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## DEVELOPMENT OF KNOWLEDGE AND SKILLS IN CHEMICAL STRUCTURES AND PROPERTIES OF PAINTS IN PAINTING ART LESSONS

**Abstract:** Explaining the chemical composition and properties of paints in visual arts classes, explaining the interdependency between the science and the science of chemistry, plays an important role in forming the concepts about the chemical composition and properties of dyes.

**Key words:** color, acquaintance, art, fine arts, gouache, tempera, watercolor, oil paint.

**Language:** English

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### Introduction

Our ancestors left us a lot of spiritual treasures about color and its role in human life, about healing, educational, philosophical and spiritual aspects. Unfortunately, we can not take full advantage of this spiritual heritage. Indeed, in education and training, in medicine, technology, agriculture, economy and other areas, these issues are not sufficiently emphasized. However, in the developed countries of the world, much importance is attached to the replacement of colors in human life. It is known that in the educational system the science of colorology is taught. But the textbook, electronic version, etc., which meets the modern demand, is not enough. Scientific research work on the teaching methodology of color science is almost not carried out.

Each color means a person. "Why is nature created in green? What is the reason for this? What does it mean if nature is red or yellow. "Why is nature created in green? What is the reason for this? If nature was red or yellow, What did they mean? What colors raise the mood of a person? Which one has a negative or positive effect? Through the colors of human or animal, can they accurately determine their health? I'm sorry " [1.160 p] the world is an expression from infinite mysteries. It can be symbolically likened to the work of the bamisoli painter "black square". After

all, if the" square " – means its literary creation, the four sides – the symbol of Infinity, then the" Black color " indicates that the abstract world mystery is an inexplicable mystery. No matter how much humanity does not try to know these secrets, but the fact that his vision is impotent, it is natural.

### Main part

Giving information about the chemical composition and properties of paints in the lessons of Fine Arts, explaining the inseparable relationship between the science and the science of chemistry, in which the chemical composition and properties of paints take an important place in the formation of concepts.

Paints used in fine arts are divided into watercolor, gouache, tempera and oil paints. [1.160 p].

**Watercolor paints**-have the property of rapid solubility in water, through its use, a film coating forms on the surface of the paper. The main reason for this is the presence of water-soluble kamedil (gummiarabik, cherry glue) in the composition of watercolor paints. Watercolor paints can be used mainly on paper surfaces.

**Gouache paint**-this paint is prepared with a dextrin substance that has a water-soluble property.

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These paints are darker than watercolor paints, and it can be used mainly on paper, cardboard and fabrics.

**Tempera**-this is an aqueous solution made of water-soluble egg yolk, gummiarabic, (or cherry glue) or casein and ointment. The difference of this paint from other paints is that after using this paint on the surface, it is impossible to melt it for the second time. In many cases of these paints, the color to the tree bark (papemashe) is processed in the image, it will not be correct to use it on the surface of the holster, since it does not have elasticity.

**Oil paints**-are refined and cleaned, prepared with nuts or sunflower oil. After using the surface (special polotno), it can be seriously changed. These paints are mainly used for grounding and painting wood materials.

If we cut a circle out of cardboard and paint it in red, orange, yellow, green, air, blue, in the order of the spectral colors, we can set it on the axis of the fan. If we rotate quickly around the qi, we see a gray hue in the general view. In the same way, when we turn the three primary colors, red, yellow, and blue, we get a brighter light gray. When we mix these seven colors in a palette, we get a dark, unobtrusive mixture.

The difference between achromatic colors and chromatic colors is that they have selective absorption and return properties. All colors except achromatic colors, that is, colors that have a certain color, are included in chromatic colors.

Each chromatic color has three properties: hue, color brightness (i.e., more or less brightness), and color intensity (i.e., color intensity).

If we look closely at the spectrum, we can see the similarities between the red and purple colors at the very edges. When the two colors are mixed together, red is formed between them.

There can be many shades of color, but our eyes can distinguish up to 150.

Cold colors include ice, water, blue color, bluish, violet, air color, dark green, blue red, reminiscent of the color of the sky. Existing colors in nature can be further divided into warm and cold colors, respectively. Warm colors include such colors as yellow, garland, red, yellowish green, reminiscent of Taft of alanga, heated iron.

