

2 Introduction

The Pack Game Overview The Avatar Goals

3 Platforms and Accessibility

4 User Interface, Navigation, and Movement

User Interface Expanded Map Movement

7 The World of Algos

Habitats
Day and Night

10 Water

Water and the Avatar Water Uses

11 Creatures

Creatures and Their Functions Adding Creatures to Your Pack Feeding Creatures Releasing Creatures Locating Creatures

14 Food

Types of Food and Fruit Locations Acquiring Food

15 Seeds

Seed Placement

16 Algorithms

Creating Algorithms
Moving or Changing Algorithms
Saving Algorithms
Troubleshooting Algorithms

18 Game Levels

Overview of Levels 0-6

19 Game Modes

Easy Medium Hard

20 Achievements

Achievement Clues

The Pack: Game Guide

NEW YORK HALL OF SCIENCE



Introduction

The Pack is an interactive, open-world, exploratory digital game in which players engage in Computational Thinking and scientific reasoning to solve problems encountered in a novel environmental context. Set in the future world of Algos, where healthy ecosystems have faltered, and water and food are scarce, it's up to you and your Pack to help restore the environment!

You find yourself waking up in a barren land where the only way to bring life back into balance is to replenish water sources and find the scattered seeds all over the world. You can't do it alone, and you can't stray too far from water, so you and a team of helpful creatures called your "Pack" set out on an adventure across Algos.

The Avatar

You embark on your quest via a whimsical character known simply as your Avatar. Your Avatar has limited actions on its own, and must find and befriend the creatures in Algos that will help it navigate the envronments, face challenges, and advance through levels in the game. In order to survive, your Avatar must be in close proximity to water.

Goals

The overarching goal of *The Pack* game is to master the creation of algorithms. An algorithm is a set of step-by-step instructions created to solve a problem or complete a task. Algorithms might sound strange or complicated, but they are all around us. Algorithms govern the technology that we use, many of the decisions we make, and the tasks we perform in our everyday lives, such as following your favorite recipe for chocolate chip cookies. Everytime you create a set of instructions or rules for something to happen, you are creating an algorithm.

In the world of Algos, you create algorithms by stringing together a series of creatures that can work together to perform a task or solve a challenge. The tasks within the fictional world of Algos take many forms and so will your algorithms.

In the center of Algos, your Avatar has a friend that is asleep. Your friend can only be awakened when biodiversity has returned to the world of Algos. Your main objective is to explore and understand the world in search of rare seeds and water that can be used to reintroduce different habitats into Algos. In order to accomplish this, you will need to befriend the creatures of Algos, all of which have specific jobs or functions, and invite them into your Pack with special foods.



Once in your Pack, these creatures can help you by allowing you to combine them into an algorithm to perform different tasks that will help you solve problems you encounter in Algos. Mastering the creation of different algorithms is the key to finding all of the seeds and restoring harmony to the world. As you introduce new habitats, the explorable world of Algos grows larger, and with these new habitats come new creatures, new seeds, and added complexity to navigate.



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Platforms and Accessibility





The Pack is available on iPads, iPhones, laptops and computers with Mac or Windows operating systems, and Xbox S/X series.



Accessibility

The Pack is available in English and Spanish. You can select your language after downloading the game or change it during gameplay from the menu options.





User
Interface,
Navigation,
and
Movement



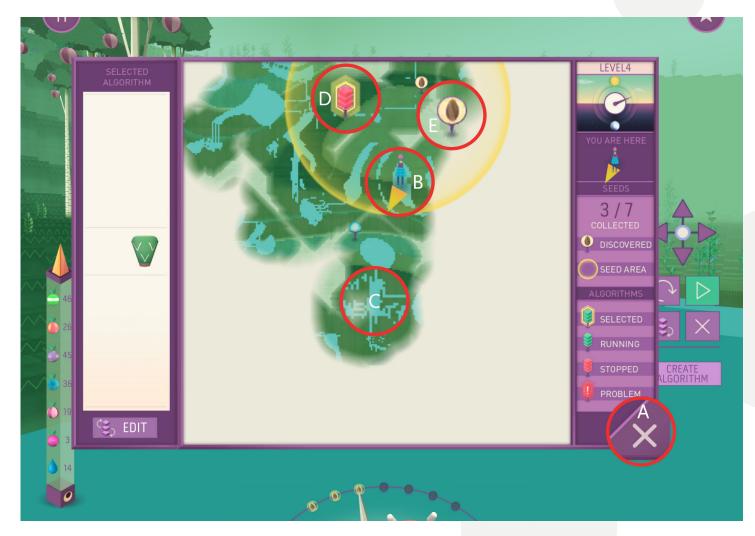
User Interface

Upon entering the game, your game screen will have a number of functions for you to click on and use throughout your journey.

