

PLANIT THE OMNI EVOLUTION BOARD GAME

Is the earth a living organism with a survival mechanism of its own? Yes, according to one of the most radical theories to hit the planet in years. According to the Gaia (*guy-uh*) hypothesis, put forth by British scientist James Lovelock, all living things from microscopic bacteria to humans work together like the parts of one vast organism. Ultimately, Lovelock explains, this "composite organism" manipulates the air, the land, and the sea to generate the conditions most suited to itself.

Inspired by this theory, veteran game makers Rollie Tesh and Tom Braunlich have designed Planit: The Omni Evolution Game. Planit allows each player to race through the ages of Gaia on his or her own planet, directing evolution from the first tiny microorganisms through humans. Players advance when they maintain their world in the steady-state condition conducive to life. That means keeping temperature "Just Right." It also means sustaining the feedback loop between animals (which consume oxygen, O₂, and expel carbon dioxide, CO₂) and plants (which consume CO_2 and expel O_2).

Note: Although the goal is to be the first player to develop "Evolutionary Humans," remember that we humans are not necessarily the end goal of the real Gaia, which will be functioning long after we are gone.

The game is for two to four players, ages ten to adult.

MATERIALS: The foldout Planit

board game and two pages of cutout cards, found on pages 83 and 85. A six-sided die and two pennies for each player must be supplied by you. To utilize the materials within the magazine, take out the poster-sized game board. Cut out the square playing cards along the dotted lines. Mix them and place them facedown on the game board to form the card deck. Cut out the "Carbon Cycle Life" tokens (Animals and Plants), fold them over, and tape to form double-sided tokens. Finally, cut out the "Higher Animal" tokens and set them aside for later.

HOW TO WIN: The winner is the first to complete both phases of the game. In the first phase, players must fill the atmosphere up with oxygen. In the second phase, they must evolve higher animals in sequence. The first to evolve "Evolutionary Humans" wins.

THÉ GAME'S RATIONALE: So that you may understand the theory behind the action, we present a brief summary of planetary evolution, as depicted in the game, below:

The early earth had no oxygen in the atmosphere because the ocean acted as a "sink" to eat up oxygen (O_2) molecules. The first phase of the game involves producing enough oxygen to fill up the O_2 sink and then fill up the atmosphere to its present O_2 level—21 percent.

After you have raised oxygen enough to fill the O_2 sink, a major ice age occurs. This was a crisis time for Gaia because oxygen filled the atmosphere, poisoning the original, primitive carbon cycle animals that produced CO_2 , thus dangerously lowering carbon dioxide—and temperature, which fluctuates up and down with CO_2 levels. The penny placed on your CO_2 /temperature marker must be moved down to ICE AGE at this point in the game.

Pushing atmospheric oxygen up to 21 percent is necessary before proceeding on to the next state of evolution, notable for higher animals. Using an Animal or Gaia card, you may direct the evolution of these animals in sequence from reptiles through birds and mammals, and then on to humans—first the devolutionary, or destructive, sort and then the evolutionary variety. Each time you evolve a higher life form, place the token representing that life form on your planet.

STARTING OUT: Name your planet and write the name beside it on the game board. Place one carbon cycle animal token and one carbon cycle plant token on your planet, healthy side up. (These tokens represent lower plant and animal life forms such as primitive bacteria and algae, which maintained the carbon cycle throughout most of Gaia's history.) Each player must also put one penny on the "Just Right" space on the CO₂/temperature gauge and the other penny on the bottom of the O₂ scale. Any player may go first.

HOW TO PLAY: To start, players

Players race through the ages of Gaia, directing evolution from the first tiny microorganisms through the appearance of humans. Players advance through the Planit game only when they learn to maintain their world in a balanced and healthy steady state. The game includes hazard cards, which may be hurled down on your opponent's planet to inflict a disaster. Meteor cards smash into the planet, stirring up a dark cloud of dust. Mutant cards create unpredictable life forms. And Radiation cards could be lethal.

draw three cards and lay them faceup in front of them. On each turn, the player draws a fourth card and plays any one of the four cards, maintaining a hand of three at all times. (Players may use their turn simply to discard, mandatory for anyone stuck with no possible move.) When the deck has run out, remix the discard pile and reuse.

THE PLAYING CARDS

 Plant cards may be used either to lower temperature (as CO2 is consumed, global temperature goes down) or to raise oxygen (plants breathe out oxygen). The player playing the card decides which function to use, with this caveat: The plant card may be used to raise oxygen only if the temperature is already set at "Just Right." The Plant card may be used only if the player has a healthy plant token on his planet. To play the card, announce how you will use it, then roll the die. Refer to the "Plants" chart to see how to move. For instance, if you announce that you want to lower your temperature, a roll of six would push your temperature down two spaces! A dot (•) means no effect. Plant cards may be played only on your own planet and are most useful early in the game because of their ability to raise O2.

