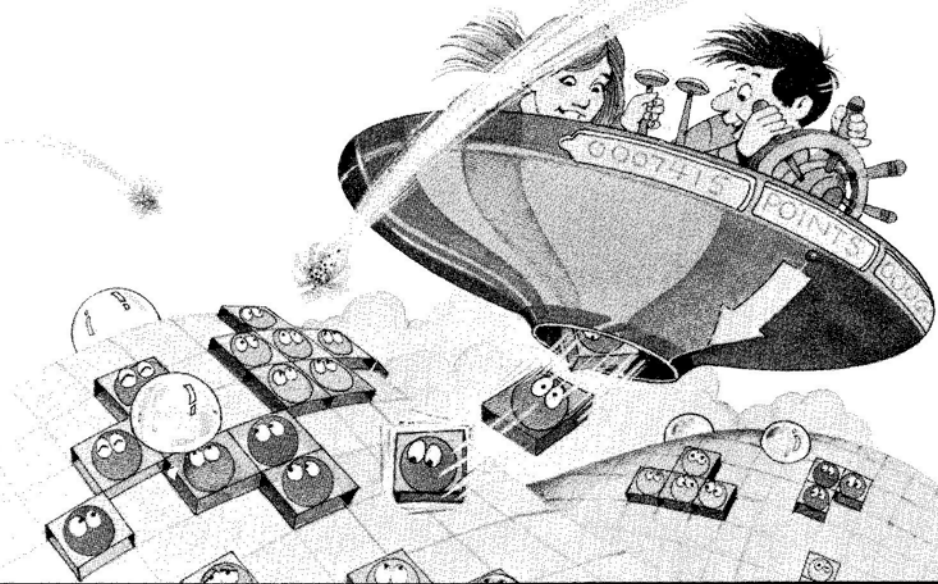


COSMIC LIFE™



INTRODUCTION

COSMIC LIFE is a fast-paced competitive game of strategy and skill for one or two players. It offers fun and excitement for players 8 years old and older.

The goal of COSMIC LIFE is to have more happy Digi-Bugs on the surface of the planet than your opponent. Only happy Digi-Bugs stay on the surface.

To keep Digi-Bugs happy, you have to provide them with neighbors, while you avoid overcrowding, your opponent's advances, and space storms.

COSMIC LIFE sharpens pattern recognition skills, encourages careful planning and strategy and promotes quick decision making.