- *Menu:* Use this to pause the game, save the game, quit the game, or adjust language and navigation.
- Achievements: Use this to keep track of milestones achieved during gameplay.
- Adjust camera: Use this to look around, above, below, etc. (see Movement section).

- Navigation: Use this to move the avatar around Algos.
- Algorithm Menu: Use this to build or edit algorithms (see Algorithms section).
- *Mini-Map:* Use this to see a general overview of your surroundings.
- Expanded Map: This is a full map of Algos, showing different biomes, water, areas you have explored, seeds you have discovered, and algorithms you have placed (see Map section).

User
Interface,
Navigation,
and
Movement



Expanded Map

Open the map by clicking on the "+" on the left side of the map (see image on previous page). Close the map by clicking on the "x" or "-" button at the bottom right hand part of the screen (A).

The map shows you where you are (B-yellow arrow with your avatar) and where water is (C-blue areas). It also shows you where your algorithms are (D-pink boxes), the types of biomes around the world by color, and the locations of seeds you or your creatures have seen (E-brown/gold icon). At each level, a golden circle will appear on the map. Seeds in that level can only be found inside of that golden circle. With each new level, the golden circle grows as the area where seeds are located increases.

User
Interface,
Navigation,
and
Movement

An important distinction to make is that the map will show you different types of biomes represented by colors (blue for water, beige for barren areas, green for grassy areas, darker green for lush forested areas) but it will not show you every type of habitat (there are seven types of habitats and barren areas in Algos).

Gray areas on the map show areas that you have not yet explored. Your actions as a player generate, alter, and directly impact the world of Algos, so that no two games or game maps are the same.

You can use the map to locate and switch between algorithms you have created. In the mini-map or expanded map, click on any of the boxes that signify your algorithms. The algorithm you select will glow gold (D-pink box glowing gold). You can now use the algorithm controls to move, play or gather your algorithm. Gathering your algorithm stops the algorithm, breaks it apart, and returns your individual creatures to you. You can also track your algorithms and see when they stop running (D-icon turns red). See the Algorithms section for more information on building, placing and moving algorithms.



Movement

On Macs and PCs: Use the arrow keys to move around. Click and drag using your mouse or trackpad to look around the world without moving. Another option to move your Avatar is to use the WASD letter keys on your keyboard, instead of the arrow keys.

On mobile devices: Using the left side of the screen, drag your finger in the direction you wish to move; hold it down to keep moving. Swipe your finger to either side to turn. To adjust the camera view, use the right side of the screen and drag in the direction you wish to look. You can also turn off the virtual joysticks by going to Settings>Options.

On Xbox: Using the left joystick of the controller, point in the direction you would like to go and hold the joystick down to continually move in that direction. Turn the joystick in the desired direction to turn right, left, or reverse. Use the right joystick to adjust the camera view by pointing toward the direction you want to see.



The World of Algos

Algos is a mixture of fantastical and fictional properties and simulations of characteristics found in real biomes. On Earth a biome is a large geographical area with distinct plant and animal groups that have adapted to live there. The animals live in their own smaller specific habitats within the larger biome. In Algos, each biome generally contains one or two habitats, with specific geography, flora, creatures, and water levels.

The introduction of new habitats in each level results in the added dynamic of how the multiple biomes interact with each other (e.g., previously barren areas may turn green if a new habitat is situated next to them, or part of a certain habitat may merge with or be replaced by another at the start of a new level).

The algorithms you use also affect the world of Algos and the relationships the biomes have to one another. There may be multiple instances of the same habitat appearing throughout the world depending upon your actions.



Habitats



Habitat A: This habitat is a relatively flat and low-lying area with a small water source. Plants include tall stalks that grow green striped fruit and blue-spotted fruit. This habitat is where you start the game and is most reminiscent of grasslands on Earth.



Habitat B: Sometimes near a lake or pond, Habitat B is higher in elevation, with tall, bushy trees that grow purple striped fruit. This is the second habitat that you will discover and is most closely related to Earth's forest ecology.

