Mystery Number: *How much is that?*

**OBJECTIVE:** To practice recognizing numerals and counting out the corresponding amount of objects.

**PREPARATION**: Write numbers on cards (or can use bottle caps. Start with 1 to 10. Later add on 11 to 20. Place them on table with the number-side down.

Provide small objects for students to use as counters.

**BASIC GAME**:

Student will select one “mystery number” card and turn it over.

Student reads the number out loud, then pulls out that number of objects (beans, teddy bear counters, coins, bottle caps).

Students can play together: Each takes a turn selecting a “mystery number” and drawing out the objects, one by one, while all the students count up together.

NOTE: Students can play this at home with family members.

Subitize: *How much is that?*

**OBJECTIVE:** To practice recognizing the number of objects in a set, quickly, without counting.

**PREPARATION**:

Put a small number of objects in a bowl (or can be in a pile). Start with a small number of them (such as 10). Can increase the total number of objects later.

**BASIC GAME:**

One player grabs *some* of the objects and then quickly spreads them out on the table.

Other player quickly shouts out how many there are, then both players count together to verify.

Players take turns being the “gatherer” and the “subitizer.”

Numerals: *Which is larger?*

**OBJECTIVE:** To practice recognizing relative values of numerals.

**PREPARATION**:

Use number cards (or numbers written in bottle caps). Arrange them number-side down. Provide small manipulatives.

**BASIC GAME:**

Players each pull a “mystery number,” then both determine which number is larger and which is smaller.

Each player counts out the number of objects that corresponds to their number.

Then, using one-to-one correspondence, the players determine which number is larger and which is smaller.

Quantities: *Which is larger?*

**OBJECTIVE:** To practice recognizing relative amounts of objects.

**PREPARATION**:

Gather two different colors of objects. For example, could use red bottle caps and blue bottle caps, or black beans and white beans. Have each color in a bowl (or a pile). Keep the total number of objects small at first.

**BASIC GAME:**

One player grabs *“a handful”* from **each** pile puts them on the table (not mixed together).

The other player subitizes the amounts of each color, and says which number is larger.

Then, using one-to-one correspondence, the players count up together and determine which color had the larger amount and which color had the smaller.

Equation Detectives

**OBJECTIVE:** To practice creating different addition problems with the same sum, or different subtraction problems with the same difference.

**PREPARATION**:

Use number cards (or numbers written in bottle caps). Arrange the “mystery numbers” number-side down. Provide more number cards with the number showing, and small manipulatives.

**BASIC GAME:**

First decide whether to do addition or subtraction (can choose, or can leave it up to chance by pulling poker chips out of a bag, for example, with black for adding and red for subtracting – or by using a spinner).

Student selects a “mystery number” to be the sum (if adding) or the difference (if subtracting).

Then the students try to come up with as many equations as they can to reach the goal sum (or difference).

Some students might like to push around the number cards to help them.

Some students might count up the total number of objects that corresponds to the “mystery number.”

If that number is a sum, students can partition the objects into two subsets and record that with an addition equation. For example, if the sum is 7, students can split out the 7 objects into groups of 3 and 4 to write “3 + 4 = 7” or into groups of 2 and 5 to write “2 + 5 = 7.”

If that number is a difference, students can count on more to create a larger number for the minuend. For example, if the difference is 7, students can count on 3 more to get 10, and then write “10 – 3 = 7.”

As described on this page, <https://mathgeekmama.com/addition-subtraction-challenge-problems/>, the goal is to have students “explore in their own way” to come up with equations that are true, and see if they can find patterns.