



Your **Green Earth Clever Catch®** provides an excellent way for children to learn about environmental issues. There are 107 questions included. Clever Catch® can be used at school in organized classroom activities. It can also be used on the playground or at home. Grades 6-8.

**CLEVER CATCH® AT HOME OR ON THE PLAYGROUND**

Basic play for Clever Catch® is simple. Two or more players toss the ball to each other, answering the problem underneath or closest to their left thumb. Each problem is numbered and enclosed in its own space, assuring the child will know which problem to answer. Answers are provided in this insert for independent play by students.

**PLAYOFFS:**

Pairs of children toss the ball back and forth for one minute answering problems. A scorekeeper tallies which team has the most correct answers in the time limit.

**CLEVER CATCH® IN THE CLASSROOM**

**BEAT THE CLOCK:**

The entire class plays cooperatively as one team, trying to better its own time and number of correct answers in each game.

**DIRECTIONS:**

- 1 Choose a timekeeper. You also will need a monitor - teacher or student - to keep track of correct answers.
- 2 Divide the class into two lines of equal length, students facing each other.
- 3 At the timekeeper's signal, toss Clever Catch® to the first student. As quickly as possible, this student reads and answers the problem underneath his/her left thumb.
- 4 This student then tosses Clever Catch® to the student directly across from him/her in the second line. This student reads and answers the problem under his/her left thumb.
- 5 Play continues until all students in both lines have had a turn. When the last student has answered, the time and correct number of answers are recorded.

70. True or False: The temperature inside a city is higher than the temperature immediately outside of it. FALSE
71. True or False: All plastic can be recycled. FALSE, most type 3, 5, 6, and 7 plastics cannot currently be recycled.
72. True or False: It takes two years to recycle each aluminum can. FALSE, the process takes as few as 60 days.
73. True or False: Ozone is a major component of smog. TRUE
74. What does an energy star label tell you about that electric device/product? That product meets strict energy efficiency guidelines set by the EPA and Department of Energy.
75. What is biodiversity? Biodiversity is the number of different species in an environment.
76. What are invasive species? Species that are introduced into a new area that begin to interfere with the life that already exists in that area.
77. What are biomes? Self-contained regions of biological diversity with completed food webs.
78. How many people live on Earth? As of 2007, 6 billion + live on the Earth.
79. What are consumers in a food chain? Animals, predators, humans, etc., are consumers.
80. What is the difference between renewable and non-renewable resources? Renewable resources can be regenerated or regrown; non-renewable resources cannot.
81. What is an alternative to using garden herbicides? Pulling weeds is an alternative.
82. What is desertification? Desertification is climatic or human activities that change cultivated land to desert.
83. What are some examples of primary producers in a food chain? Grasses, plants, etc., are producers.
84. What does a "green" product, building, or business mean? "Green" means environmentally conscious.
85. From where do fossil fuels come? Fossil fuels come from the decay and burial of organic matter, e.g. plants and animals.
86. Does your school have separate containers for recycling? Open answer
87. What percentage of the nearly 300 million tires that are discarded in the United States each year are recycled? More than 80% are recycled.
88. How many gallons of water does the average American use residentially each day? 100
89. What is one way to reduce heating costs in the winter or cooling costs in the summer? Lowering thermostat in winter and raising it in the summer, using better insulation, building into a hill, etc., reduces costs.
90. \_\_\_\_\_ pollution causes breathing problems. Air
91. Non-renewable resources can \_\_\_\_\_ be regenerated. Never or rarely
92. Fertilizers help plants grow, but too much can \_\_\_\_\_. Cause pollution
93. Ecological communities consist of \_\_\_\_\_. Populations of plants or animals
94. Contrails are clouds that contain high levels of pollution formed by \_\_\_\_\_. Airplanes
95. Smog is a form of \_\_\_\_\_ pollution. Air
96. Carbon (as CO<sub>2</sub>) is released into the atmosphere by \_\_\_\_\_. Burning carbon, power plants, vehicle emissions, deforestation, etc.
97. Habitat destruction is caused by \_\_\_\_\_. Humans, floods, fires, animals, etc.
98. Turning seawater into fresh water is called \_\_\_\_\_. Desalination
99. Using reusable containers helps the environment by \_\_\_\_\_. Conserving resources, reducing trash, etc.
100. Energy from hydropower comes from \_\_\_\_\_. Running water
101. Organic fertilizers are safer than chemical fertilizers because \_\_\_\_\_. They decompose faster and have fewer harmful chemicals
102. Discarded items that break down into simpler parts are called \_\_\_\_\_. Biodegradable
103. Recycling your \_\_\_\_\_ saves trees. Paper, cardboard
104. What is environmental science? Environmental Science is the branch of science concerned with the physical, chemical, and biological conditions of the environment and their effect on organisms.
105. What are the consequences of a hole in the ozone layer? Open answer
106. What happens to most trash you throw into the garbage? Open answer
107. What can you do to help fight invasive species? Open answer

