

# Transitions between human habitats's physical and chemical properties

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## Abstract

This study aims to analyze the transition between physical and chemical properties in residential environments, focusing on plant combinations and sunlight exposure. First, the concepts and differences between physical and chemical properties are outlined, as well as their importance in the living environment. Secondly, the role of plants in the living environment was discussed, as well as the principles and techniques of plant matching. The impact of daylight on the living environment and the optimal daylight utilization strategy are further analyzed. Finally, it focuses on the synergistic effect of plants and daylight, and presents practical cases for optimizing the living environment. Through in-depth analysis of these contents, scientific basis and practical suggestions can be provided for the design and improvement of living environment. In this study, we will also explore the interaction between physical and chemical properties and explore the mechanisms that influence the transformation of residential environments. In addition, we will examine in detail the different ways in which plants can be combined and how they affect physical and chemical transitions in the living environment. We will also explore the many aspects of daylight exposure, including the impact of light intensity, light duration and light angle on the living environment. By studying the synergistic effects between plants and daylight, we will provide more practical advice on how to maximize the physical and chemical effects of transformation in living environments. At the same time, we will also display some successful practical cases to help readers better understand how to apply these scientific evidence and practical suggestions to optimize the living environment. This study aims to provide important reference and guidance for improving the quality and comfort of the living environment, and to provide scientific basis and practical suggestions for the design and improvement of the living environment.

## Keywords

Living Environment, Physical Transformation, Comfort, Balance, Environmental Safety

## 1 Introduction

The physical and chemical properties of the living environment have a vital impact on human health and quality of life. Physical and chemical factors work together to determine the overall health of your living environment. Good physical conditions, such as air quality, lighting, temperature and noise control, can provide a comfortable living environment. Controlling chemical factors, such as air and water pollutants, and the safety of building materials and everyday products, is key to long-term health. Therefore, when selecting and maintaining a living environment, these factors need to be considered comprehensively to create a healthy, safe, and comfortable living space.

### 1.1 Title

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### 1.3 Keywords

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### 1.4 Sections

All sections and subsections are numbered consecutively except for the Acknowledgement and the References.

## 2 Physical and chemical properties in the living environment

The conversion between physical and chemical properties in the living environment involves many factors such as plant matching and sunlight exposure. These factors directly affect the comfort and quality of the living environment. Physical properties mainly include temperature, humidity, light, etc., while chemical

properties include smell, air quality, etc. The interaction between these factors will play an important role in the improvement of the living environment. Therefore, it is necessary for us to have a deep understanding of the relationship between physics and chemistry in the living environment, and to optimize the quality and comfort of the living environment through more detailed research and practice to create a more livable living space. With deeper knowledge and understanding, we can discover more potential factors and take appropriate measures to improve the living environment, such as improving air quality by increasing the number and variety of plants, and providing better lighting by adjusting light intensity and direction. Effect. In addition to this, we can also study the properties of different materials and their impact in the living environment to choose the most suitable materials to build and decorate the home. Through continuous efforts and practice, we can continuously improve the living environment to make it more comfortable, healthy and pleasant, and provide residents with an ideal living experience.

### **2.1 The concepts and differences between physical and chemical properties**

Physical and chemical properties are two integral aspects of the living environment. Physical properties mainly focus on the physical conditions in the environment, such as temperature, humidity, light, etc.; while chemical properties involve chemical factors such as smell and air quality in the environment. Physical focuses on the basic conditions of the environment, including energy consumption, electromagnetic radiation and sound, while chemical focuses on the chemical components in the environment and their impact on health and the environment. The difference and interaction between the two will directly affect the quality of the living environment and people's life experience. A healthy, comfortable and livable living environment can only be created when both physical and chemical properties are fully considered and managed. Physical improvement can be achieved by providing good air conditioning, lighting and sound insulation facilities, while chemical improvement requires paying attention to harmful substances and pollution sources in the environment and taking corresponding purification and elimination measures. In this way, we can ensure that the living environment not only meets basic living needs, but also provides comfortable, healthy and sustainable living conditions.