The World of Algos



Habitat C: Adjacent to Habitat B you will find areas with smaller, thin, stick-like trees and bushes that grow purple spotted fruit. This is the third habitat you will uncover and is also related to Earth's forest ecology.



Habitat D: Also typically found near a lake or pond, these areas grow tall leafy trees with yellow vegetation on their trunks. The trees produce pink fruit with yellow spots. This is the fourth habitat you will reveal and is loosely reminiscent of Earth's rainforests.



Habitat E: You can often find this habitat adjacent to Habitat D. These areas have a water source and tall stalk-like plants with flat leaves that produce magenta fruit. This is the fifth habitat you will uncover and draws some of its characteristics from Earth's wetlands.



Habitat F has drier areas with relatively low levels of water. Plants include cactus-like bushes, hollow trees, and dry branches that grow green dotted fruit. This is the sixth habitat you reveal and draws from Earth's deserts.

The World of Algos



Habitat G: This habitat features tall, wispy, vine-like trees that grow yellow fruit. This is the final habitat you reveal and is very ethereal in nature, not drawing from any single Earth-like environment.

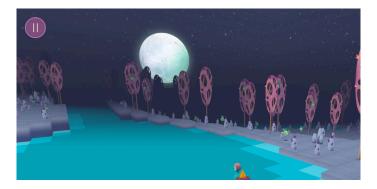
Day and Night



The game features natural day and night cycles, which might affect your exploration by visually changing the landscape.



Barren Areas: These are areas with no water or active signs of life. They have no plants growing or creatures roaming around, and appear dry and desolate. However, sometimes there are things hidden underground in these areas. Barren areas are always present from the moment you start playing the game.



You can track the day and night cycles by looking at the counter on the top right corner of your detailed map. It will have an arrow showing the time of day.



Day and Night Counter

Water



Water is an essential resource in the game. Not only is water necessary for keeping your Avatar healthy, but through your ability to create algorithms that can change the landscape and allow water to move, it will aid you in diversifying the world and restoring balance to Algos.

Water and the Avatar

Maintaining your Avatar's connection to a nearby water source is an ever-present problem you must resolve while on your journey. Remaining in close proximity to a water source becomes increasingly difficult as you advance levels. Some water sources are extremely limited, while others can be plentiful, and certain water sources can be expanded to other areas.

As your Avatar moves farther away from water in the game, a thought bubble with a water droplet will appear above its head. Your Avatar will start to slow down and the water drop above your head will get larger, and begin to flash. If you venture too far from water, you will fade away, and eventually, you will be set back in the game to the location of the last seed you collected.



Water Uses

Finding Water: You can find water by looking at your map for bright blue areas. Water is also always surrounded by plants, so if you see plants, there is probably water nearby! You can also build algorithms with your Pack to help you find the closest water source.

Diverting and Releasing Water: With the help of your Pack, you can divert the flow of water sources. You can create an algorithm to dig a channel in order to expand water along the edge of a water source or release water to flood a dry area.

Extending Water: You can create a new body of water by using your Pack creatures to dig a reservoir and drop water droplets into the reservoir.

Storing and Transporting Water: With the help of your Pack, your Avatar can store water to help you explore new areas that may not be near a water source. You can also store water in order to transport it to a different place in Algos.

Creatures

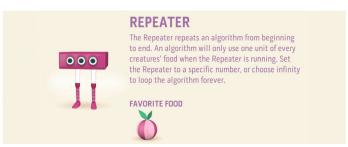
In the world of Algos each type of creature has a unique ability or function. They can help you in your quest to wake your friend, or any other task you ask them to do. By befriending creatures and adding them to your Pack, you can use their special abilities to help you to complete your objective, solve problems, and explore new areas.

Creatures and their **Functions**

Each creature of Algos can perform a single type of action. Used on their own, they can accomplish small and simple tasks. Combined into an algorithm, they can achieve far more complex tasks. See creature cards on the right for the function of each creature found in Algos, as well as the food they need to eat to do work.



The Digger is the first creature you will find to join your Pack. The Digger is able to dig waterways, dig up buried fruit, and dig for seeds.



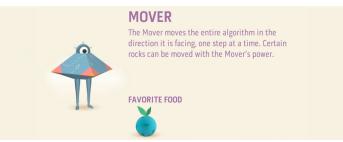
The Repeater is the third creature you will find. The Repeater can be used with other creatures in order to repeat their functions without using more fruit.



