

SCIENCE CLASS CHALLENGE



TEACHER'S ANSWER KEY:

Chlorofluorocarbons: FACT vs. FICTION

What do you really know about who uses CFCs?

Read each statement and decide if it is Fact or Fiction, then circle the correct answer.

1. Aerosol products made or sold in the United States contain CFCs.

FACT or **FICTION**

Explanation: No consumer aerosol products in the United States contain CFCs with the exception of a small number of medical applications for which no substitute is available. CFCs were used as a propellant in some aerosol products manufactured before 1978, but the U.S. Environmental Protection Agency (EPA) and two other federal agencies banned all CFC propellants in the U.S. in 1978.

2. Aerosol products made in the United States contain other elements that may harm the upper ozone layer. **FACT** or **FICTION**

Explanation: Even though many people assume that aerosol products contain some elements harmful to the upper ozone layer, they do not.

3. In the United States, all aerosol products have a “No CFC” logo.

FACT or **FICTION**

Explanation: Many aerosol products do have a “No CFC” logo to serve as a reminder to consumers. You can easily find an example of this to show your students. However, many other product manufacturers to date have chosen not to put a “No CFC” logo on the label, primarily for aesthetic reasons. Regardless of what the label includes, ALL consumer aerosol products in the U.S. are CFC free.

4. Until 1978, some aerosol products did contain CFCs, which were linked to upper ozone layer depletion. **FACT** or **FICTION**

Explanation: It was not until the 1970's that scientific research theorized that CFCs harmed the upper ozone layer.

5. In 1978, the federal government passed a regulation to protect the upper ozone layer and banned CFCs from aerosol products. **FACT** or **FICTION**

Explanation: In the mid-1970's many companies that produced certain aerosol products voluntarily removed CFCs after scientific research suggested that they were harmful to the upper ozone layer. Then in 1978, the EPA and two other federal agencies passed a mandatory ban of CFCs in all consumer aerosol products.

6. After 1987, many more countries around the world chose to protect the upper ozone layer and ban CFCs. **FACT** or **FICTION**

Explanation: In 1987, countries around the world signed the Montreal Protocol and banned CFCs to protect the earth's upper ozone layer. Over 180 countries have signed the Montreal Protocol. Other countries are still working towards banning CFCs.

7. Over 180 countries have banned CFCs. On the attached map, identify and color green a few of the countries that do not manufacture products with CFCs.

United States

Great Britain

Egypt

Italy

Canada

8. There are still many countries in the world that still manufacture products with CFCs, but most are working towards banning them in all products. On the attached map, identify and color red a few of the countries that still allow products to be manufactured with CFCs.

China

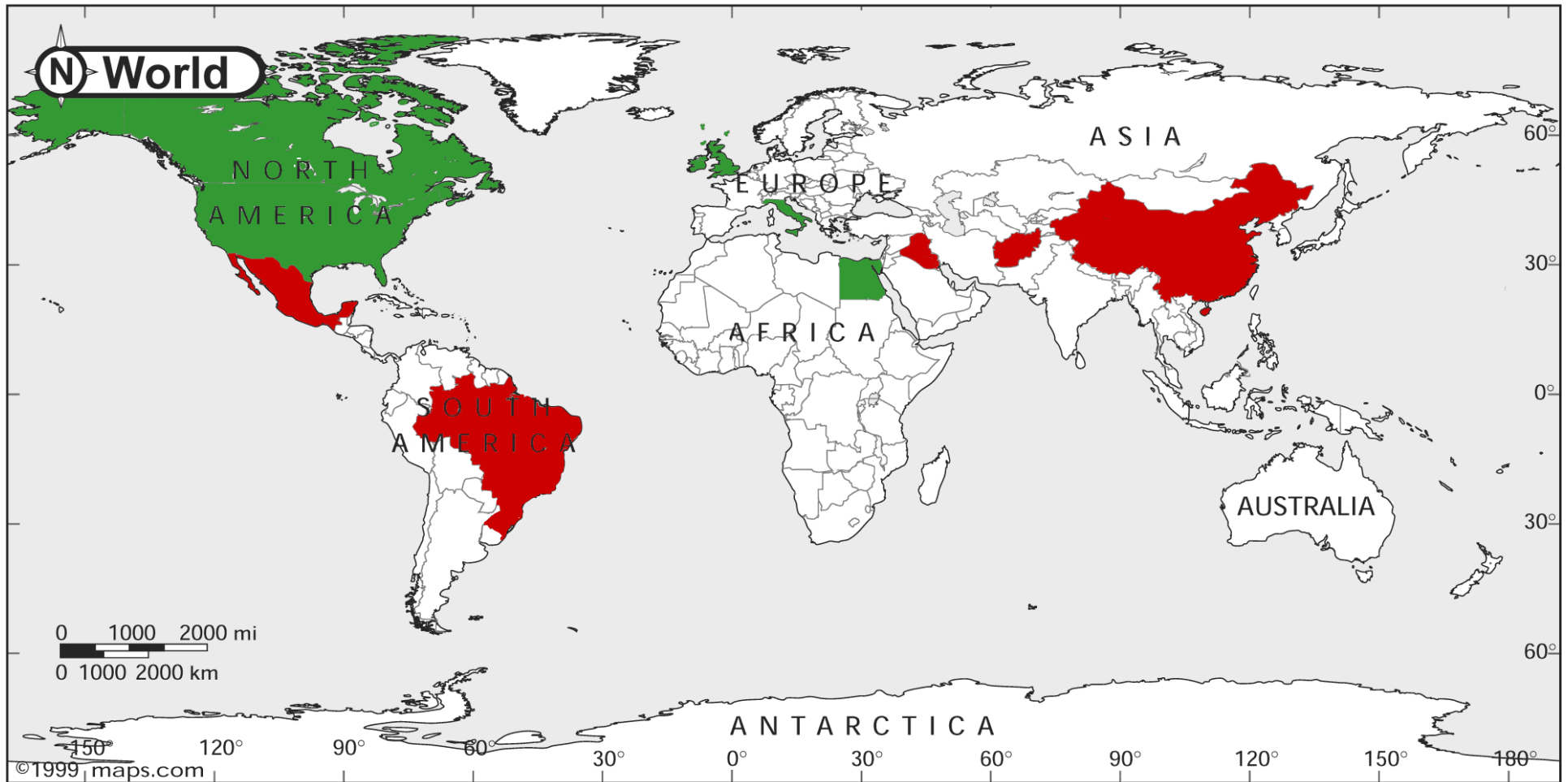
Brazil

Iraq

Afghanistan

Mexico

SCIENCE CLASS CHALLENGE



Participate in the CAPCO Science Class Challenge and qualify to win up to \$5,000. Visit www.nocfcs.org.