TOPIC 7.2
Photochemical Smog

SUGGESTED SKILL

Data Analysis

5.B

Describe relationships among variables in data represented.

AVAILABLE RESOURCES

- Classroom Resource > **AP Environmental Science Teacher's Guide**

Required Course Content

ENDURING UNDERSTANDING

STB-2

Human activities have physical, chemical, and biological consequences for the atmosphere.

LEARNING OBJECTIVE

STB-2.B

Explain the causes and effects of photochemical smog and methods to reduce it.

ESSENTIAL KNOWLEDGE

STB-2.B.1

Photochemical smog is formed when nitrogen oxides and volatile organic hydrocarbons react with heat and sunlight to produce a variety of pollutants.

STB-2.B.2

Many environmental factors affect the formation of photochemical smog.

STB-2.B.3

Nitrogen oxide is produced early in the day. Ozone concentrations peak in the afternoon and are higher in the summer because ozone is produced by chemical reactions between oxygen and sunlight.

STB-2.B.4

Volatile Organic Compounds (VOCs), such as formaldehyde and gasoline, evaporate or sublimate at room temperature. Trees are a natural source of VOCs.

STB-2.B.5

Photochemical smog often forms in urban areas because of the large number of motor vehicles there.

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Atmospheric Pollution

LEARNING OBJECTIVE

STB-2.B

Explain the causes and effects of photochemical smog and methods to reduce it.

ESSENTIAL KNOWLEDGE

STB-2.B.6

Photochemical smog can be reduced through the reduction of nitrogen oxide and VOCs.

STB-2.B.7

Photochemical smog can harm human health in several ways, including causing respiratory problems and eye irritation.