

# Lasers: The Power of Light



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What do you think of when you think of lasers? You might think of characters in movies fighting. Today, though, lasers are everywhere. They point in classrooms, scan barcodes in stores, and cut during surgery. Laser beams are a form of light. But how are they different from sunlight?

Sunlight is made up of all the colors of the rainbow, but we usually see the colors mixed

into white light. However, each color is a separate piece of light that has its own wavelength. A wavelength is a measure of how quickly light moves. You can see all of the colors in sunlight if you use a prism. Light bends when it goes through the prism and splits the wavelengths of color apart.

Unlike sunlight, lasers emit only one wavelength. Also unlike sunlight, the wavelengths from a laser line up and move in the same direction. That's why a laser's beam is narrow and focused.

Lasers have different strengths. Low-power lasers are

used in toys, barcode scanners, and pointers. They are not considered to be hazardous, but you should not look directly at them. High-power lasers are hazardous to the eyes and skin. They are used in surgery and for cutting metals.

The lasers you see most often read barcodes, CDs, and DVDs. The laser in a barcode scanner sends a picture of the bars to a computer that "reads" the bars and the spaces between them. Each bar and space contains information written in code. A computer then changes the code back into words and pictures. Likewise, lasers read the code on a CD or DVD. Then a computer changes that code into your favorite song or movie.

Today, lasers send phone calls and TV signals through threads of glass called optical fibers. They also measure distances and make 3-D pictures. Lasers will likely have many more uses, but because they can be hazardous, they must be treated with care.



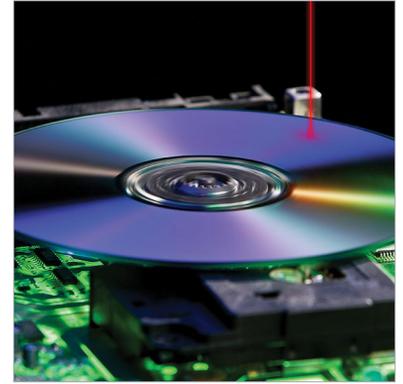
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Write all these words in the right places to complete this puzzle, which tells some things you learned about lasers. You can reread the article before you begin, but don't look back at it while you are working. After you've completed the puzzle, read it to someone.

colors	DVDs	1960s	inventions	light
low-power	metal	one	scanners	wavelength



Lasers are fairly new \_\_\_\_\_. They were invented as late as the \_\_\_\_\_, only a little more than 50 years ago. Lasers are used in the \_\_\_\_\_ that read barcodes in stores. Lasers also read the codes on the CDs and \_\_\_\_\_ that play music and show movies.

Lasers have different strengths. The lasers in toys and barcode scanners are \_\_\_\_\_ lasers. In contrast, high-power lasers are used in surgery and can cut \_\_\_\_\_.

Laser beams are a form of \_\_\_\_\_, but they are different from sunlight. Sunlight is made up of all the \_\_\_\_\_ of the rainbow. Each color has a separate \_\_\_\_\_. Wavelengths measure how quickly light moves. Unlike sunlight, lasers have only \_\_\_\_\_ wavelength. Because they can be used in so many ways, many people think lasers are one of the top ten inventions of the 20th century!

### Comprehension Response Activities FYI for Kids — Level 5



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