### **2.2 The importance of physics and chemistry in the living environment**

Understanding and appreciating the importance of physical and chemical properties in the living environment is critical to improving people's quality of life. Good physical environmental conditions can lead to a comfortable and healthy living experience, while good chemical properties mean fresh air and good smells. Therefore, paying attention to these two aspects and optimizing and improving them in the living environment will directly affect people's quality of life and happiness. In modern society, people have higher and higher requirements for living environment. More than just a simple residence, people want to be able to have a sense of comfort and tranquility in their homes. This requires us to have a deeper understanding and understanding of the physical and chemical properties of the living environment.

In terms of physical environment, comfortable temperature, suitable humidity, good ventilation, etc. are all important factors we consider. A comfortable living environment will allow us to relax better and perform various activities better. In addition, pay attention to the rational use of natural light to create a bright and pleasant home environment. The importance of chemistry cannot be ignored. Fresh air and good smells can make us breathe easier and be healthier. The elimination and protection of harmful substances is also very important. For example, choose decoration materials and furniture rationally to reduce pollution to air quality. We should pay attention to the importance of physical and chemical properties in our living environment and take the initiative to optimize and improve them. You can start by choosing a suitable residence, taking into account all aspects of the physical environment, such as surroundings, building structure, etc. In addition, try to choose pollution-free decoration and furniture materials to avoid the release of harmful substances. Regularly conduct indoor air testing to ensure the quality of the living environment. The importance of physical and chemical properties is crucial to improving the living environment and improving the quality of life. Only when we value and pay attention can we enjoy a comfortable living environment and have a better life experience.

### **3 Plant combination and living environment**

In the living environment, the importance of plant matching is self-evident. Its positive impact on air quality and atmosphere is irreplaceable. By cleverly arranging and

combining various plants, we can not only effectively increase the oxygen content in the air, but also fundamentally purify harmful substances in the air, creating a high-humidity, comfortable and pleasant living space for us. In addition, plants can add natural beauty and abundant vitality to the living environment, allowing us to enjoy every moment of life more easily and happily. Because of this, we should pay more attention to the physical and chemical changes in our living environment and focus more on the importance of plant matching. Only in this way can we take a solid step towards improving the quality of our living environment.

### **3.1 The role of plants in the living environment**

Plants play multiple roles in the living environment. First, they absorb carbon dioxide and release oxygen through photosynthesis, providing fresh air to their occupants. In addition, they can attract and accommodate more wildlife and enrich the ecosystem of the residential environment. Secondly, plants also have the ability to purify the air, absorbing harmful volatile organic compounds, improving air quality and reducing pollutants. In addition, lush vegetation can also provide shade and regulate temperature, creating a more comfortable atmosphere for occupants. Therefore, when designing the living environment, we need to fully consider the role of plants and carefully select suitable plant types and quantities to create a harmonious and pleasant living space. Through reasonable planning and layout, we can make plants a part of the living environment, allowing people to enjoy the beauty of nature and achieve a healthier and livable lifestyle. At the same time, plants can also promote mental and emotional health. Research in recent years has found that contact with the natural environment can alleviate symptoms of stress, anxiety and depression. The green, natural appearance of plants, as well as their vitality and growth process, can bring people a sense of tranquility and relaxation. Introducing plants into your living environment not only improves air quality, but also creates a space that promotes physical and mental health. In addition, plants can provide food and medicinal resources. Many plants have medicinal properties and can be used to treat a variety of illnesses and conditions. Planting medicinal plants in residential environments can not only meet the medical needs of residents, but also reduce reliance on artificial drugs. In addition, some vegetables, fruits and grains can be grown in residential environments, providing residents with a fresh, healthy food source.

Therefore, when creating a livable environment, we should consider increasing plant planting areas and green areas in residential areas. By selecting plant varieties adapted to local climate and environmental conditions, and adopting appropriate growing methods and management practices, we can maximize the functions and benefits of plants. The presence of plants not only improves air quality, regulates temperature, and provides shade, but also promotes health, improves psychological well-being, and provides resources for food and medicine. Let us work together to integrate plants into the living environment and create a greener, healthier and livable living space.

