

After today you'll ...

Never be afraid of  
mixture problems again!



Before



After



Before

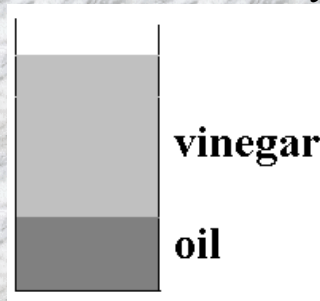


After

## Getting started

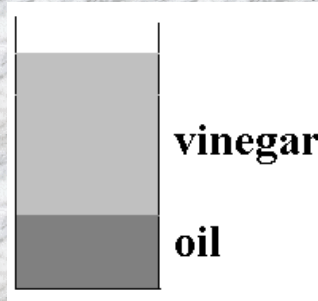
First, I want you to think about a jar of salad dressing that is 30% oil and 70% vinegar.

What does it look like if you don't mix it?



## Getting started

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So how much oil is there if there are 200 ml of mixture?

OK, now think about two containers. One has 200 ml of mixture with 10% oil, the other has 350 ml with 24% oil.

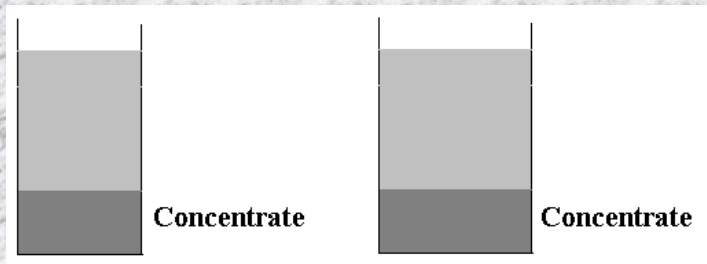


How much mixture is there total?

How much vinegar is there total?

What percent of the final mixture is vinegar?

Now suppose you have two containers of orange juice. One is has 60 ounces with 25% concentrate, the other has 80 ounces at 50% concentrate.



How much orange juice is there total?

How much concentrate is there total?

What percent of the final mixture is concentrate?

Consider two cities. One has a population of 22,000, 15% of whom are Hispanic. The other has a population of 15,000 with 40% of them Hispanic.

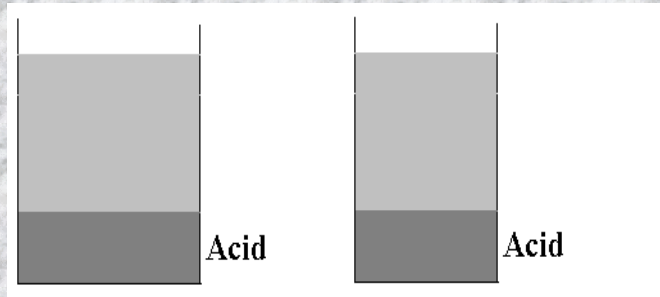


What is the total population?

How is the total number of Hispanics?

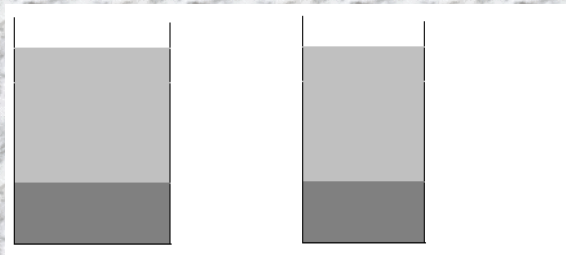
What percent of the population is Hispanic?

Consider a mixture of chemicals. 300 ml of 8% acid is mixed with 450 ml of 20% acid.



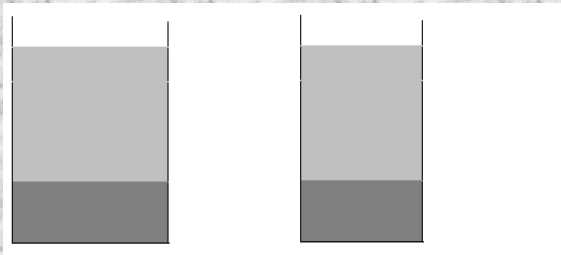
How many ml of liquid is obtained and what is its final concentration?

Now you're going to work backwards. Start with the same diagram as before.

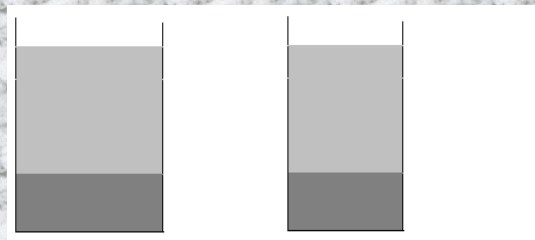


Two jars of liquid are mixed. One contained 4% oil and the other contained 10% oil. If the resulting mixture contained 400 ounces total, with 32 ounces of oil, how much was in each jar?

Two brands of orange juice are mixed together. The first brand contains 15% concentrate and the second contains 30% concentrate. When mixed, the result is 11 gallons of juice, containing 2.1 gallons of concentrate. How many gallons of each were used?



15 liters of saltwater solution are needed, and it must be 12% salt. The only available solutions are 5% salt and 30%. How many liters of each will be used?



Five gallons of paint are to be mixed from two mixtures containing 14% pigment and 6% pigment. The final mixture is to have 8% pigment. How many gallons of each are needed?

