Learning Series

House



This is a building-block programming robotics kit. The kit is equipped with various sensors such as sound sensitivity, color, touch, photoelectric, lantern, ultrasonic, camera and a wealth of building blocks. Students can use their imagination to build a variety of building block robots, and use graphical programming software to program the robot and experience the joy of hands-on creation.

Learning Target

01

Knowledge goal

Light reflection and refraction, light propagation.

02

Ability goal

Learn the principles of reflection and refraction of light, how light travels.

03

Emotional attitudes and values

Inspire the spirit of exploration and make children everywhere in life.
The things I see are of interest in research.

Learning Target

01

Learning focus

Reflection and refraction of light.

02

Learning difficulties

Principle and application of light propagation.

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Course Introduction



Course Introduction

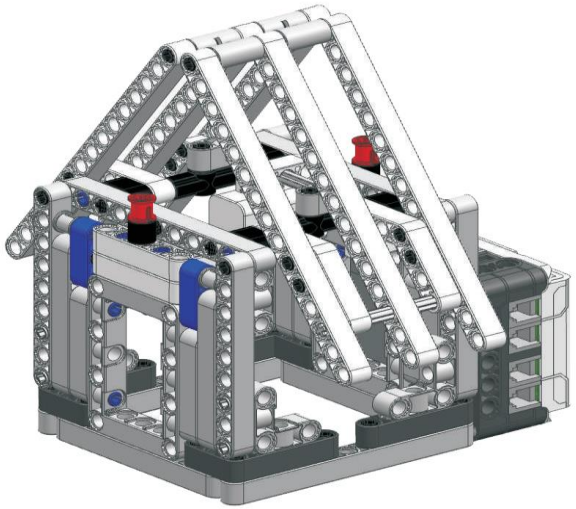


Let's look at a picture. Thinking?

1. What is the reflection of light?
2. What is the refraction of

Light is a way of spreading energy. Light sources emit light because of the movement of atoms and molecules in the light source. There are three main ways: thermal motion, transitional radiation (including spontaneous and stimulated radiation), and optical radiation generated by accelerated motion of charged particles inside the material.

Course Introduction



Small house

Know the House

A house is a building that is inhabited by humans, engaged in social activities, or for other purposes. It is the most basic means of subsistence for human beings.

This class will build a house called the house robot. Can be used to live.

Teaching New Knowledge

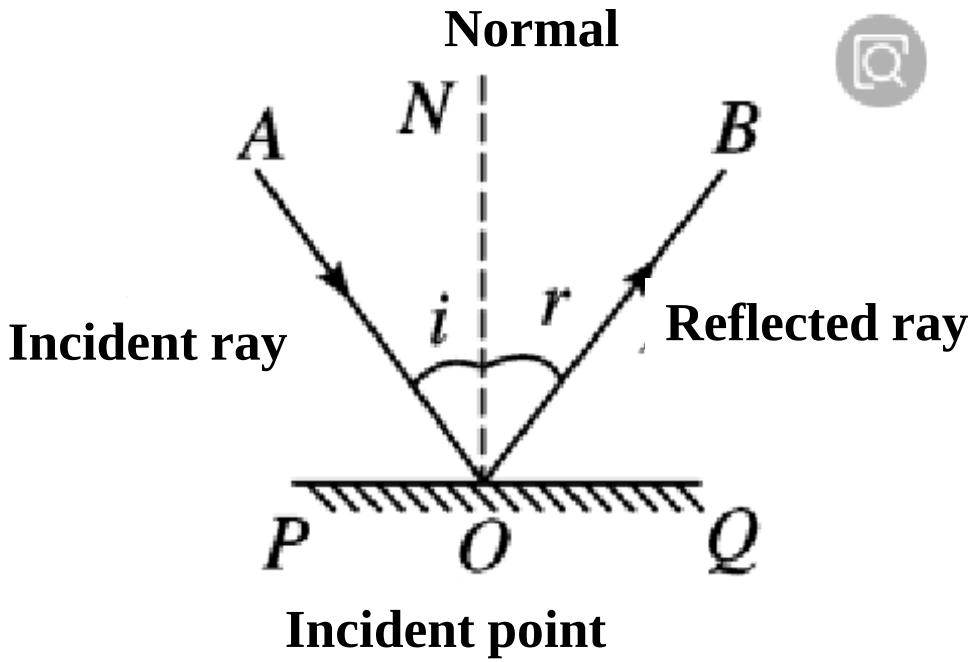


Teaching New Knowledge

Straight line propagation: Light travels in a straight line in the same homogeneous medium.(such as air)

Curve propagation: light is a curve propagation (water) in an inhomogeneous medium

Reflecting an optical phenomenon. Refers to the phenomenon that when the light propagates to different substances, it changes the direction of propagation at the interface and returns to the original material.



