

## EXPERIMENT 6

Make it mix!



## II. Test it.

	water	milk	juice	oil	butter
water					
milk					
juice					
oil					
butter					

I. Think about it.

1. What do you think will happen if you add water to milk?

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2. What do you think will happen if you add milk to juice?

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3. What do you think will happen if you add juice to oil?

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4. What do you think will happen if you add oil to water?

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5. What do you think will happen if you add oil to melted butter?

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6. What do you think will happen if you add soap to water and then add oil?

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## II. Continued — Test it with soap.

Add soap to every item in the first column. Then add this soap mixture to the items on the top row.

	water	milk	juice	oil	butter
water + soap					
milk + soap					
juice + soap					
oil + soap					
butter + soap					

### III. What did you discover?

1. What happened when you added milk to juice? Did they mix? Was this what you expected?

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2. What happened when you added water to juice? Did they mix? Was this what you expected?

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3. What happened when you added oil to water? Did they mix? Was this what you expected?

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4. What happened when you added soap to your mixtures? Did the soap, water, and juice mix better?

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5. Did the water and oil mix better with soap?

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6. Did the oil and butter mix better with soap?

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#### IV. Why?

When you added milk to juice, or water to milk, you should have seen that they *mix*. Mixing is when two things blend together so well that you can no longer tell them apart. Milk is white and juice is colored. When they are added together, they are a new color, a cloudy color. The same thing happens when water is added to milk. Juice and milk, or juice and water, mix because they are the *same type* of liquid.

What happens when you add oil to water, or oil to juice? Do they mix? You should have seen that when you added oil to water, or oil to juice, they *did not mix*. No matter how much you try to get oil and water, or oil and juice, to mix, you will always be able to see little droplets of oil floating around, not mixing. Oil and water cannot be mixed because they are *different types* of liquids.

You should have seen that when you add oil to butter, the two mix. Why do you think this happens? It happens because oil and butter are the same type of liquids.

The rule is: *Same types of liquids mix and different types of liquids do not mix.*

What happens with soap? Soap is a little bit water and a little bit oil, so soap can make water and oil “mix” a little bit. This is why you use soap to wash your hands!