The Seeker is the fifth creature you will find. The Seeker can be used to find different fruits, seeds, and water throughout the world of Algos.



The Builder is the seventh creature you will find. The Builder can be used to reach fruits high up in trees, build mountains, and reach seeds high in the air.



The Mover is the second creature you will find. The Mover can be used to push rocks or move an algorithm from one place to another in the game.



The Bumper is the fourth creature you will find. The Bumper can be used to smash rocks and knock down fruits from trees.



The Grabber is the sixth creature you will find. The Grabber can be used to collect different types of fruits, seeds, and water.



The Dropper is the final creature you will find. The Dropper can be used to release water or fruits that your Avatar has collected throughout Algos.

Creatures

Adding Creatures to Your Pack

Creatures wander around the world with thought bubbles above their heads, thinking about the food they like to eat or specific functions they can perform. Those that have not been invited into your Pack will glitter, and will not follow you as you travel around Algos. To bring these creatures into your Pack, you must befriend them by feeding them their favorite food, found throughout Algos. Your Avatar can have up to 33 creatures in your Pack at a time, including those that are following you, as well as those that are being used in an algorithm somewhere in Algos (see Algorithms section for more information).

Click on a creature to add them to your Pack. You must have their favorite type of food in your inventory to add them to your Pack. Creatures often think about their favorite type of food, so watch creatures closely to find out what kind of food they need. If a creature is already in your Pack, go to the "Create Algorithm" screen and press the "?" next to the creature. This screen will "tell you what kind of food your creatures like, as well as what they can do for you (as shown in the creature description images above).

Feeding Creatures

After a creature has been given food and added to your Pack, you will not need to actively feed them again, nor will they eat the food in your inventory when idle. When creatures are in an algorithm, they will require one piece of their favorite food every time that they perform an action. This piece of food will be removed from your inventory each time.

You can use the Repeater in an algorithm to save food. When an action is set to repeat multiple times, the creatures will only consume food the first time. For each subsequent repetition, no more food will be eaten.



Releasing Creatures

The maximum number of creatures in a Pack is 33. If you have a full Pack and wish to add another creature, you will have to release a creature into the wild. Click on one of the creatures in your Pack, then select the "Release" button that appears above their heads. The creature will leave your Pack, and can be recollected at any time that you have room in your Pack.



Creatures



Locating Creatures

When a creature is first revealed, it is seen roaming around an area where the fruit it needs is grown. As you continue through the level you may find the creature roaming around in areas where the fruit they need does not necessarily grow. That is, after you encounter your first of a certain type of creature, those creatures will freely roam around Algos in habitats different from the one where their favorite type of food grows. Once you reach Level 3 (see the Game Levels section), a certain member of your Pack can help you locate creatures.

If you have a full Pack, but only have a few creatures following you, take a look at the map. Anywhere on the map that has a stack of squares indicates an algorithm you created and placed at some point during your gameplay. By clicking on these stacks, you can see which creatures are in the algorithm, the sequence of actions you set up in your algorithm, and whether the creatures have enough food to execute your algorithm. Select the "X" button on the right side of the screen above "Create an Algorithm" to end the algorithm and have the creatures return to your Avatar.

Food



The food that is available in Algos is fruit growing on plants. Each kind of fruit can only come from one type of plant. Each habitat has one type of fruit tied to a specific plant that grows in that habitat, and it can only be found there. Despite this, in later levels your Avatar can grow specific fruit plants in habitats that they are not originally from. Take a look at your map. Each biome type is a different color. As mentioned in the map section, the map will show you biomes based on colors to give you a general idea of what to expect in an area, but will not show you exactly where each type of habitat is in Algos.

Fruit Locations

- · Habitat A: Tall stalks here grow green striped fruit and bluespotted fruit, which are the Digger and the Mover's favorite.
- Habitat B: Tall, bushy trees grow purple striped fruit, which is the Repeater's favorite.
- Habitat C: Bushes in this habitat grow purple spotted fruit, which is the Bumper's favorite.
- · Habitat D: Tall leafy trees with yellow vegetation on their trunks produce pink fruit with yellow spots, which is the Seeker's favorite.
- Habitat E: Tall stalk-like plants with flat leaves produce magenta fruit, which is the Grabber's favorite.
- Habitat F: Dry branches grow green spotted fruit, which is the Builder's favorite.
- Habitat G: Tall, wispy, vine-like trees grow yellow fruit, which is the Dropper's favorite.