Teaching New Knowledge

Light refraction:

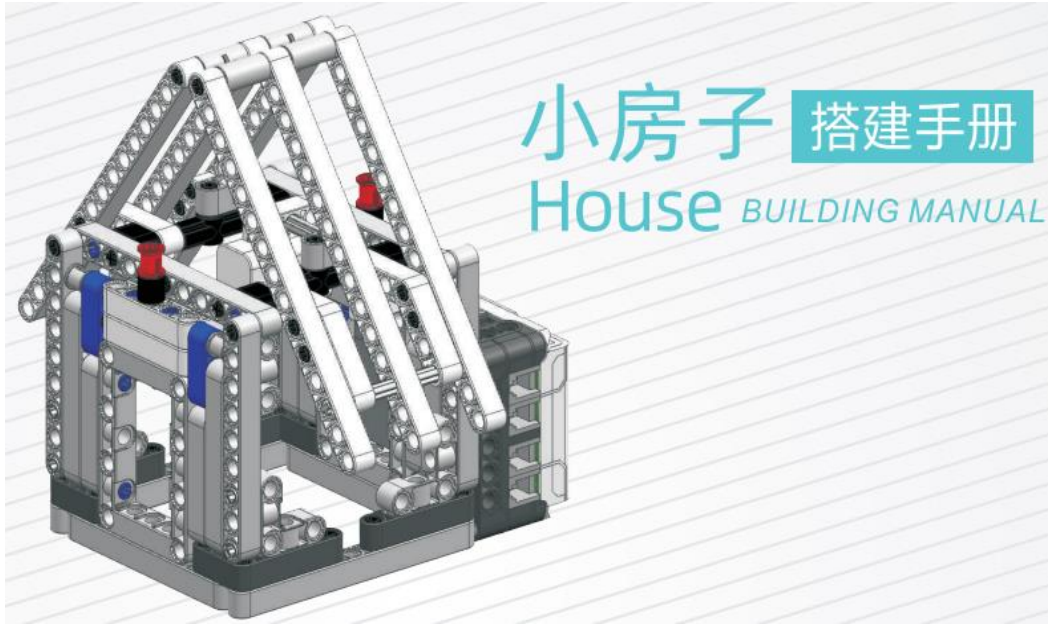
Refraction: When light is obliquely incident from one medium to another, the direction of propagation changes, causing the light to deflect at the junction of different media. (Light has the largest deflection angle in the air)



Task Practice



Task Practice



Assembly requirements

1. stable structure

2. focus is right

3. shape match

Checkin g Effect



Test Effect



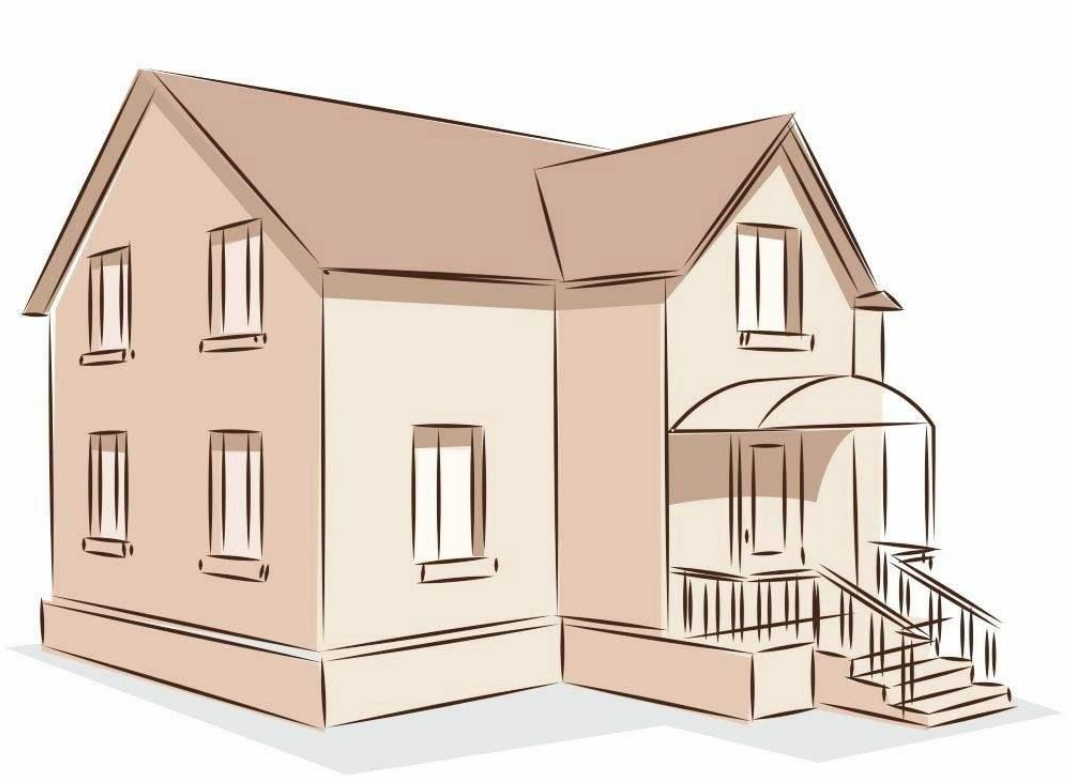
Review the learning content and deepen your impression.

Question 1 Refraction and reflection of light?

Question 2 The spread of light?

Question 3 What is the role of the robot?

Test Effect



Homework

1 Complete the renovation of the house and add household equipment.

Thank you for watching!

BE STEM READY

