

Activity 1 | Glass in Your World

Glass is one of the oldest substances in the universe. Scientists found tiny silica glass spheres that are 3 billion years old in the lunar soil brought back by Apollo astronauts. And glass objects are among the oldest human creations, perhaps dating before 3400 B.C. Since then, glassmakers have developed hundreds of new ways to produce and use glass for art, architecture, and technology. But some of the most impressive advances have occurred in just the past century, with a company called Corning Incorporated at the forefront.

Part 1

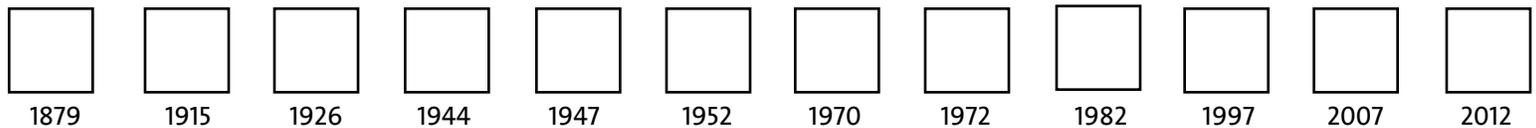
Place the letter for each of the following innovations next to the year it was first developed or applied.

- A. An accidental experiment leads to the development of glass-ceramic, a shatter-resistant material that soon becomes part of American mealtimes as CorningWare®.
- B. Corning engineers develop the ribbon machine, which can produce 400,000 light bulb blanks in just 24 hours — 5 times faster than earlier technology — making electric light available to millions.
- C. Corning develops a spin casting method that uses centrifugal force to produce TV picture tubes, soon making television affordable for every family.
- D. Glass enters the digital age with the development of an optical fiber capable of maintaining the strength of laser light signals over significant distances — a breakthrough in the development of high speed Internet and communication.
- E. Glass technology helps Earth’s ecosystem breathe easier with the development of a ceramic that is still at the core of catalytic converters used to reduce auto emissions.
- F. Corning manufactures the 27-ton glass mirror for Japan’s Subaru telescope, one of the largest pieces of glass ever made.
- G. Corning® Gorilla® Glass is developed — thin and lightweight enough for mobile devices, but still tough enough to resist the wear and tear of everyday use.
- H. When ordinary glass proves inadequate for liquid crystal displays, Corning engineers develop a new glassmaking process that opens the way for today’s flat-screen TVs and touchscreen devices.

TUNE IN: Check out the “A Day Made of Glass” video series, Corning’s vision for a not-too-distant future driven by glass and shaped by exciting partner technologies. Be sure to watch all three videos in the series: “A Day Made of Glass,” “A Day Made of Glass 2,” and “A Day Made of Glass 2: Unpacked.” Find them at: YouTube.com/CorningIncorporated.

- I. Two years after a Corning physicist asks his wife to bake a cake on a piece of heat-resistant glass, PYREX® cookware becomes a favorite in American kitchens.
- J. Corning glassblowers create the transparent case for Thomas Edison’s incandescent lamp — and the light bulb shape that now symbolizes innovation.
- K. A new ultra-thin, flexible glass is developed. Slimmer than a dollar bill, the glass is so thin and flexible, it can be rolled almost like sheets of paper.
- L. A Corning chemist combines electric melting and new stirring techniques to speed up the production of optical glass — techniques still used today.

Timeline



FUN FACT: Corning supplied windows for all of the United States’ manned spacecraft—including the Friendship 7 flown by John Glenn for the first U.S.-manned orbital flight. Find out more about Corning’s innovations at Corning.com/history.

Part 2

Now that you have seen the videos, extend the timeline with two advanced glass technologies depicted in “A Day Made of Glass” and two of your own futuristic ideas for using glass. Next to each, suggest the year you think it will be possible.

“A Day Made of Glass” Technologies	Year
_____	_____
_____	_____
My Ideas for Future Glass Technologies	Year
_____	_____
_____	_____

