ATMOSPHERIC POLLUTION AND SMOG

A. Complete the gaps with one of the words given

air	atmospheric	chemical	compounds	gases
primary	secondary	pollutants	harmful	

Atmospheric or ---------- pollution occurs when the atmosphere contains ---------- and substances in ---------- amounts. The substances that cause ---------- pollution are called ----------.

Pollutants that directly pollute the atmosphere are called ---------- pollutants. If the primary pollutants undergo ---------- reactions the resulting ---------- are called ---------- pollutants.

B. Decide if the following statements are true or false.

1. Smog is smoke + fog.
2. Smog is caused when burning fossil fuels in industry, homes and vehicles provides additional particles that act as nuclei for fog to form around.
3. Smog is more frequent during summer months.
4. Smog is associated to rural and farming areas.
5. Photochemical smog involves chemical reactions induced by sunlight on certain pollutants.
6. Photochemical smog occurs during cold and cloudy conditions.
7. Vehicles are a major source of particulate matter (PM) and volatile organic compounds (VOCs), which cause photochemical smog.
8. Fuel combustion, engine emissions, tyre wear, mining, quarrying and construction can produce particulate matter.
9. There are no natural sources of matriculate matter.
10. Volatile organic compounds result from incomplete combustion of fuel, leakages from petrol tankers and fuel tanks, methane produced by agricultural practices, ammonium nitrate from fertilisers and manure.

11. Temperature inversion disperses smog.
12. The conditions needed for temperature inversion are: high air pressure, calm conditions, valleys surrounded by steep-sided hills.
13. When the smog is so thick that blocks the sun, it is known as the "dustbin lid effect".

C. Decide if the following statements describe potential impact of smog on people (P) or on the environment (E).

1. Breathing difficulties.
2. Fine particles carried into the lungs can lead to lung cancer.
3. Growth, reproduction and general health of plants decline, making them more prone to diseases and pests.
4. Irritation of eyes and throat.
5. Respiratory diseases such as asthma.
6. Strokes and heart attacks.
7. The ability of plants to make and store food through photosynthesis is reduced.

D. Match the numbers to the letters to state strategies to improve urban air quality

1. On bad smog days, people with chest problems, such as asthma,
2. On days when smog levels are high, cars are banned
3. Compulsory fitting of catalytic converters leads to
4. Use of low-sulfur
5. Particle filters can be fitted
6. Replacing petrol and diesel
7. Electric or
8. Improving public transport (bus, metro, trams, underground train, train)
9. Creating
10. A higher road tax
11. Increased use of
12. Laws can be passed to reduce emissions.

a. and making it a more attractive alternative to the private car use.
b. are warned to stay indoors.
c. cycle lanes.
d. discourages more car ownership.
e. from entering the city according to numbers on their registration plates, which are rotated on different days of the week.
f. from industries and new industrial areas can be located on the downwind side of urban areas.
g. hybrid cars can be encouraged.
h. on diesel vehicles
i. removal of many nitrogen oxides, sulphur emissions, carbon monoxide and unburnt hydrocarbons.
j. renewable energy
k. vehicle fuels.
l. with cleaner fuels like gas.