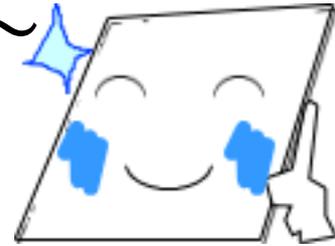


~Tour of glass museum~



1. history

- (1) Glass at the time of the birth, the glass of the technique is the mosaic technique and (**core**) techniques.
- (2) In 1500 BC, in such a way that "type push method" I had made the glass is Egypt and (**Mesopotamia**).
- (3) The 1st century BC, because the technology of (**Blown glass**) has been invented, window glass and, at that time, glass cup was born was valuables.
- (4) Delicate glass products were greeted in court and the wealthy of Europe, I had been using a technique called race and glass (**millefiori**).
- (5) 1960s, by (**Harvey = Littleton**), et al. In the United States, the studio glass movement has been carried out.
- (6) In times when it is said that glass was transmitted

to Japan, It is (Yayoi period).

(7)It became the (7 - 8) century that the glass raw materials came to be made.

(8)Glassware was transmitted when 1549 (Francisco Xavier) came to Japan.

(9) I thought about commercializing Western culture, and the development of glass products was promoted because Seducer came to (Sakishima) in 1708.

(10)On high-class glass in Osaka, mass production of cheap glass began in Edo. The year at that time is (Civil administration).

(11)The glass of Edo became popular due to the start of free trade of Ansei 6th Yokohama, Hakodate, (Nagasaki).

(12) When European and US glass scraps are imported, I began to make hard to break (soda glass).



2. nature

- (1) The glass is in the (**solid**) state.
- (2) Glass will never burn, but it will reach (**3000**) ° C when it heats to the limit.
- (3) The reason the glass is transparent is that the structure of the glass has no boundary of grain that intercepts (**light**).



3. experiment

- (1) Glass (**heat**) and electricity pass.

Also, the reason why cracks are caused by quenching heated glass,

This is because the glass could not bear to endure (**expansion and contraction**) due to the temperature difference.

- (2) Put the powdered glass in (**phenolphthalein solution**), the phenolphthalein solution turns red.

4. Material

(1) What is called quartz sand is called (**silica sand**).

(2) It is the main ingredient of baking powder,

What is included in detergents and bath additives is
(**soda ash**).

(3) Limestone is called calcium carbonate,

By making it a glass material, glass (**durability**) is
strengthened.

