed)
- OTH Game Sheet for each player

Activity

One player deals three cards to each player. The first player turns over one of his or her cards and places it on his or her game sheet. Once a card is placed it cannot be moved. The next player does the same.

This continues with the students taking turns turning over cards until they have used all three of their cards. The student with the highest number of cards wins all of the cards from that round.

The students continue playing until all of the cards have been used. The winner of the game is the student with the most number of cards at the end.

Ordering Decimal Numbers

Decimal Number Clothes Line (Grades 5 and 6)

Materials

- decimal number cards (attached)
- string or cord
- clothes pins

Activity

Extend a string or a cord by attaching both ends to the board or to a wall. Use clothes pins to attach cards showing 3.0 and 4.0 at opposite ends of the string.



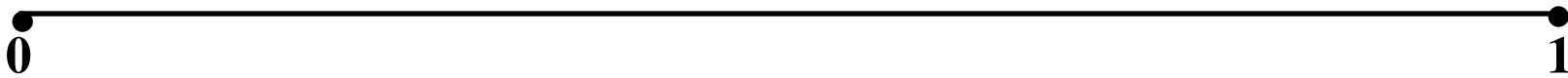
Divide the students into groups of 3. Provide each group with a number card and ask the students to think about where the card should be attached on the clothes line. Ask questions such as:

- “Is your number closer to 3 or to 4?”
- “Is your number close to 3 and a half?”
- “How close is your number to 3 or 4?”

Ask groups, one at a time, to attach their number card to the number line and to explain their thinking about the location of the number. For example, students with 3.12 might explain that the decimal number is close to 3 and one tenth, and would be located slightly to the right of 3.0.

After all the groups have attached their number cards, ask students to determine if the number cards are in order from least to greatest. If cards are improperly ordered, have students explain how and why the cards need to be rearranged.

0-1 Number Line



Tenths Ruler



Decimal Number Cards

3.0	4.0
3.15	3.3
.45	3.67
3.8	3.9

OTH Game Sheet

O	T	H

A large rectangular grid divided into three vertical columns. The columns are labeled 'O', 'T', and 'H' at the top. A solid black dot is positioned on the vertical line separating the 'O' and 'T' columns, approximately halfway down the page.