## Question

- Which item takes up the most volume in a landfill?  
a. yard waste b. tires c. food waste d. plastic bags
- A small carbon footprint refers to ...  
a. coal miners' boots b. dinosaur tracks  
c. low energy use d. radioactive decay
- "Spaceship Earth" refers to the Earth as a ...  
a. rocket b. open system c. closed system d. satellite
- The U.S., with 5% of the world's population, uses \_\_\_% of the world's energy resources.  
a. 1 b. 10 c. 25 d. 50
- DDT (dichlorodiphenyltrichloroethane) is a ...  
a. food coloring b. pesticide c. vaccine d. fuel
- Which is NOT an ecosystem?  
a. coral reef b. wetland c. pine forest d. industrial park
- Urbanization leads to ...  
a. increased runoff b. higher temperatures c. cleaner air d. a and b
- Food web refers to ...  
a. interconnected flow of energy through consumption b. fishing nets  
c. duck feeders d. a and c
- The carbon cycle is ...  
a. a coal powered motorcycle b. the flow of carbon through the environment  
c. a non-nuclear power plant d. a hybrid car
- Old growth refers to ...  
a. aging humans b. pre-Columbus forests c. fossil leaves d. coral reefs
- Recycling ...  
a. pollutes b. wastes energy c. saves resources d. a and b
- Acid rain is created by ...  
a. volcanoes b. nuclear power plants c. air pollution d. a and c
- Climate models ...  
a. preview new fall fashions b. are used to predict future weather  
c. are greenhouses d. are changed hourly
- Which of the following helps break down waste?  
a. worms b. iron ore c. natural gas d. ice
- Which does NOT directly harm forests?  
a. CO<sub>2</sub> b. acid rain c. logging d. fires
- Which of the following causes global cooling?  
a. greenhouse gases b. auto emissions c. volcanic eruptions d. Freon
- Which of the following is not a cause of coastal pollution?  
a. fertilizers b. oil spills c. climate change d. earthquakes
- Which of the following is the greatest source of global warming?  
a. buried carbon b. solar cells  
c. burning carbon d. oil spills
- Which is NOT true about wetlands?  
a. They are nature's filter b. They attract birds  
c. They create pollution d. all are true
- The amount of a country's waste is proportional to its ...  
a. amount of ore minerals b. gross national product  
c. climate d. population density
- Which is a freshwater ecosystem?  
a. salt marsh b. coral reef c. lake d. estuary
- Which of these cannot be easily recycled?  
a. paper b. batteries c. food waste d. aluminum
- Which is the most diverse biome on earth?  
a. coral reef b. tropical rainforest c. alpine tundra d. desert
- Which contributes to groundwater pollution?  
a. smokestacks b. sunlight c. leaky landfills d. b and c
- Composting refers to ...  
a. "bulk" packaging b. recycling yard waste  
c. recycling food waste d. b and c
- Landfills contain ...  
a. filtered soil b. solid waste c. raw sewage d. boat tours
- What are greenhouse gases?  
a. other words for inert gases b. fuel used by farmers  
c. vapors rising off of greenhouses d. heat-trapping atmospheric gases
- Does global warming mean that every place on earth is getting warmer?  
a. No, just summers are warmer b. No, but the world average is rising  
c. Yes, every spot on earth is hotter d. No, only certain spots

