

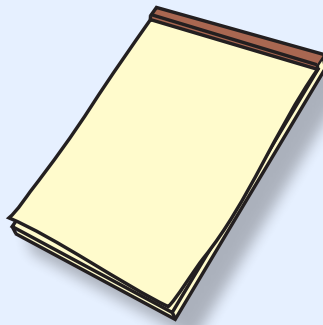


# The Case of the Pushy Pencils

Check out the videos on our [Detective Science - Latest Updates Page](#), to see how scientists find hidden messages in the laboratory.

## Find What You Need..

- White paper: a pad or one large sheet
- A pencil



Pad of paper



Pencil

## What do you leave behind when you write something?

Say you have a message that you only want one person to see. You write it on a piece of paper, tear that paper off of the pad, then fold it carefully and put it in your pocket. No one else can read it, right? Wrong! Think about what happens when you write. In order for a pencil or pen to leave a mark, it has to press against the paper. When you push against the paper, the paper pushes against whatever is below it. If something soft – such as more paper – is below your sheet, then you will leave an indentation in this paper as well.

In this activity, you'll learn how to reveal a message from the nearly-invisible indentation that a writer left behind.

### Fact:

You've probably seen this technique used in a lot of detective movies.

The only problem is, it destroys the evidence!

## Activity Instructions

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1. Find a pad of paper, or fold a sheet of paper into quarters to make a pad.
2. Ask someone to write you a message on the top sheet of the pad, using a pen or pencil, then tear off the top sheet. Don't peek at what they wrote!

**Tip:** Ask them to write clearly, and not too small. It helps if they press hard.



3. Take the pad of paper. Use the side of the pencil lead to gently shade the top sheet of paper. The "secret" message should appear.



## Conclusions

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What made the message appear? Why did you use the side of the pencil and not the point? How else could you recover an indented message?

### Brain Squeezer:

Could write a message  
without leaving a trace of evidence  
that you wrote it?  
How would you do it?



Kids' Science Challenge  
Science Projects  
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