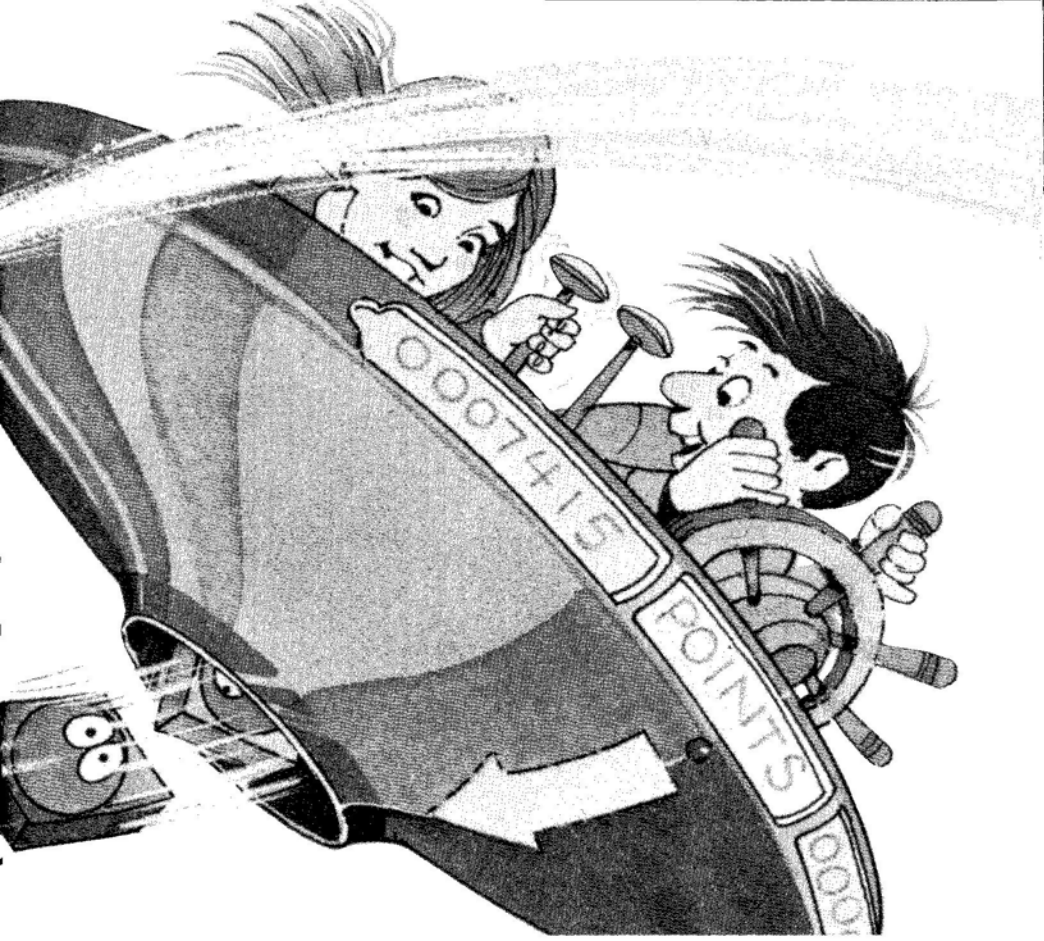
COSMIC LIFE can be played in a variety of ways to suit the tastes of everyone from the video game enthusiast to the serious game player. Sections for the more advanced player are included later in this manual. Whether you play alone or with a friend or family member, COSMIC LIFE is fast, exciting, educational and lots of fun.

GETTING STARTED

ATARI® and COMMODORE 64™

1. Turn off the computer.
2. Insert the cartridge and turn the computer on.
(If you are using an Atari 800 computer, put the cartridge in the left hand slot.)
3. Turn the computer on and wait for the opening title to appear on the screen.

NOTE: TURN THE COMPUTER OFF BEFORE REMOVING THE CARTRIDGE.



MENU OPTIONS

Before the game begins, a list of options will appear on the screen:

NUMBER OF DAYS
SINGLE MOVE GAME
NO STORMS
START GAME

PLAYING WITH ATARI COMPUTERS:

1. Press **[1]** until the desired length of the game in Digi-Bug days is shown.
2. Press **[2]** if you want to play the single move game.
3. Press **[3]** if you want to play without storms.
4. Press **[START]** to start the game.

To return to the main menu at the end of the game, press **[START]**.

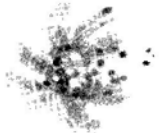
PLAYING WITH THE COMMODORE 64:

1. Press **[f1]** until the desired length of days is shown.
2. Press **[f3]** if you want to play the single move game.
3. Press **[f5]** if you want to play without storms.
4. Press **[f7]** to start the game.

To return to the main menu at the end of game, press **[f1]**

Number of Days

COSMIC LIFE may be played for 10 to 250 Digi-Bug days. At the end of each "day" the pattern of Digi-Bugs changes depending on which Digi-Bugs are happy and which are sad. (See DIGI-BUG HABITS for more on this.) Each "day" lasts about two seconds.



Single Move Game (Beginners or Serious Players)

ONE PLAYER:

If you would like to learn to recognize and control patterns of Digi-Bugs, you can play the SINGLE MOVE GAME. For additional information on the single move game for one player, see the section on GAME VARIATIONS FOR ONE PLAYER.

