

## Change Our 2morrow Catchword Bingo

### Teacher's Guide

#### Suggested Grade Level:

- Grades 6-8

#### Subject Focus:

- Science
- Energy
- Environment
- Climate Change

#### Materials & Preparations:

- Blank BINGO boards
- Pen or pencil
- List of catchwords and definitions (for teacher only)
- CO2 Schools' Challenge Efficiency Toolkit
- Incentive or prize

#### Time:

- BINGO: 10 to 20 minutes per round (depending on the number of BINGOs called)
- Class discussion of vocabulary: 10 to 15 minutes

#### Objectives:

Students will learn energy saving tips and become familiar with common Schools' Challenge terminology. Students will see and experience real energy savings by interacting with tools from the CO2 Schools' Challenge Efficiency Toolkit.

#### Introduction & Background:

Being aware of your own energy use is important for many reasons. In order to reduce your impact and the impact of your family, or community, it is necessary to learn about energy efficiency. Do your part by actively participating in classroom learning, and then sharing what you learn at home. Implementing energy saving techniques will help combat the impacts of climate change and create a better tomorrow.

#### Procedures:

1. Hand out to each student one blank BINGO board.
2. Have students prepare their BINGO boards by writing one catchword in each square, until all squares are filled (there will be extra terms left over). The catchwords are listed underneath the BINGO board, at the bottom of the page.
3. To Play: Read aloud one randomly chosen catchword and its definition at a time to students. If the catchword is an item from the CO2 Schools Challenge Kit, make sure that all students can see the item. Have students mark each matching term with any type of symbol or mark in the box to show that box has been called. The CFL space is a "free" space.
4. Continue this process until a student announces they have 5 catchwords in a row, column, or diagonally, which is BINGO.
5. Have the student read the catchwords aloud to ensure the definitions are correct and it is a valid BINGO.
6. Decide on an incentive or prize for the winning students. This could be extra points on an upcoming assignment, a special treat, or a free homework pass, to name a few options. It is at the leisure of the teacher to decide.
7. Have students engage in as many rounds as time allows. Students can even take turns reading aloud definitions to the class to encourage participation and public speaking.

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#### Curriculum Guidelines:

This activity has been aligned with National Science Education Content Standards for grades 6 through 8. Below are the specific content standards this activity targets. For further State or Regional information please refer to the Teacher Resources.

- Content Standard A - Science as Inquiry
- Content Standard B - Physical Science
- Content Standard E - Science and Technology
- Content Standard F - Science in Personal and Social Perspectives

Adaptation	Actions by individuals or systems to avoid, withstand, or take advantage of current and projected climate changes and impacts.
Biodiesel	An alternative fuel that can be made from any fat or vegetable oil and used in any diesel engine.
Carbon Calculator	A tool used to estimate your individual carbon footprint.
Carbon Dioxide	An colorless, odorless, non-poisonous gas that is a normal part of the air. It is one of the six greenhouse gases that contribute to global warming. Human activities such as fossil fuel combustion and deforestation have increased atmospheric concentrations by approximately 30% since the industrial revolution.
Carbon Footprint	The total amount of greenhouse gas emissions caused directly and indirectly by an individual, event, organization, and/or product, expressed in terms of carbon dioxide.
Carbon Neutral	This occurs when the amount of carbon released equals the amount of carbon captured. Also known as offsetting.
Carpool	When a driver has more passengers in the car. This action reduces the cost of driving and carbon emissions because less people are driving alone.
Climate	The long-term average weather of a region including typical weather patterns, the frequency and intensity of storms, cold spells, and heat waves.
Climate Change	Any distinct change in measures of climate - temperature, rainfall, snow, or wind - lasting for long periods (decades or longer). May result from natural factors and/or human activities.
Coal	A solid fossil fuel that is burned at high temperatures to produce energy, producing greenhouse gases.
Compact Fluorescent Light Bulb (CFL)	This light bulb contains gas-filled tubes and replaces standard incandescent lights, reducing energy by 75%. They can last 6-10 years - a long time!
Crude Oil	A naturally occurring liquid found in geologic formations beneath the Earth's surface. We drill to find it and it is refined into consumer products, like gasoline.