Acquiring Food

The primary way of acquiring food is by having your Avatar walk over the fruit, or the plant holding the fruit, which will automatically add it to your inventory. Your inventory is the little bird backpack you see your Avatar wearing, and a summary of what is in your inventory can be found on the bottom left side of the screen.

There are some types of fruit that grow on taller plants that your Avatar may not be able to reach. Some of these plants will eventually drop the fruit, but the production and drop rate for different fruits is not the same, so using your Pack to help you acquire fruit is necessary. Some fruit is buried under the ground. These clusters are often worth several fruits of various types, and will have a little green box hovering over them; you will need the help of your creatures to unearth these food clusters.



Seeds



Collecting seeds helps restore the lost habitats of Algos, returning plants and creatures to the world, and is essential to bringing your friend one step closer to waking. There are 39 total seeds hidden throughout Algos, split up across seven levels. You will need to collect all of the seeds in one level in order to advance to the next one. In each level you will gain access to new biomes and creatures.

Seed Placement

There are seven levels to the game (see the Levels section for more information), and at the beginning of each level, a certain number of seeds are randomly placed in the world for you to find. However, you or one of your creatures must explore all of the terrain in each level in order to get close enough to a seed to have its location revealed on the map. This is true even for areas you have explored in previous levels that are already visible to you on the map.

Seeds can be on the ground, underground, inside objects, or floating in the air. All seeds glow gold, and sometimes the glow can be seen through the ground or other objects.

At the bottom center of your screen, there is a counter for the seeds you have collected in the current level. To find out how many seeds you've collected in the entire game, check out your Achievements.

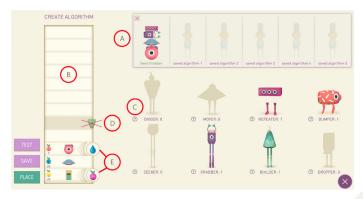


Algorithms

In *The Pack*, an algorithm is a set of your Pack creatures that act together in a specific order. When your Pack has more than one type of creature, you can make algorithms by creating sequences of creatures to perform tasks like moving water, uncovering seeds, bumping food off trees, or building towers. You can also create complex algorithms to achieve multiple things at once, like simultaneously collecting both food and seeds found in the world, and more! Algorithms can be made up of at least one creature, and as many as 12 creatures. The algorithms' actions impact the environment and may create additional challenges for your Avatar to handle.

Creating Algorithms

Click the "Create an Algorithm" button above the map to start a new algorithm (see image on the right, object F). Once here, drag creatures into the "algorithm editor," then drag and drop the creatures to change their order in the algorithm. Once the creatures are in the order you want them in, click "Test" to check the order in which your creatures will perform their tasks, and how many times the algorithm will run. If you are satisfied with how your algorithm will function, "Place" the algorithm where you want it in the game world. Hit "Play" to set it in motion.



A) Saved algorithms B) Algorithm Editor C) Creature information button D)Removing a creature from the algorithm E) Player-selected item creature interacts with



A) Algorithm placement controls B) Rotate direction of algorithm C) Algorithm Editor D) Play/Stop algorithm E) Gather/disband algorithm F) Create an algorithm

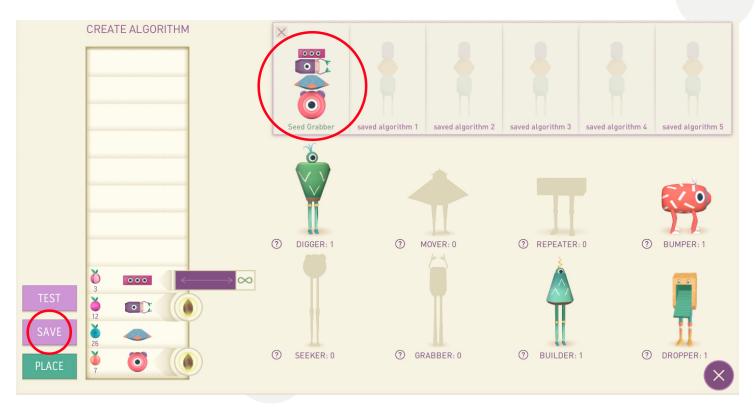
Moving or Changing your Algorithms

Click or tap on the algorithm, then drag it to the location where you want it to start. You can also use the arrows on the right to move your algorithm one square or tile at a time (see image above, object A).