TWO PLAYERS:

In this variation, each player takes turns placing one Digi-Bug on the planet per day. There is no time limit on your moves. This allows you to concentrate on each of your moves and to develop a strategy using your understanding of Digi-Bug habits. A day passes only after both players have put one Digi-Bug on the surface.

If you do not select the SINGLE MOVE GAME option, the continuous move game will be played. This game allows the players to place as many Digi-Bugs on the surface as they can before time runs out.

No Storms

This option allows you to play without storms.

If you do not select this option, COSMIC LIFE will be played with space storms, adding another dimension to the game. These storms may destroy the houses that you build for your Digi-Bugs, as well as make flying your saucer more challenging.

PLAYING THE GAME

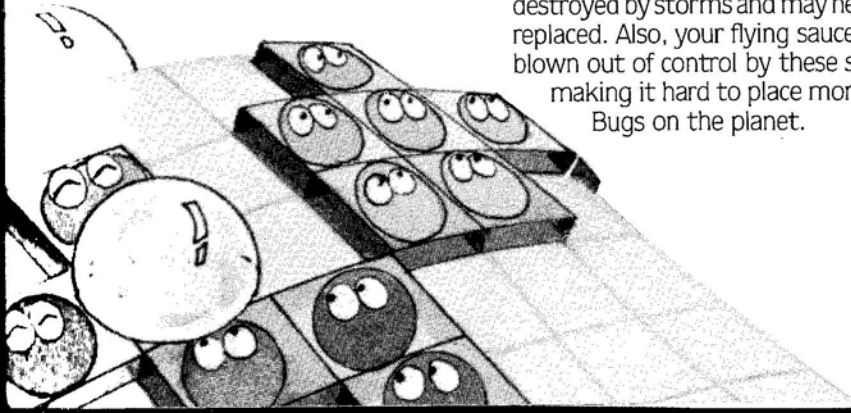
To begin play, move the joystick to make your flying saucer appear. Begin by placing five Digi-Bugs in a group. Digi-Bugs are released by pressing the button on your joystick.

The game doesn't begin until a total of ten Digi-Bugs (yours or your opponents) have been placed. CAREFUL, don't waste Digi-Bugs by trying to put two in the same spot. Only one Digi-Bug will appear, so take your time and pick the locations carefully. (See DIGI-BUG

HABITS for the rules by which Digi-Bugs appear and disappear.)

You can build Digi-Houses by pressing the joystick button and holding it down for several seconds. A Digi-Bug in a Digi-House is always happy. Building a Digi-House or two is a good way to start a new group of Digi-Bugs. It is also a good way to keep an existing group happy.

But watch out if you are playing with space storms! Digi-Houses can be destroyed by storms and may need to be replaced. Also, your flying saucer can be blown out of control by these storms, making it hard to place more Digi-Bugs on the planet.

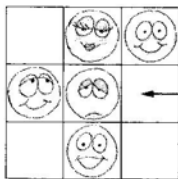


Digi-Bug Habits

Digi-Bugs are very sociable and depend on their neighbors (adjacent Digi-Bugs). When you place your Digi-Bugs on the planet, it is generally a good idea to place them next to other Digi-Bugs. Digi-Bugs are happy if they are touched by 2 or 3 neighbors. And if you keep them happy, more Digi-Bugs appear and you'll score more points.

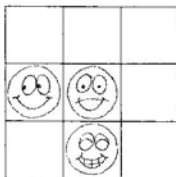
1	2	3
8		4
7	6	5

Every Digi-Bug can have up to 8 neighbors



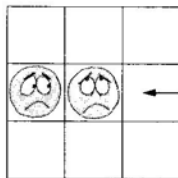
Sad.
(disappears)

4 neighbors
too crowded



Happy.
(stays)

Has 2 friends



Sad.
(disappears)

