Build the Bleach Timeline

Name _____

Labarraque and the history of disinfection · ages 11–14 · about 45 minutes

Cut out the cards. Put them in the order you think they happened, then check against your teacher's dates. Paper only: no chemicals are needed.

Year: _____

Carl Wilhelm Scheele makes a yellow-green gas that bleaches flowers.

Year: _____

Claude Berthollet makes eau de Javel, a bleaching liquid.

Year: _____

Bleaching powder is patented in Britain.

Year: _____

Humphry Davy shows chlorine is an element and names it.

Year: _____

Labarraque wins a prize for stopping the stench in gut-processing workshops.

Year: _____

Semmelweis has doctors wash their hands in chlorinated lime.

Year: _____

John Snow traces a cholera outbreak to a London water pump.

Year: _____

Maidstone, England, puts chlorine into its water mains during an epidemic.

Year: _____

Lincoln, England, starts chlorinating its drinking water permanently.

Element, compound or solution? Tick one for each.

Substance	Element	Compound	Solution (mixed in water)
Chlorine gas			
Table salt (sodium chloride)			
Calcium hypochlorite (chloride of lime)			
Labarraque's solution			

Labarraque did not know germs existed. How could his method work anyway?

Safety: never mix bleach with acids, vinegar or ammonia cleaners; toxic gases form.

Teacher page: answers

Name _____

The bleach timeline

Year	Event
1774	Scheele makes chlorine (Uppsala, Sweden)
1789	Berthollet: eau de Javel
1799	Bleaching powder patented in Britain
1810	Davy: chlorine is an element
1822	Labarraque wins the Société d'Encouragement prize
1847	Semmelweis: chlorinated lime handwashing
1854	Snow: Broad Street pump
1897	Maidstone: emergency chlorination of the water mains
1905	Lincoln: permanent chlorination

Sorting: chlorine gas = element; sodium chloride and calcium hypochlorite = compounds; Labarraque's solution = a solution of sodium hypochlorite in water.

Discussion: chlorine compounds destroy the microbes that cause rotting and smell, whether or not anyone knows the microbes are there. The method worked before the explanation existed.

Story link: Cielle is chlorine, element 17, in The Cielle Stories and Appelle-moi Ciel by Canut Acier (superelements.com).

Sources: Wikipedia (Labarraque; Liquid bleach); McGill OSS; Labarraque 1829 translation; Encyclopedia.com.