### **3.2 The role of plants in the living environment**

Plant matching needs to consider the height, shape, color and other factors of the plants, and select suitable plant types and quantities according to the characteristics and functional requirements of the living space. Also consider the care and maintenance of your plants to ensure they continue to grow healthily. A reasonable combination of plants can improve the living environment and increase the beauty and comfort of the space. You can use flower pots of different shapes and materials to decorate plants, adjust the mix of plants, and create different atmospheres and themes. Plant matching can also refer to the designer's works and experience to achieve better results. In short, plant matching is a process that requires consideration of multiple factors. Through reasonable selection and creative use, you can create a pleasant living space.

### **4 Synergy between physical and chemical properties**

In the living environment, there is a synergistic effect between physics and chemistry. For example, plants can convert carbon dioxide into oxygen through photosynthesis, thereby improving the chemical composition of the air and purifying indoor air. At the same time, the presence of plants can also regulate indoor humidity through transpiration and affect physical environmental factors. This physical and chemical synergy helps create a more comfortable and healthy living environment. Therefore, we need to deeply study and understand the mechanism of this synergy to better optimize the living environment.

#### **4.1 The synergistic effect of plants and sunlight**

There is a synergistic effect between plants and sunlight. Plants absorb energy from sunlight through photosynthesis, perform growth and metabolic activities, and at the same time release oxygen to regulate the chemical composition of the air. Under sunlight, the leaves

of plants can also absorb harmful gases such as carbon dioxide and carbon monoxide, thus purifying indoor air. In addition, sunlight can also provide the energy and photoperiod needed for plant growth, promote healthy plant growth, and build a good living environment. Therefore, this synergistic effect between plants and daylight is of great significance for optimizing the living environment.

#### 4.2 Practical cases of optimizing living environment

There are many practical examples of how to optimize the living environment through the synergistic effect of plants and daylight. For example, in architectural design, you can create a more pleasant indoor environment by selecting plant species suitable for growth, rationally arranging indoor green plants, and designing layouts based on the building's sunlight direction to maximize the effects of sunlight and plants. This perfect combination not only adds to the indoor natural landscape, but also brings a series of benefits to our living environment. Through the photosynthesis of plants, fresher and healthier air can be obtained indoors, and harmful substances in the room can be effectively purified. At the same time, plants can also absorb part of the surrounding noise, improving indoor quietness and comfort. The synergistic effect of plants and daylight can also regulate indoor temperature and humidity, creating an environment more suitable for human life. Whether it is a home environment or an office space, through the synergistic effect of plants and daylight, we can feel more natural warmth and comfort. Therefore, the synergistic effect of plants and sunlight plays an important role that cannot be ignored in optimizing the living environment. We can learn from these practical cases, add more plants to our living environment, and make reasonable use of sunlight to create a more pleasant living space for ourselves. Let us join hands with plants

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and sunlight to create a more comfortable and healthy living environment.

#### 5 Conclusion

The conversion between physical and chemical properties in the living environment is a complex and important subject. Plant combinations and daylight exposure play an important role in this process as key factors, not only improving air quality and regulating temperature, but also affecting the psychological state of the occupants. Therefore, when designing and optimizing the living environment, it is necessary to fully consider the synergy of physical and chemical properties, formulate a reasonable plant matching plan, and adopt scientific daylight utilization strategies to create a more livable living space. These research results provide important theoretical and practical guidance for improving the quality of living environment and improving people's quality of life. Therefore, in the future development process, we need further in-depth research and exploration to fully understand the relationship between physical and chemical properties in the living environment and propose more effective solutions. Only in this way can we create a better living environment and improve people's happiness and quality of life. Therefore, every designer and scientist should work together to contribute to creating a more livable living environment. Only in this way can we truly realize the harmonious coexistence between man and the environment and promote the sustainable development of society. All efforts are worth it because our goal is to create a better future for people. We have the confidence and determination to make important contributions in this field and strive for the prosperity and progress of mankind.

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