Only 1 friend

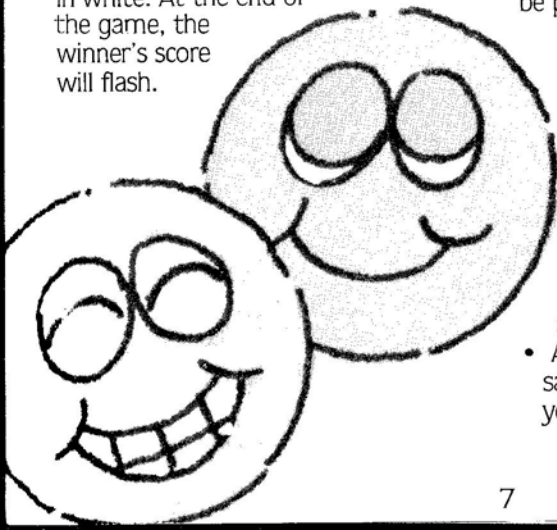
If Digi-Bugs are left alone or if they have only one neighbor, they become sad and disappear. They are also sad and they disappear if they feel too crowded by other Digi-Bugs (if they have 4 or more neighbors).

So, to keep your Digi-Bugs happy, you need to understand some of their habits.

SCORING

Every "day" the computer counts how many Digi-Bugs you have on the planet and adds them to your score. At the end of the game, the player with the highest score is the winner.

While the game is being played, the player with the most Digi-Bugs on the planet will have his or her score displayed in white. At the end of the game, the winner's score will flash.



GAME VARIATIONS FOR ONE PLAYER

In both of these games, you move one saucer off the screen and play alone.

Continuous Move Game – One Player

This version allows you to improve your skill in placing Digi-Bugs on the planet.

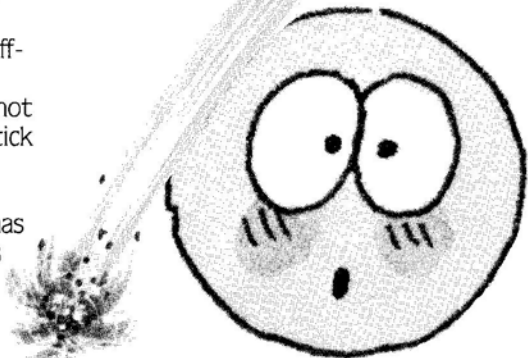
- Select the number of days to be played.
- Select the NO STORMS option if you wish to play the game without storms.
- Move one of the saucers off the screen.
- Press the button on the joystick of the off-screen saucer five times.
- Start the game by placing five Digi-Bugs on the planet with your saucer.
- As days pass, continue to use the saucer on-screen to position and place your Digi-Bugs.

Single Move Game – One Player (Beginner or the Serious Player)

This version allows you to study what happens to your Digi-Bugs as each individual day passes.

- Select the number of days to be played.
- Select the NO STORMS option to play the game without storms.
- Move one of the flying saucers off the screen.
- Use the other saucer to place as many groups of Digi-Bugs as you want on the planet.
- Press the joystick button of the off-screen saucer until one day passes. (Remember that the first day does not pass until you have pressed the joystick buttons a total of ten times.)
- Move your saucer off the screen.
- Once the game begins (one day has passed), press both joystick buttons once each time you want to make another day pass.

- If you want to change the patterns, move your saucer on-screen and place more Digi-Bugs on the planet. Then press the joystick button of the off-screen saucer to make the next day pass.



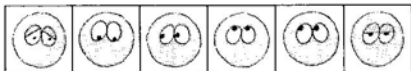
SOME EXAMPLES (TRYING NEW PATTERNS):

To see patterns change:

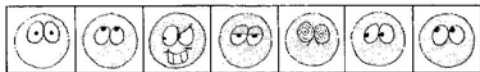
- Select the number of days to be played.
- Select the NO STORMS option to play without storms.
- Move one flying saucer off the screen.

- Use the other flying saucer to set up any of the patterns illustrated below.
- Move the second saucer off the screen and press the joystick button until the game starts.

