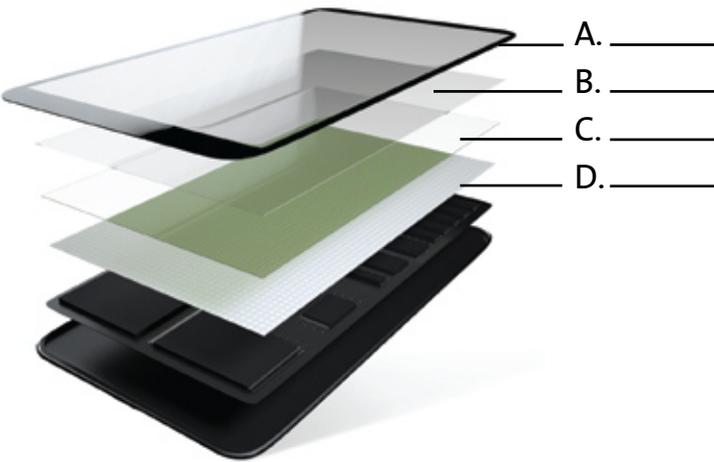


# Activity 3 | Many Layered Wonders

As you watched Corning’s “A Day Made of Glass” video series, did you wonder how it all worked? How a mobile phone transmits your voice instantly across the city, country, or world? Or what makes it possible to stream the latest movie right to your handheld device? To answer these questions, we first have to take a closer look at how these devices are made.

## Part 1

In the diagram, we see that smartphones are composed of several layers of glass and electronics that sense and process information. So what does all that glass do? Match the description of the glass to the layer in the diagram.



1. Backplane—Processes millions of thin-film transistors
2. Cover Glass—Helps protect the device
3. Frontplane—Houses the color filter to create the picture
4. Touch Sensor—Helps detect physical touch

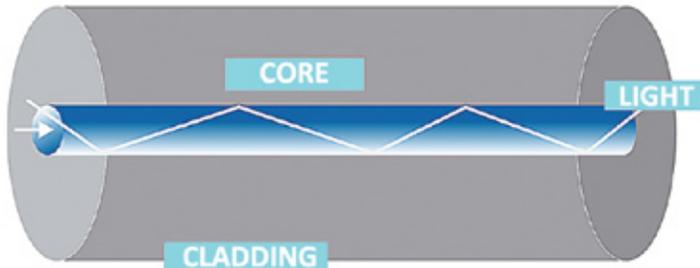
As you saw in the “A Day Made of Glass” video series, this same type of design can allow us to use glass to turn nearly any glass surface into a touchscreen device, with the ability to display, transmit, and receive real-time images and information. For example, Mom uses her bathroom mirror to respond to email and update her calendar, while Dad and the kids can video chat with Grandma right on the kitchen counter. Corning’s glass technologies can make all this possible. Learn more at [Corning.com/DisplayTechnologies](http://Corning.com/DisplayTechnologies) and [Corning.com/AdvancedGlass](http://Corning.com/AdvancedGlass).

## Part 2

Glass does more than help transfer a signal from your fingertips to your smartphone. It is also capable of carrying voice, data, and video information in the form of light signals at very high speeds. This glass, called optical fiber, is a thin, flexible, pure strand of glass that is stronger than steel, yet thinner than a human hair.

Optical fiber is comprised of two basic elements made of glass:

1. The glass core, the center part of the fiber, that carries the information in the form of light signals.
2. The glass cladding that surrounds the core and reflects the light signals, causing them to move along the core on an angled path.



We use optical fiber when we talk on a cell phone, watch TV, and surf the Internet. It’s what makes voice, video, and data communications work. Get together with a partner and brainstorm four more ways optical fiber makes every day “A Day Made of Glass.”

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**FUN FACT:** Corning invented glass optical fiber in 1970. Today, optical fiber is the most effective way to transmit information and data across long distances without garbling your message. A single modern optical fiber can carry 10 trillion bits per second a distance of a kilometer. That’s enough information to fill 250 DVDs every second! For more fascinating facts about Corning technology, check out [Corning.com/OpticalFiber/FiberBasics](http://Corning.com/OpticalFiber/FiberBasics).

