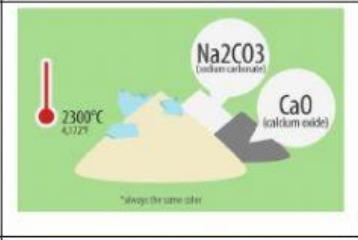
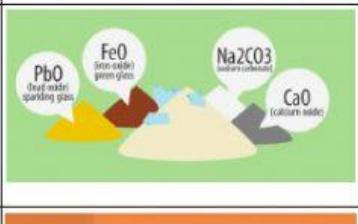
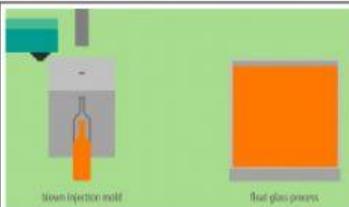


How is glass made?

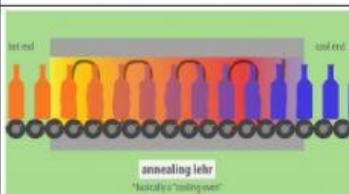
1. Watch the videos and fill the gaps.

<p>1st. Sand is the main ingredient for _____ glass. Containing mostly <i>silicon dioxide</i>, sand _____ at 2300° Celcius.</p>	 <p>SiO₂ (silicon dioxide) 2300°C 4,172°F "very fine silica sand"</p>
<p>2nd. Common commercial glass is made with <i>sand</i> _____ with _____ <i>glass, soda ash</i> (Na₂CO₃, ceniza) and _____ (CaO, cal).</p>	 <p>2300°C 8,172°F Na₂CO₃ (sodium carbonate) CaO (calcium oxide) "always the same after"</p>
<p>3rd. The <i>soda ash</i> (Na₂CO₃, ceniza) lowers the <i>sand's</i> _____ point, making it more energy efficient to _____.</p>	 <p>1500°C 2,732°F Na₂CO₃ (sodium carbonate) CaO (calcium oxide) "lower melting point"</p>
<p>4th. While the _____ (CaO, cal) counters (contrarresta) the <i>soda-ash's</i> effect of making glass _____ in water.</p>	 <p>Na₂CO₃ (sodium carbonate) CaO (calcium oxide) "has many different applications"</p>
<p>5th. Other _____ can be added to color the glass or give it other _____.</p>	 <p>PbO (lead oxide) FeO (iron oxide) Na₂CO₃ (sodium carbonate) CaO (calcium oxide) "coloring glass"</p>
<p>6th. The _____ is now molten (= melted) <u>into</u> a _____.</p>	 <p>using a gas-fired furnace, electric melter, pot furnace or kiln</p>
<p>7th. Then the molten glass is homogenised and more chemicals can be _____.</p>	 <p>Na₂SO₄ (sodium sulfate) removes bubbles "air is removed from the molten"</p>

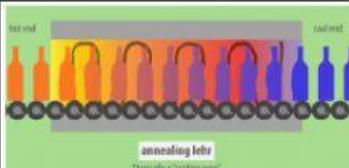
8th. At this point the glass **is** _____ in its required **form**, for example as a _____ or **pane**¹.



9th.a The final **step is** a controlled _____ of the still **hot** glass **object** in a specialised ... _____ called an **annealing lehr** (horno de recocido).



9th.b _____ **annealing** (recocer) glass is significantly **weaker** (más débil).



10th. To **increase** strength (fortaleza) even more, glass **can be toughened** (endurecido) or **tempered** (templado) using _____ and ... _____ **treatments** (tratamientos).



1 A **flat** piece of glass.