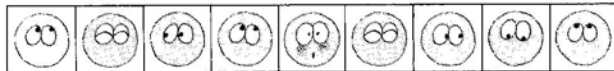
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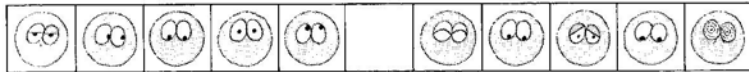
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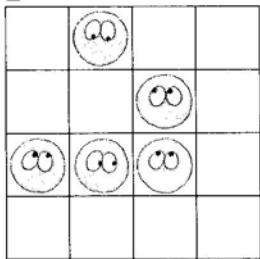
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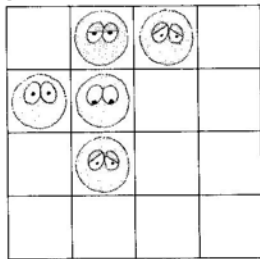
- Watch the pattern as it evolves.
- If the pattern stops changing move

a saucer back on the screen and add a Digi-Bug.

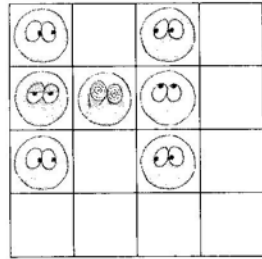
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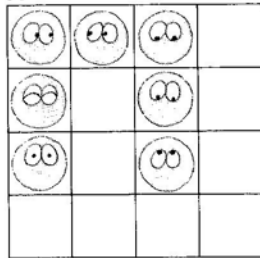
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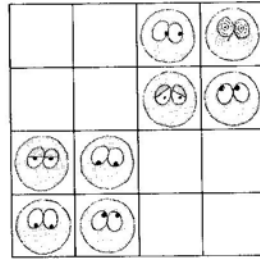
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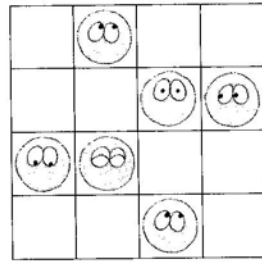
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STRATEGIC OVERVIEW

Once you become familiar with the habits of Digi-Bugs and develop some skill in establishing, maintaining and expanding colonies, consider some strategies for improving your game play:

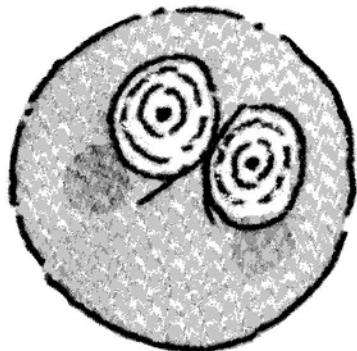
- Rather than concentrating on one area of the planet, form patterns of Digi-Bugs throughout the entire planet.
- Link together colonies of Digi-Bugs in order to expand your control over the entire planet.
- Use Digi-Houses to help establish new colonies of Digi-Bugs and strengthen existing groups. A Digi-Bug in a house is safe and happy.
- Overcrowd your opponent's colonies by adding your Digi-Bugs to his crowded colonies.
- Eliminate your opponent's small or sparse colonies by surrounding them with your Digi-Bugs or by creating a colony of your own Digi-Bugs nearby.

As you become a more advanced COSMIC LIFE player, you will see the need to understand and predict the behavior of Digi-Bugs.

There are five possible patterns that three Digi-Bugs can be arranged in. These patterns will result in: all the Digi-Bugs disappearing, or a stable colony forming.

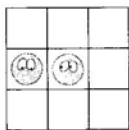
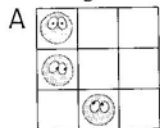
When there are four Digi-Bugs in a colony, the results are more varied.

There are twelve common stable arrangements of Digi-Bugs.