The world consists of endless mysteries-industries. To learn them you will need unlimited human life. Our ancestors tried to study the mysterious world, the causes of all the blessings created by nature, and came to such a conclusion that nothing in the world was created without reason, although the term "color" consists of four letters, it does not reach the meaning of it and the study of the mysterious world, the life of people does not reach. For the scientific study of color, the science of "Colorology" was formed.

The pupil of the eye becomes larger, the heart rate changes, this condition negatively affects the health of people. Let's reflect on this every spring

when you go to the tulip election, in addition to the fresh air, in the countryside you can see flowers of different colors, lawns, the gloomy sky, snow-white snow in the depths of the Mountain, your soul will rise, your love for life and nature will increase even more. Our world-famous ancestors such as Alisher Navoi, Abu Rayhon Beruni, Abu Ali Ibn Sina, Komoliddin Bekhzad, Firsisiy, Zahiriddin Muhammad Babur wrote a lot about color, its types, names, symbolic meanings, effects on human health and so on, conducted scientific research. [4.386 p] Chunonchi: Abu Rayhon Beruni listed more than 200 names of colors in his book Al Jawahir-Ma'rifat al Jawahir (Mineralogy) and wrote about the origin of these colors. In the east, scientists, poets, musicians, engravers, calligraphers distinguish more than a hundred types of colors, and also know their name, and even the symbolic meaning of each color. Among them, we will get acquainted with some examples that have reached US: avlon, rahuvon, leaf cabbage, Violet, Willow color, gray rose, brown color, bluish, saffron, Emerald, Amber, Gray, Blue lozhuward, Tulip color, cranberry, blue, mosh color, nefarmon, White, pistachio, pistachio pink, yellow, savsar Sky color, sur, turquoise, flying, honeycomb red, crimson, black, black kernels, Snowdrop, air color anordona, Agate, bayzo flower, leaf color, bullish night, biga, burul, gulnor, gulobi, Dani Farang, jigari, jiyron, Chick, glitter, ZAR, zarchava, gargle, dove neck, blue, lilovi, limurang, monkey mikori, Baker color, nilobi, nimatir, nim pink, norgul, fire color, olmatakor, White upa juice, carrot color, samak kesaksiyo, glaze, armor, surma color, tilla color, saliva full, tutiyoyi etc. Unfortunately, over the years, centuries, gradually the name, types and symbolism of colors, as well as their language, came to the threshold of extinction.

In addition to these paints, there are decorative paints, light-emitting and heat-sensitive paints. Decorative paints are mainly used for primer. [2.48 b]

Light-emitting paints contain substances that exhibit the properties of light-emitting phosphors, which are used in low-light sources, structures, and in various advertisements, clocks, and numbers.

There are two types of heat-sensitive paints, namely, the composition is unchanged and variable. The working temperature of the unchanged paint is 100<sup>0</sup>C, which after cooling returns to its previous state. As a result of the heating of the paint loses its crystallization layer, after 2-4 hours it cools, swallowing moisture from the basin again returns to its carpet. In changing paints, the working temperature is up to 950<sup>0</sup>C, and after cooling over time, it does not return to the previous color case. For example; NiNH<sub>4</sub>PO<sub>4</sub> 6H<sub>2</sub>O (nickel (II) ammonium phosphate hexane gidriti) Gray from light green at 120<sup>0</sup>, CONH<sub>4</sub>PO<sub>4</sub> H<sub>2</sub>O (cobalt (II) ammonium phosphate gidriti) from bright red at 140<sup>0</sup> to dark blue, Cd(OH)<sub>2</sub> (cadmium (II) hydroxide) White at 200<sup>0</sup>, CuCO<sub>3</sub>

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(Copper (II) carbonate) from light green to dark brown in 400°. [5.40 p]

### Conclusion

Color is of infinite importance in human life. Therefore, a lot of scientific research work on Colors has been carried out and is being conducted by scientists for centuries. Currently, hattoki is developing special color institutes and scientific

laboratories in several countries. Especially the Color Institute in Tokyo, Japan, is famous for the world. Speaking symbolically through color by prominent scientists of the world; treating people through color; nurturing; giving philosophical thought through color jargon; knowing the inner world of man through color; increase the productivity of agricultural products; formation of the spirituality of people and other issues are being studied.

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