



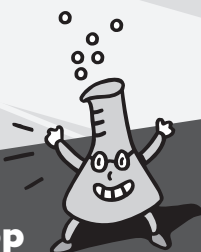
Scytale Messages

Use a soda can to decode a secret message!



What You Need

- paper
- safety scissors
- clear tape
- pen or pencil
- soda can
- paper towel tube, broom stick, or other cylinders



Science Scoop

What happens to your message when you **wrap it** around a different-sized cylinder, like a paper towel tube or a broomstick? Why can't you **read it**? When **cylinders** are different sizes, the **circumferences**, or distances around them, are different. When you wrap the strip around a cylinder with a different circumference the **space** between the letters changes. This means the letters end up in the **wrong location**. You can only read the message if it is wrapped around the **correct cylinder**, in this case a soda can.

- 1 Has the wrong person ever **read** a secret note you wrote? How embarrassing! Next time, try writing your message using this **code**.
- 2 **Cut** a piece of paper into long strips that are **wide** enough for one letter. Then tape them together so you have one **really long** strip.
- 3 Next, **tape one end** of the long strip of paper to the left edge of a soda can lying on its side. **Write** the word "start" on the end you **taped** in place. **Wrap** the strip around the can until its surface is **completely covered** with paper. Make sure the **edges** of the paper **touch** but **don't overlap** as you wrap it around the can. **Tape** the other end in place.
- 4 **Write** one letter of your message on each "strip" of paper. The letters should all be **next to each other**. Leave a **space** in between if you have more than one word. You can write more than one row of letters.
- 5 **Write** some extra letters above and below your message, where the paper is **blank**. This will make your message look like it's in **code** when you **unwrap** it.
- 6 **Unwrap** the message and **give** it to your friends **without telling** them how to decode it. **Provide** them with different cylinders (paper towel tube, broomstick, soda can etc.) and challenge them to **figure it out**.



Keep experimenting with scytale messages. Can you create a strip that has **two different messages** hidden in it? What would you need to **read** both messages? What happens if you wrap your message around a box?

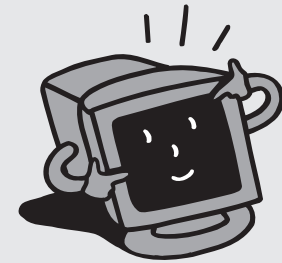
Sent in by Amit H. of Los Angeles, CA

Send your ideas to



Dear ZOOM

Here's what happened when I tried Scytale Messages:



Send an e-mail:
pbskids.org/zoom/sendit

Then instantly print out a copy of ZOOMerang—a newsletter filled with cast trivia and lots of fun ZOOM activities.



Or, send a letter:

ZOOM
Box 350
Boston, MA 02134

Don't forget to include your name and return address so we can send you a copy of ZOOMerang.



Write or draw here.



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