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Draft Stoppers	Place these behind your outlets to stop drafts or air leaks in your home; insulating will reduce the heating and cooling needs of your house.
Drip Gauge	Measures drips from sink faucets to see the amount of water lost. If your faucet leaks a drip per second you waste more than 3,000 gallons of water each year!
Ecosystem	An ecological community together with its environment, functioning as a unit.
Energy	The ability to do work or the ability to move an object.
Filter Whistle	This alarm snaps onto your furnace or air conditioner air filters and whistles when the filter is dirty and needs to be changed.
Fossil Fuels	An energy source that comes from the compression of ancient plant and animal life formed over millions of years.
Garden Hose Nozzle	This water-saving device attaches to the end of your hose to restrict and regulate water flow.
Geothermal Energy	The heat or energy that is produced by natural processes (such as hot springs or reservoirs of hot water) inside the earth.
Global Warming	An average increase in temperatures near the Earth's surface and in the lowest layer of the atmosphere.
Green Building	The practice of increasing efficiency in buildings by improving the use of energy, water, and materials. These type of buildings are made to improve human health and environment.
Greenhouse Effect	The insulating effect of atmospheric greenhouse gases that keeps the Earth's temperature warmer than it would be otherwise.
Hot Water Gauge Temperature Card	This tool shows the temperature of your hot water from the faucet. To save up to 15% on water heating costs the water heater should be set to 120 degrees.
Kilowatt Meter	Plug this into any outlet in your home to measure the energy use of electronic devices.
LED Night Light	This light requires less energy than incandescent lights and gives you plenty of light at night.

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Mitigation	Action to decrease the emissions of greenhouse gases in order to reduce the effects of global warming and climate change.
Natural Gas	An odorless, colorless, tasteless, nontoxic, clean-burning fossil fuel that is found in deposits deep underground.
Power Strip	Use this when plugging in multiple electronic devices and switch it off to prevent electricity from being wasted.
Rain Gauge	This device measures the amount of rainfall - a heavy rain eliminates the need for watering for up to two weeks.
Reusable Water Bottle	A water bottle you can use over and over again instead of buying and recycling plastic water bottles.
Shower Timer Coach	This tool tracks the length of your showers. Shorten your time to under 5 mins and to water consumption.
Solar Energy	This energy from the sun is radiant and can be converted heat or electricity. It is only available during the day.
Sustainable Development	Being responsible and saving enough of Earth's resources now for future generations.
Thermostat	This gadget controls temperature in a room. Lowering it at night and when you are not home reduces energy use and bills.
Toilet Tank Bank	Fill this device up with water and place it in the back of your toilet to save water every time you flush.
Weather	Describes the short-term (hourly and daily) state of the atmosphere.
Wind Power	The energy harnessed when air spins turbines, and conducts electricity through a generator.

#### Make an Impact

Center for Climate and Energy Solutions  
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# Change Our 2morrow Catchword Bingo

**B I N G O**

				

**Directions:** Fill in each box with a Climate Catchword from the list below. When a Climate Catchword is called, cover the box. When you have covered 5 boxes in a row (up and down, across, or diagonal) – you have BINGO!

CLIMATE CATCHWORDS:

- ◆ Garden Hose Nozzle ◆ Draft Stoppers ◆ Toilet Tank Bank ◆ Filter Whistle ◆
  - ◆ Shower Timer Coach ◆ Hot Water Gauge ◆ Temperature Card ◆
  - ◆ Compact Fluorescent Light Bulb (CFL) ◆ LED Night Light ◆ Drip Gauge ◆
- ◆ Rain Gauge ◆ Kilowatt Meter ◆ Fossil Fuels ◆ Coal ◆ Crude Oil ◆ Natural Gas ◆ Solar Energy ◆
- ◆ Wind Power ◆ Carbon Dioxide ◆ Carbon Calculator ◆ Carbon Footprint ◆ Global Warming ◆
  - ◆ Reusable Water Bottle ◆ Carbon Neutral ◆ Carpool ◆ Thermostat ◆ Power Strip ◆
- ◆ Climate Change ◆ Energy ◆ Adaptation ◆ Mitigation ◆ Biodiesel ◆ Geothermal Energy ◆
  - ◆ Green Building ◆ Climate ◆ Weather ◆ Greenhouse Effect ◆ Ecosystem ◆
  - ◆ Sustainable Development ◆