OLD SALEM EXPLORATORIUM

True Colors

Grade 8 Science

Student Name: _____ Date: _____

Read each question and circle the answers:

Activity 1:

The jar on the left has not been fired yet. We can see that the ingredients of the glaze appear green and brown. Is this a physical property of the ingredients or a chemical property?

Physical **Chemical**

The jar on the right has just come out of the kiln. We can see how the heat and oxygen of firing has reacted with the glaze ingredients to change the colors to blue and yellow. Is this due to a physical property of the ingredients or chemical property?

Physical **Chemical**

In order for the glaze ingredients to change from chalky to glassy, the pot had to be fired to around 1,800° F. At that temperature, the glaze meets its melting-point and changes states from solid to liquid. Is the melting-point a physical or chemical property?

Physical **Chemical**

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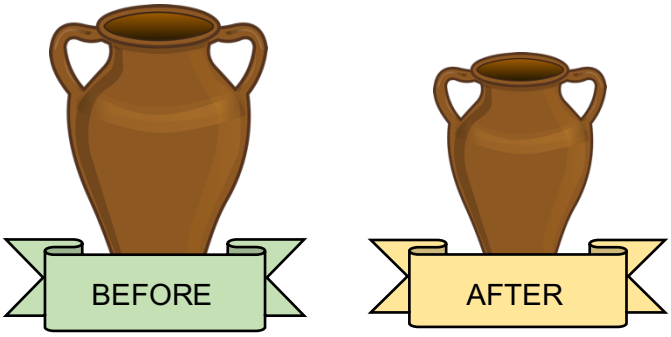
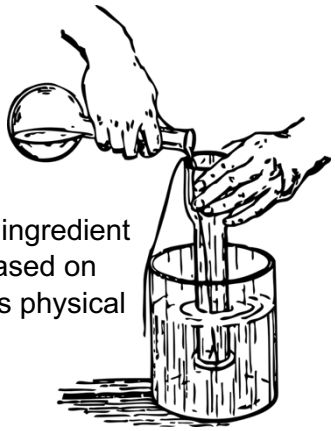


Activity 2:

Look at the changes that occurred in the pot above, before and after firing. Which of the choices below are ***physical changes*** that may have occurred? *Circle all that apply.*

State change	Density change	Color change	Size change	Temperature change



Activity 3:

In order to mix a glaze that fits the pottery best, the potter must find a glassy ingredient with a melting point of about 1,800° F that will shrink at the same rate as the clay. Based on melting point and change in size, should the potter choose an ingredient based on its physical properties or its chemical properties?

Physical **Chemical**

Activity 4:

Sometimes glazes that contain too much Manganese can bubble in the heat of the fire and cause bumpy, sharp blisters all over the surface of a pot. Which ***chemical change*** of Manganese could be causing these bubbles to form in the heat? *Circle one.*

Change in color	Density change	Formation of a precipitate	Change in state of matter	Formation of a gas