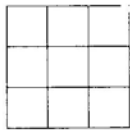


HABITS OF THREE DIGI-BUGS

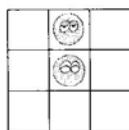
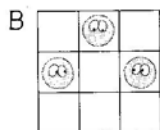
Starting Pattern



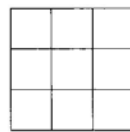
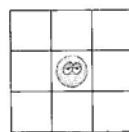
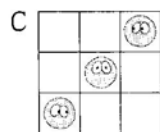
Final Pattern



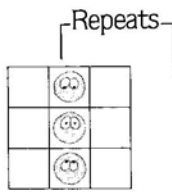
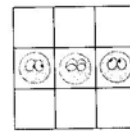
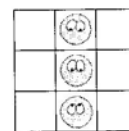
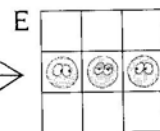
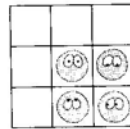
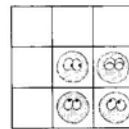
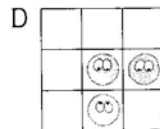
No
Digi-Bugs



No
Digi-Bugs

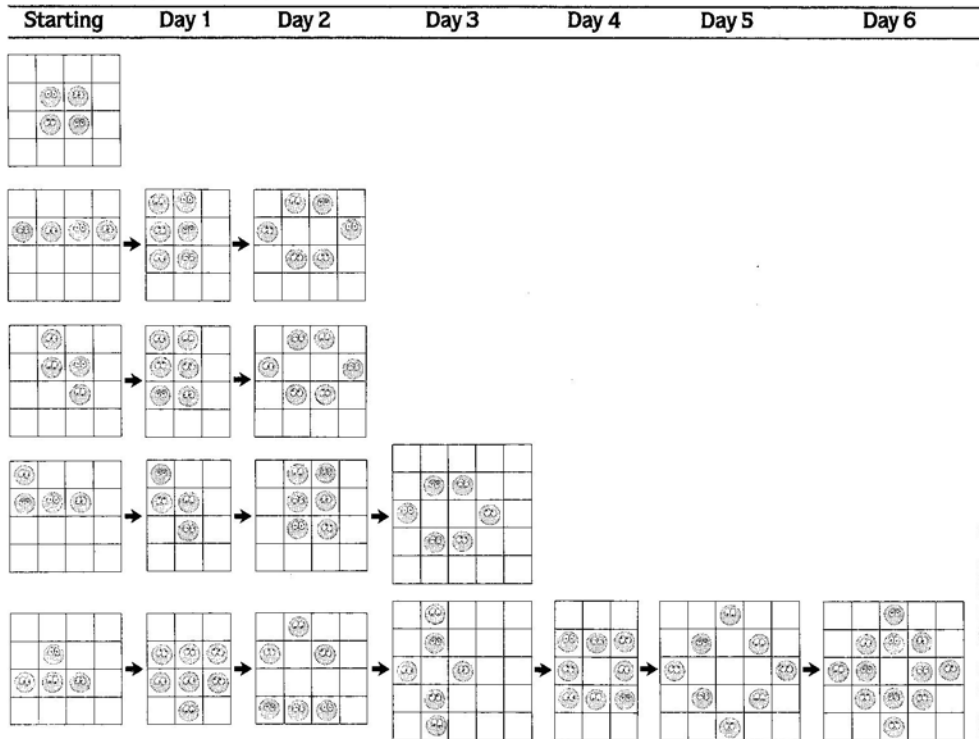


No
Digi-Bugs



HABITS OF FOUR DIGI-BUGS

Number of Digi-Bug days

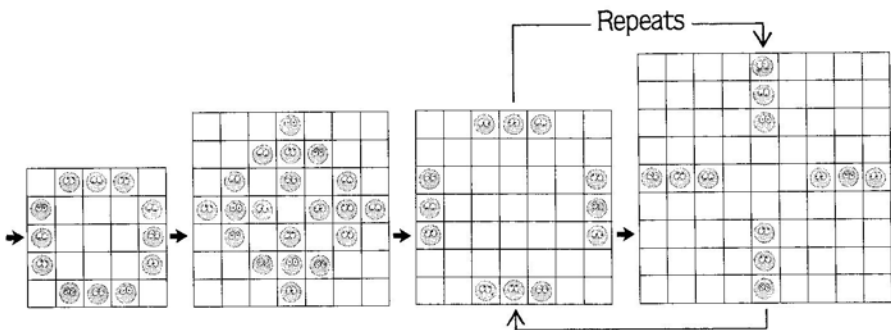
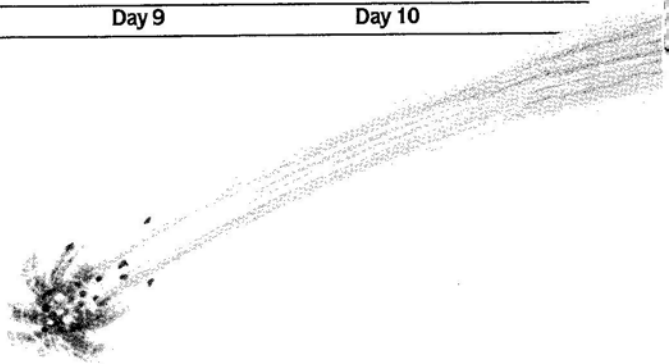


