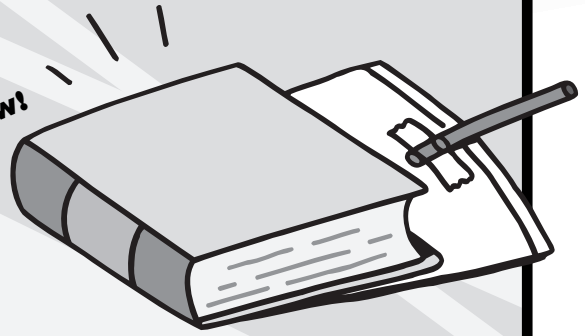
ZOOM®

ZOOMsci™

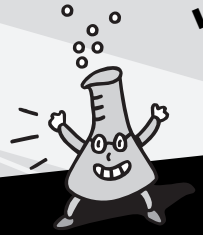
Air Lift

Lift a book with only a plastic bag and a straw!



What You Need

- gallon-size, zipper-lock plastic bag
- heavy book
- pencil
- plastic drinking straw
- tape



Science Scoop

When you blow air into the bag, the air is pushed together, or "**compressed**." The compressed air **pushes** on the bag. This makes the **bag** push on the book and **lift** it up. So the bag filled with compressed air can **support the weight** of the book. The **tires on your bike** work in the same way. They are filled with **compressed air** and can support your weight. When the air **leaks out** of bike tires, they can no longer support your weight. That is why it's hard to ride your bike when the tires are **flat**. Can you think of **other things** that use compressed air?

1 Close the plastic bag. **Place** a heavy book on top of it. Let about two inches of the bag **stick out** from under the book.

2 Poke a hole in the bag with the pencil.

3 Stick the straw in the hole. Use tape to **seal** the hole around the straw so no air can escape.

4 Blow into the straw. **Hold** your tongue over the straw to keep air from **leaking out** when you take a breath.

5 What happens? Can you **lift** the book off the table?

Sent in by Ashley of Ashland City, TN

ZOOMon™

Now it's time for you to **experiment**. What happens if you use a **balloon** or **garbage bag** instead of a plastic bag? What happens if you use **more than one bag**? Can you lift a **large object**, like a suitcase? You might need to **ask some friends** to help out. Choose **one thing** to change (that's the variable), and **predict** what you think will happen. Then **test it** and **send** your results to ZOOM at **pbskids.org/zoom/sci**

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