

# LIGHTSABER DUEL

## FACE YOUR ENEMY IN A JEDI BATTLE

The lightsaber is an energy sword with a glowing plasma blade used by the Jedi and some of their enemies. Crafting a lightsaber is a special trial that every Jedi apprentice must complete. Using a penlight and some water, you too can see what it's like to wield a lightsaber.

### WHAT YOU NEED



*You will need to ask an adult for help or supervision with the steps that require scissors.*

START HERE

1

Firstly, personalize your penlight with silver tape. Every Jedi designs his or her own handle, so each one is unique. The ideal penlight for this experiment shines a narrow but strong beam.

2

These lightsabers get their colour from cellophane rather than kyber crystals. Tape some onto the sides of your tank. You could use two colours—blue for the light side and red for the dark side!

3

Position the tank on a flat surface with space to move about at each end. Once it's in the right spot, fill the tank with water—you won't want to shift it once it is full!

4

Next, add just a drop of milk to the water and stir gently until it disappears. Be sure to add just a tiny drop at a time—you can always add more milk later if you need to.

Tiny milk particles in the water reflect the penlight's light.

Coloured cellophane gives color to the beam of light.

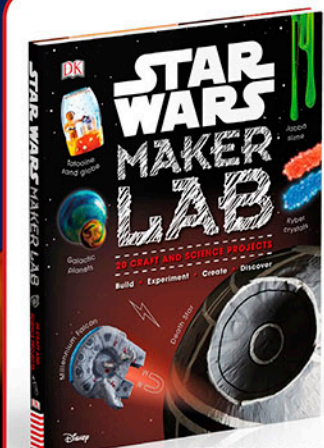


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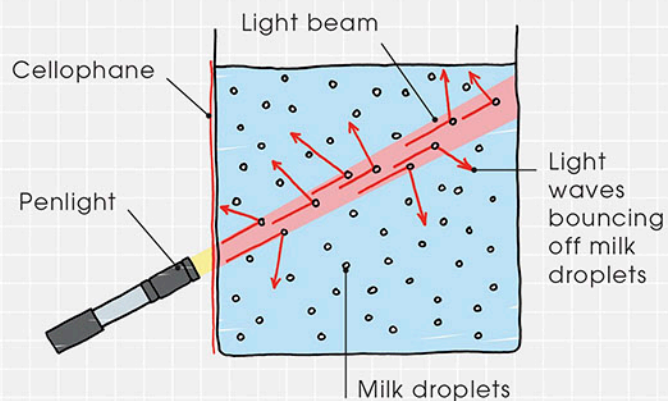
## HOW IT WORKS

### LIGHT WAVES

Light waves carry energy that our eyes detect as a spectrum of colours. The colours we see depend on which waves are reflected or absorbed. Grass appears green because most of the light waves that hit it are absorbed except for green ones, which are reflected back at our eyes.

### WHY MILK?

Light waves from penlights are hard to see, until they hit a solid surface or are reflected by particles. The tiny milk droplets in the water bounce the light back into our eyes, making the beam visible.



CONTINUE HERE

5

Now shine your penlight through the tank. You should be able to see the beam of your lightsaber in the water. If you can't, add another drop of milk and try again.

6

Shine a penlight through each sheet of cellophane. See how the beams differ from each other? Be careful not to hold the penlights too close to the cellophane as it can get hot and melt.

7

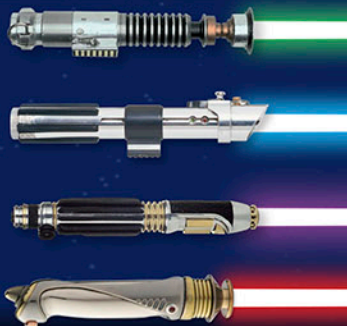
Now it's time to challenge a friend to a duel! For best results, conduct your battle in a darkened room. Why not film it, too? You could even try making lightsaber sound effects!

YOU'VE DONE IT!



"THIS IS THE WEAPON OF A JEDI KNIGHT."

Obi-Wan Kenobi



### WHY NOT TRY?

The colour of a lightsaber is determined by the kyber crystal inside it. Jedi lightsabers are often green or blue, while Mace Windu wields a rare purple blade. Sith lightsabers are always red. Try different colored cellophane to see which color best suits you.