## Answer

- Only \_\_\_ of an organism's lifetime energy is transferred on to its consumer. a. 10% b. 20% c. 30% d. 50%
- What percentage of used automotive aluminum is recovered for recycling? a. 90% b. 60% c. 40% d. 30%
- Global climate has increased by which amount over the past 100 years?  
a. 0.1° C b. 0.6° C c. 2.6° C d. 4.8° C
- Which country is the largest source of global warming pollution?  
a. China b. United States c. India d. Germany
- Compared to incandescent light bulbs, compact fluorescent light bulbs use \_\_\_ less energy and last 10 times as long.  
a. 25% b. 40% c. 75% d. 90%
- Compared to using fresh aluminum, a can made from recycled aluminum uses \_\_\_ less energy. a. 15% b. 35% c. 85% d. 95%
- True or False: Everything we buy or own begins as an earth resource. TRUE
- True or False: Corn is a biofuel. TRUE
- True or False: Hybrid cars refer to vehicles with two fuel sources. TRUE
- True or False: Deforestation absorbs CO<sub>2</sub> from the air. FALSE, deforestation releases CO<sub>2</sub>.
- True or False: IR (infrared) radiation warms the earth. TRUE
- True or False: Alternative energy is unsustainable. FALSE, sunlight, moving water, and wind are all sustainable alternative energy sources.
- True or False: The greenhouse effect generates CO<sub>2</sub> and other gases. FALSE
- True or False: The 3 R's refer to reduce, reuse, recycle. TRUE
- True or False: Nuclear power plants create global air pollution. FALSE, pollutants from nuclear power plants are locally generated waste heat and radioactive materials.
- True or False: Sustainable agriculture is harmful to the environment. FALSE, it helps the environment by preserving soil and being productive over time.
- True or False: The greenhouse effect is enhanced by CO<sub>2</sub> and other gases. TRUE
- True or False: Human activities always cause erosion. FALSE, many man-made projects such as beach and river bank stabilization reduce erosion.
- True or False: Used engine oil is biodegradable. FALSE, used oil takes a long time to break down safely.
- True or False: Planting trees is an example of sustainability. TRUE
- True or False: Forest fires are beneficial to overgrown forests. TRUE
- True or False: Deforestation worsens flooding and erosion. TRUE
- True or False: Worldwide production of CFC's (chlorofluorocarbons) is increasing. FALSE, they are decreasing because of substitute chemicals.
- True or False: Climate change can be effected by deforestation. TRUE
- True or False: Oil spills are harmless to the environment. FALSE
- True or False: Earth's climate is cooling. FALSE, the climate is warming, and the debate centers on how much warming is due to the presence of human beings.
- True or False: Acid rain can burn your skin. FALSE, the acidity is relatively weak, it's harmful for plants, not for people's skin.
- True or False: DDT (dichlorodiphenyltrichloroethane) harms the ozone layer. FALSE, CFC's (chlorofluorocarbons) harm the ozone layer; DDT harms aquatic life.
- True or False: One-third of Earth's coral reefs are threatened. TRUE
- True or False: Fish oil is a biofuel. FALSE, fish oil is not an agricultural fuel.
- True or False: Ozone protects the Earth from global warming. FALSE, ozone protects us from harmful UV rays.
- True or False: Acid rain is beneficial to trees. FALSE, according to the U.S. EPA, acid rain can be linked to the slower growth and death of forests, especially in the Appalachian mountains where the thin soil does not buffer the acid enough.
- True or False: Bottled water is a "green product". FALSE, plastic water bottles is a major source of solid waste pollution.
- True or False: Oil and gas are sustainable energy resources. FALSE, once used, they are gone forever.
- True or False: Biomes are dependent on people. FALSE, biomes are natural systems; people depend on biomes.
- True or False: Groundwater pollution only occurs in urban areas. FALSE, rural wells can be contaminated by pesticides, fertilizers, etc.
- True or False: Heavily polluted rivers can catch fire. TRUE, the Cuyahoga River in Ohio caught fire several times in the 1960's.
- For the immediate future, alternative energy is more costly than fossil fuels. TRUE
- True or False: The United States uses less energy than any other country. FALSE, the U.S. uses the most energy.
- True or False: Incandescent light bulbs are more efficient than compact fluorescent light bulbs. FALSE, to produce the same amount of light, incandescent bulbs use four times the energy and last only one-tenth the amount of time.
- True or False: One 747 that lands and takes off again produces the same amount of nitrogen dioxide, a major component of smog, as a car that has been driven 56,000 miles. TRUE