

Our Number Riddles

Materials:

- ❖ Hundred chart
- ❖ Scratch paper
- ❖ "Number Riddles" student task sheet
- ❖ "Make Your Own Number Riddles" student task sheet

Directions:

- ❖ Give each student a 99 chart and some scratch paper.
- ❖ Teacher thinks of a 2-digit number less than 20. Without letting the students know the number, the teacher writes it down.
- ❖ Students record their guess of the teacher's secret number.
- ❖ Teacher gives clues that lead the students to figuring out the secret number. Clues should progress from broad to more specific.
 - Start with clues that split the possible numbers in half e.g., number is odd or even, two-digits/one-digit, etc.
 - Then, progress to clues such as -- less than/greater than a value, a range of numbers, etc.
 - Next, create an addition or subtraction problem where the sum or difference is the secret number.
 - Final clues should include place value.

Example of clues (secret number is 18).

Clue #1: My number is even.

Clue #2: My number has two digits.

Clue #3: My number is ten more than 8.

Clue #4: My number has an 8 in the ones place.

- ❖ After each clue, allow students to change their guess. Remind them to use the clues to affect their decisions. EMPHASIZE that if their guess fits the clue – do NOT change it. Students DO NOT TALK during this part of the activity. When students understand the activity, have students work with partners to complete the "Number Riddles" task sheet. Make sure students follow directions on sheet.

Finally, allow students to work with a partner to complete "Make Your Own Number Riddles" task sheet. Encourage students to include clues that:

- ❖ use benchmark numbers such as 10, 50, etc.
- ❖ skip counting
- ❖ use money value
- ❖ even/odd
- ❖ addition/subtraction

Summary of task: Ask students to discuss the following questions:

- ❖ How many clues were needed before your secret number was DEFINITELY known, not just correctly guessed. Could the guessers explain how they used your clues to "guess" the secret number?
- ❖ Could the guessers correctly "guess" your secret number, or did your clues lead them to the wrong answer?
- ❖ How did you decide what clues to write in your riddle?

Names: _____

Number Riddles

Practice reading a clue and finding the secret number.

Clues	Secret Number
1. I am 10 more than 60. What number am I?	
2. I am 1 less than 32. What number am I?	
3. I am the sum of 3 groups of 10. What number am I?	
4. I am an even number. If you have 5 groups of me, you have 10. What number am I?	
5. I am the value of 5 dimes. What number am I?	
6. I am 10 more than 80 and 10 less than 100. What number am I?	
7. I am an odd number. I have 7 tens and 5 ones. You can also discover me by having three quarters. What number am I?	
8. I am the sum of 4 and 5. What number am I?	
9. I am greater than 20. I am less than 22. I am an odd number. What number am I?	
10. Create your own number riddle with your partner.	

Directions:

With your partner, pick a secret number between 1 – 20. Write clues that will guide your classmates to a correct guess of your secret number. Trade your clues with another set of partners. Can they guess your secret number? Can you guess theirs?

After you have had success with a secret number between 1 – 20, write clues for secret numbers between 1 – 50 or 1 – 100.

Examples of number riddles are:

- ❖ My number is even/odd.
- ❖ My number is a _____-digit number.
- ❖ My number is 10 less than _____.
- ❖ My number is 10 more than _____.
- ❖ My number is _____ less than _____. (Use numbers such as 1, 2, 5, 10, 20, etc. that your classmates can easily MENTALLY subtract.)
- ❖ My number is _____ more than _____. (Use numbers such as 1, 2, 5, 10, 20, etc. that your classmates can easily MENTALLY add.)

More challenging examples of clues are:

- ❖ If you subtract 3 from my number, you get _____.
- ❖ If you start at 0 and count by _____'s, you will say my number.
- ❖ My number has 2 digits. One is even, and one is odd (or both digits are odd, or both digits are even).
- ❖ My number is the sum of _____ and _____.
- ❖ If you add the digits in my number, you get _____.
- ❖ If you subtract the digits in my number, you get _____.
- ❖ My number is 10 more than _____ and ten less than _____.
- ❖ I am the value of _____ nickels and _____ pennies (or any combination of coins).
- ❖ I am the sum of _____ groups of 10.
- ❖ If you have _____ groups of me, you have _____.