MAKE A PRISM

How can you make a prism with water?

Materials

- Sunny day
- Mirrors
- Trays or pans
- Water
- White surface

Procedure

- Place the tray on a table or on the floor in direct sunlight. Put about 1 in. of water in the tray.
- Place a mirror in the tray and focus the reflected sunlight on a white surface. At least part of the mirror should be submerged in the water.
- Try different depths of water and angles of the mirror. What do you see in the reflection on the white surface?

Results

The colors separate as light passes through the homemade prism and you see a rainbow.

Why?

As light passes through a transparent substance (glass, plastic, water) at an angle, the light rays are bent. White light contains many other colors, each of which bends to a different degree. Thus, the reflected light on the wall shows a separation of those colors. The colors separate as light passes through a glass prism, and the same effect is produced in this activity with a water prism. This same phenomenon occurs in nature as water droplets in the air separate the colors in sunlight. We see it as a rainbow. Rainbows can sometimes be seen in fine sprays of water, such as that produced by some lawn sprinklers.

To learn more about physical science, visit the Museum or check out our Fun with Physical Science education program.