Why Is the Sky Blue?

Read the passage. Then answer the questions in full sentences.

Name _____ Date _____

Light from the Sun looks white, but it is really made up of all the colors of the rainbow. A prism, a specially shaped crystal, separates white light into all its colors.

Light travels in waves, some short and choppy, some long and lazy. Blue light waves are shorter than red ones. Light goes in a straight line unless something gets in the way: a mirror reflects it, a prism bends it, and the gases in the air scatter it.

The gases and tiny bits in Earth's air scatter sunlight in all directions. Blue light is scattered more than the other colors, because it travels as shorter, smaller waves. That is why the sky looks blue most of the time.

At sunset, the light passes through more air to reach you. Even more of the blue is scattered, and the reds and yellows pass straight through. On Mars, the daytime sky is orange or reddish, and the sky around the setting Sun turns blue-gray.

1. **What is the light from the Sun really made of?**

2. **What three things can happen to light when something gets in its way?**

3. **Why does the sky look red and yellow at sunset?**

4. **Blue light waves are shorter than red ones. Why does that make the sky blue and not red?**

Answer key

Why Is the Sky Blue?

1. What is the light from the Sun really made of?
   All the colors of the rainbow.

2. What three things can happen to light when something gets in its way?
   A mirror reflects it, a prism bends it, and the gases in the air scatter it.

3. Why does the sky look red and yellow at sunset?
   Because the light passes through more air, so even more of the blue is scattered, and the reds and yellows pass straight through.

4. Blue light waves are shorter than red ones. Why does that make the sky blue and not red?
   Sample answer: the air scatters shorter waves more, so blue light is spread all over the sky while red light goes straight on.