

Magical Mystery Machine

NCTM Content Standard:

Number & Operations,
Algebra

NCTM Process Standard:

Communication,
Reasoning & Proof

**Specific math content
or skill addressed:**

Addition, subtraction,
multiplication, division
(as appropriate)

Component:

Activity

Materials needed:

A ball that's easy to catch
Chart, markers (optional)

**Preparing students
for success:**

Students should be familiar
with whichever operation(s)
you plan to use.

Students should have had
practice with the ball-toss
greeting/activity so that they
can toss accurately and not
focus so much on the ball.

Vocabulary:

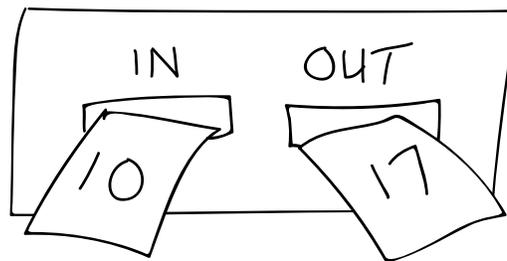
Depending on the operations
you use: adding, subtracting,
multiplying, dividing,
doubling, etc.

How to do it:

- Tell the students that in a minute, you're going to turn into the Magical Mystery Machine. The class will feed you a number, and you're going to pop out a different number. The group's job is to figure out how you're changing the numbers (you will apply the same change each time).
- Toss the ball to a student, who will say "I give you ____" and toss the ball back to you. You say back "I give you ____." (An alternate wording could be "In goes ____" and "Out comes ____.") For example, perhaps you have decided that the function will be "add seven." You toss the ball to a student, who says "I give you ten," then tosses the ball back to you. You announce "I give you seventeen."
- Students must wait until three exchanges have occurred before offering a guess at the change you're making, even if they suspect they know the change.

EXTENSIONS DURING A LATER MATH LESSON:

- Play again later, asking students what went on in their brains as they figured out what the "machine" was doing.
- If necessary, show the "in" and "out" numbers on paper, with a column for the "in" numbers and a column for the "out" numbers, or a picture of a number going into a machine with a different number coming out. Ask the students how they can get from the "in" number to the "out" number. They might say "I can count up" or "It looks like you double the 'in' number."



- Challenge the students to write a number sentence representing what happens to various numbers as they go through the Magic Mystery Machine. For example: $10 + 7 = 17$.
- Put the students in pairs or small groups to play the game, with individuals taking turns being the Magic Mystery Machine.