

# One Ring to Rule Them All

Celebrate JRR Tolkien's birthday by creating your own ring with a hidden inscription!

## Collect

- Lemon juice
- Water
- Fine tip paint brush or Q-tip
- Heat source, like a light bulb
- Scissors
- White paper



## Form the ring

Trim the paper into a 1" wide, 4" long strip and then fold it in half lengthwise to create a crease. Unfold the strip and then fold the top and bottom edges in to touch the middle crease. Then, bring the ends of the strip together to form a loop. Insert one end into the other and adjust the size to fit your finger.

## Prep the ink and write inscription

Squeeze some lemon juice into a dish and dilute it with a few drops of water; this will be your ink. Paint a secret message onto your ring and let it dry completely.

## Reveal the secret message

When it is time to reveal your secret message, hold your ring up to a light bulb. The heat will make your message appear!

## How it works

Lemon juice diluted with water makes an excellent invisible ink because it is so hard to see when applied to white paper—making the ring look plain and featureless. However, just like the One Ring, when heated the secret inscription is revealed as the lemon juice begins to oxidize and turn brown.