

Secret Message with Lemon Juice – SICK Science

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<https://www.stevespanglerscience.com/lab/experiments/secret-lemon-juice-messages/>

Click the link to watch the Experiment video... <https://youtube/tAToMCBcbwo>

Lemon juice is great in lemonade, can be a garnish for foods, and doubles as an ink for your secret messages.

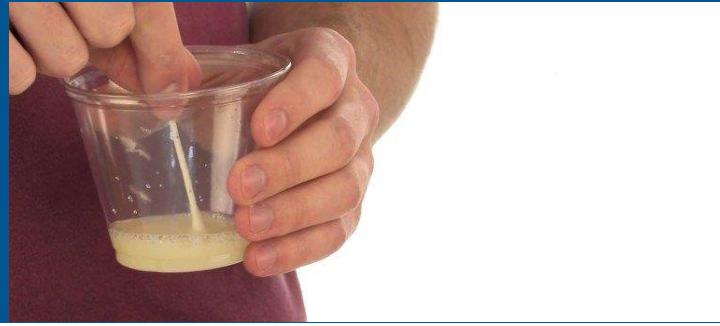
Ah, a tall, cool glass of lemonade on a hot day just makes everything better. Lemon juice can spark up a salad, add zing to some grilled fish, and keep your avocados and bananas from turning brown. Strangely, however, it turns paper brown and reveals secret messages you've written using plain old lemon juice. You can be a gourmet cook and a spy at the same time.

Step 1



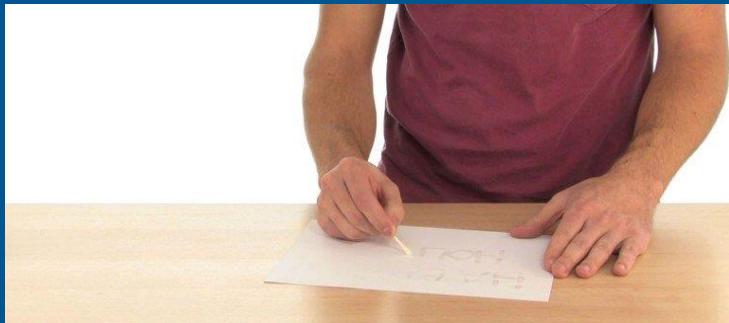
Add about 1 tablespoon (15 ml) of lemon juice to the cup.
Fresh squeezed or bottled juice will work just fine.

Step 2



Soak an end of the cotton swab or put the paint brush into the lemon juice.
You'll use this to write your message.

Step 3



Write your message on the plain paper. You'll be able to see it as long as the paper is wet so let the lemon-juice message dry completely.

Step 4



NOTE: If you choose the open flame method, make sure an adult helps out.

There's no rush to revealing the message, but when it comes time to read it, there are several methods of heat sources. Whichever method you choose below, start at the bottom of the message, and work your way up since heat rises.

Here are some options:

- You can hold the paper over an incandescent light bulb with OK results. It may be hard to tell if the bulb is hot enough, so you may not know whether your paper is blank or whether you just can't see the message yet.
- You can "iron" your paper, but don't use the steam setting. This may be the best method. A clean rag between the iron and the paper helps keep the iron's hot surface clean.
- Hold the paper over a hot burner on a stove. There will be some distortion of the paper as it gets hot and the message appears. Watch your fingers!