

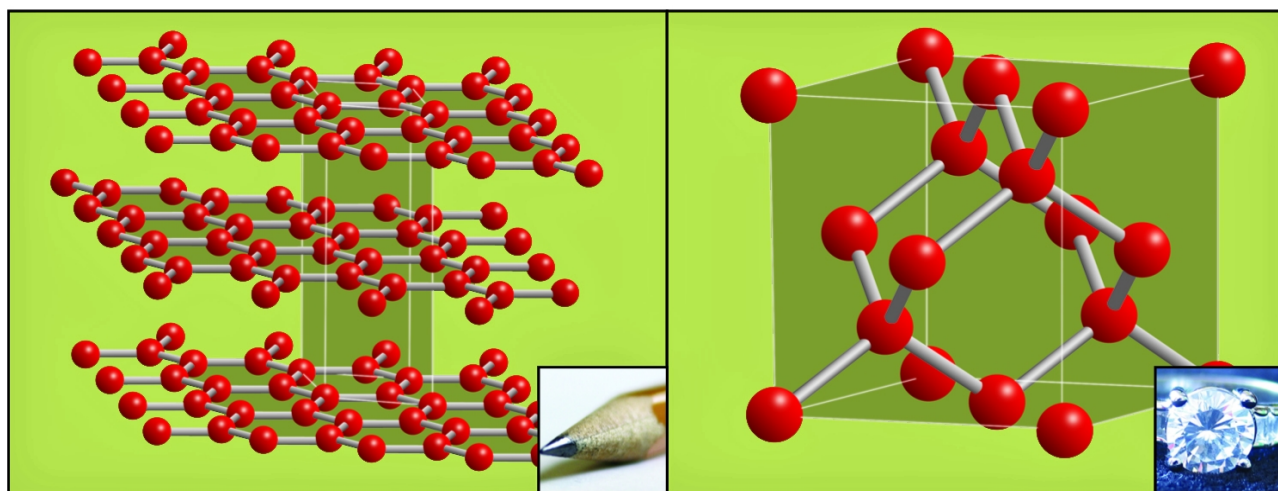
**ARTICLE: Pink diamonds are rare**

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**Introduction**

Diamonds are carbon atoms arranged in tetrahedrons. Graphite is also made of carbon atoms but arranged in parallel layers (planar lattice) and not tetrahedrons. Diamonds formed deep into the Earth billions of years ago because of high temperatures and high pressure. Graphite is found in the Earth's crust in igneous and metamorphic rocks. It can also be found in meteorites that fall to the Earth.

The arrangement of identical molecular components can make a dramatic difference. For example, below is an illustration of carbon atoms that can be arranged into dull graphite (left) or sparkly diamonds (right).



National Institute of General Medical Sciences/NIH

**Activities**

1. Draw an arrow in each drawing to the carbon atoms.
2. On one of the carbon atoms, draw the number of electrons in the outer shell of the carbon atom.
3. Label one line that connects the carbon atoms with the type of bond present in each diagram.

**Maker Space Activity**

**Goal:** Construct 3-D molecular models of a diamond and graphite

**Materials:** toothpicks and small marshmallows

**Time required:** 20- 30 minutes

Using toothpicks and marshmallows, construct carbon atom configurations for both a diamond and graphite. Draw a picture of your models below. Take pictures and send to your teacher.