 Animal cards may be used either to raise temperature (since animals breathe out CO₂) or to evolve higher animals, including reptiles, birds, mammals, and devolutionary and evolutionary humans. The Animal card may be used only if the player has a healthy animal token on his planet. This card can be used to evolve higher animals only if the O₂ level has reached 21 percent, and if the temperature is "Just Right." (If the temperature is not "Just Right," then you must adjust it before you can use this card to evolve higher animals, though you may still use it to raise temperature.) Animal cards are

most useful late in the game because of their ability to evolve higher animals.

• Gaia cards are powerful wild cards that may be used as either a Plant card or an Animal card. The Gaia card may also be used to *heal* damaged plant and animal tokens, representing the lower life forms on your planet. (These tokens are damaged by hazard cards that succeed in mounting a lethal attack, as explained below.) To heal, discard the Gaia card, roll the die, and then refer to the "Heal" chart on the game board. If you're successful, turn the damaged token back to healthy.

The game includes hazard cards, which may be hurled down on your own planet or your opponent's planet to adjust conditions or inflict a disaster. To play a hazard card, state your intention, roll the die, and consult the chart (or sometimes the card itself). Here's the rundown:

• Volcano cards belch CO₂, raising planetary temperature (see chart).

• Meteor cards smash into the planet, stirring up a cloud of dust that blocks sunlight, lowering temperature (see chart).

• UV Radiation cards can cause mutations or be lethal. They can't be used against a planet protected by an ozone card. A roll of one creates a mutant—move to the mutant chart and roll again.

Mutant cards might create an unpredictable new life form that could raise or lower planetary temperature, increase planetary O₂, or even evolve a higher animal (see chart).
Acid Rain cards may harm life. A roll of six is lethal. (If you roll a six, see "lethal attacks" section, below.)
Methane cards signal release of methane, a greenhouse gas produced by bacteria. Roll the die for instructions.

• Plague cards signal a viral infection. A roll of five or six is lethal.

 Fire cards pump thick smoke into the air, blocking sunlight and lowering temperature. Redraw if one of first three cards.

• Increased Solar Output cards push up *everyone's* temperature. Redraw if one of first three cards.

• Salt Cycle cards cause you to lose your turn as the planet adjusts for this toxic accumulation. Redraw if one of first three cards.

• Rain Forest cards symbolize the vitality of the rain forest, enabling you to make the temperature on your planet "Just Right."

• Ozone Layer cards protect your planet from UV radiation. (Only one allowed per planet.) The cards *must* be removed during the "Devolution-ary Human" phase.

• CFC cards destroy an opponent's ozone layer. (Discard both.)

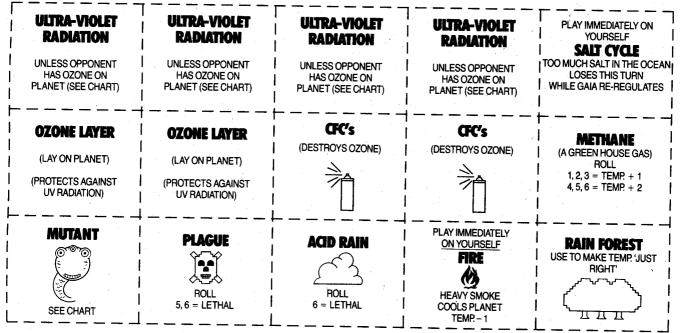
Special note on lethal attacks: If your hazard card succeeds in inflicting a lethal attack, you decide which life form to destroy. Usually, it's advisable to damage one of the opponent's carbon cycle plant or animal tokens to prevent him from playing his Plant or Animal cards. When one of these life forms is damaged, it is turned over on the opponent's planet until a Gaia card can be used for healing. In the final phase, the attacker may also damage a higher animal, which means extinction for that type of creature. The poor beast is removed from the planet and waits to reevolve.

WINNING THE GAME: The final step is to create humans that can live in harmony with Gaia. The destructiveness of "Devolutionary Humans" makes them more vulnerable. They destroy their ozone layer, so *remove your ozone layer upon evolving "Devolutionary Humans."* The step on to "Evolutionary Humans" is especially risky. To evolve "Evolutionary Humans" and win, play an Animal card (or a Gaia card) as normal. But after rolling the die, use the special "Winning" chart to see the result. There might be a setback!

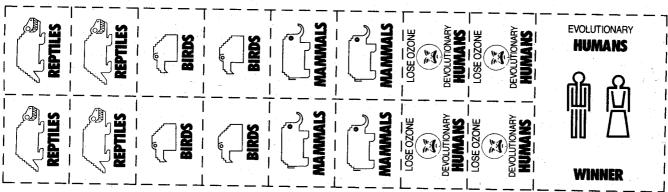
PLAYING CARDS







HIGHER ANIMAL TOKENS



CARBON-CYCLE LIFE TOKENS

(cut on dotted-lines, fold, and tape to create two-sided tokens)

	CARBON-CYCLE ANIMALS TOKEN HEALTHY		CARBON-CYCLE TOKEN TOKEN HEALTHY-		CARBON-CYCLE ANIMALS TOKEN HEALTHY		CARBON-CYCLE ANNARS TOKEN HEALTHY	CARBON-CYCLE TOKEN TOKEN HEALTHY
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