Day 7

Day 8

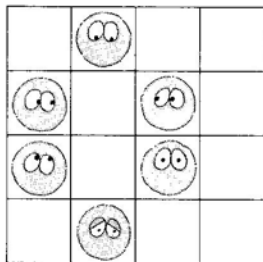
Day 9

Day 10

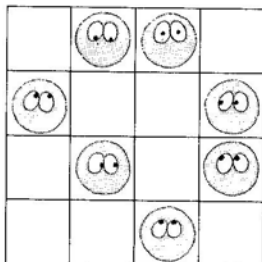


12 STABLE PATTERNS OF DIGI-BUGS

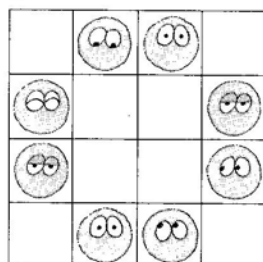
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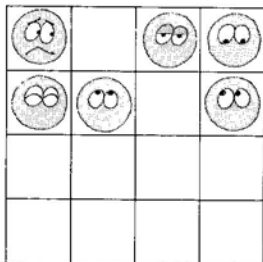
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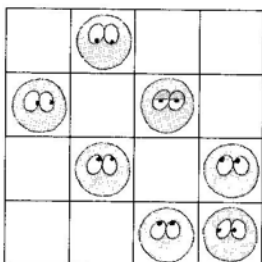
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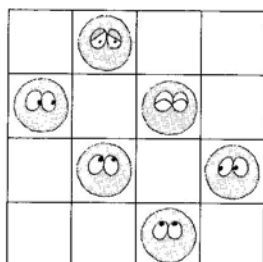
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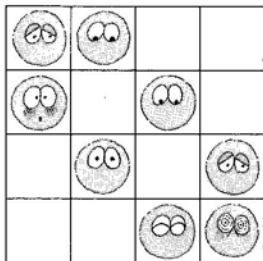
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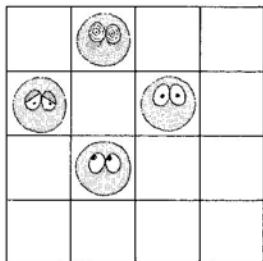
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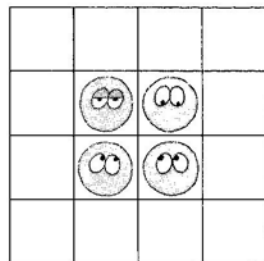
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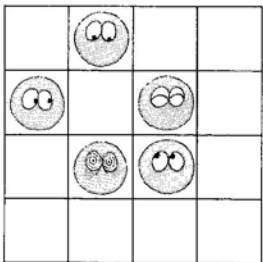
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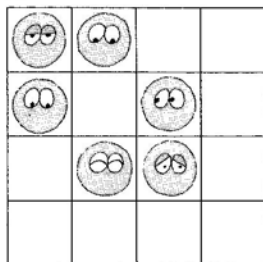
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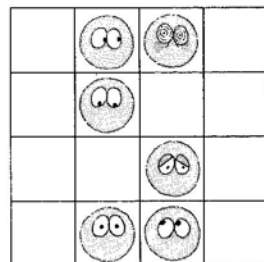
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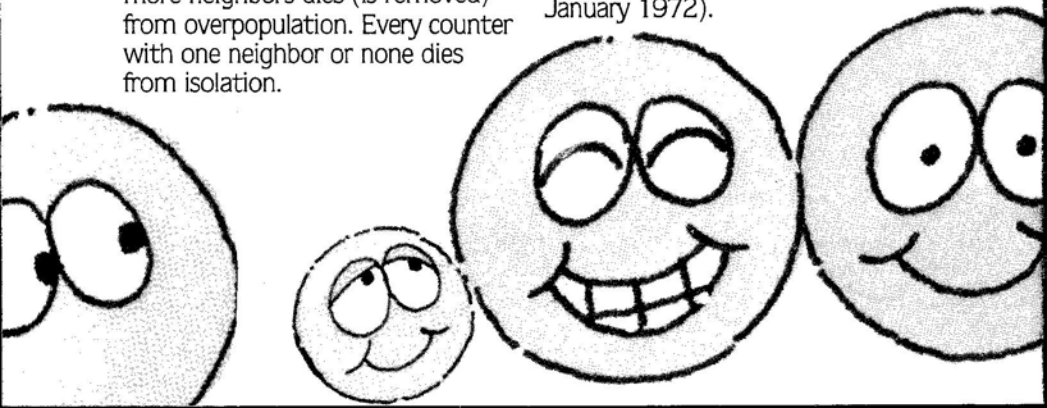
CONWAY'S RULES OF LIFE

COSMIC LIFE is based on a mathematical game, known as Conway's Life, created by mathematician John Conway. When applied, Conway's Rules of Life perform a simplified simulation of the growth and change of living populations. There are three basic rules in Conway's game:

1. Survival. Every counter with two or three neighboring counters survives for the next generation.
2. Death. Any counter with four or more neighbors dies (is removed) from overpopulation. Every counter with one neighbor or none dies from isolation.

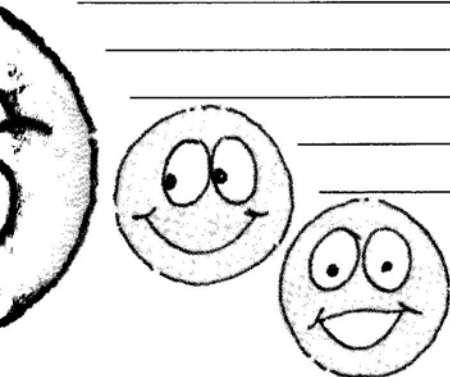
3. Birth. Each empty cell adjacent to exactly three neighbors is a birth cell. A counter appears in this empty cell in the next generation.

These simple rules provide the bases for the numerous, varied and interesting patterns created by your Digi-Bugs. If you are interested in learning more about Conway's Game of Life, you can find articles in the Mathematical Games section of Scientific American (issues from October 1970, February 1971 and January 1972).



Personal High Scores

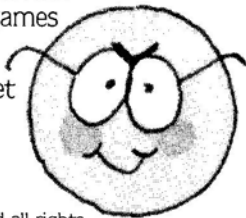
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LIFE™
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**COSMIC
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Ken Madell, author of
COSMIC LIFE, is a computer
graphics artist and a musician who
develops computer learning games
for home and school.

Package and Instruction Booklet
Illustration: Bill Morrison



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