If your algorithm is bumping, moving or grabbing, it may need to face a certain direction. Click the circular arrow above "Create an Algorithm" to rotate the algorithm (see image above, object B).

You must be in the "Algorithm Editor" to change the order or creatures in your algorithm. You can get here with the "edit" button (see image above, object C) for existing algorithms, or "Create an Algorithm" (see image above, object F) for new algorithms. Drag and drop the stacked creatures into the order you want. Drag a creature out of the stacked algorithm until an "X" appears over it, then release to remove it from the algorithm.

Algorithms



Saving Algorithms

If you want to reuse algorithms rather than having to build new ones each time, you can select "Save" in the Algorithm Editor. Saved algorithms appear in the Saved Bar along the top of the Algorithm Editor. Once saved, you can name an algorithm by clicking under its icon in the Saved Bar. It is good to use a name that suggests the algorithm's purpose, such as: "Seed Digger". To reuse that algorithm later, open up the Algorithm Editor and click on your saved algorithm. As long as the creatures are in your Pack and you have enough food for them, and they are not busy with another algorithm, the saved algorithm will appear in the Algorithm Editor, ready for you to place in the world.

Troubleshooting Algorithms

If your algorithm has stopped, try checking:

- If you have enough fruit for each creature in the algorithm.
- If there are any items left for your Seeker to find (are there still seeds, food, water in the world?).
- If the algorithm repeats, or just runs once.
- The order of the creatures in your algorithm.

Game Levels

There are seven levels to the game. Each level will introduce more creatures you can add to your Pack, have a certain number of seeds you must collect, and give you access to more habitats in Algos. Your short-term task in each level is to collect seeds to advance to the next level. In order to do this you must befriend more creatures and learn about their functions. While doing this, you will continue to gain an understanding of different biomes and their relationship to each other, and test more and more complex algorithms to increase biodiversity via spreading water and planting seeds, ultimately learning how to increase algorithm efficiency along the way.

Level 0

You begin the game at level 0, the introductory level. You wake up in Habitat A with a single source of water visible to you. You have the opportunity to befriend the Digger first, whom you will need to help you collect the first seed. The first level's seeds appear close to where you started that level. In later levels, they may start to appear in areas that are farther from water. After collecting the first seed, the Mover will appear. The Digger and the Mover together can aid you in collecting the final seed you need to advance from this level, which is just slightly out of reach of where your Avatar can explore due to water proximity. You must collect two seeds in this level. It is possible to skip the introductory level by pausing the game and selecting Skip from the menu options.



Level 1

At the beginning of Level 1, you wake up in Habitat B. The Repeater appears and can be seen wandering Algos. This is when you gain the ability to add more than one of the same type creature to your Pack. Seeds can be found within the golden circle. In each new level, the golden circle moves to include a small amount of unexplored terrain. You must collect three seeds in this level.

Level 2

The Bumper appears at the beginning of Level 2, along with Habitat C, which can be found adjacent to Habitat B. You continue on your journey, exploring the terrain, meeting more creatures, and searching for seeds. In this level, you will need to find a way to make some barren land green in order to be able to reach one of the seeds. You must collect four seeds in this level.

Level 3

The Seeker can be found exploring the world of Algos at the beginning of Level 3. You discover Habitat D. The Seeker can be very helpful to you in exploring new areas in search of specific items. You must collect five seeds in this level.

Game Levels

Level 4

You discover Habitat E, where you will find a new creature, the Grabber, roaming around. In this level seeds become even more difficult to obtain, and you will need the help of your Pack. Each creature has a special ability that, when combined into an algorithm, can make your journey to collect seeds and restore Algos much easier. Pay particular attention to how the Grabber can help you reach areas far from water. You must collect seven seeds in this level.

Level 5

You discover Habitat F. The Builder becomes available as the newest creature you can add to your Pack. The area in which you must search for seeds expands vastly in this level. There are some seeds in this level that you will not be able to collect without the help of your newest Pack team member. You must collect nine seeds in this level.

Game Modes

Three different modes of gameplay are available: Easy, Medium, and Hard. Choose which mode you would like to use at the beginning of a new game. Once a mode is selected, you will not have the option to change it during your game session.

In harder modes you will encounter several variations to make your journey through Algos more challenging. The harder the mode, the more reliant your Avatar is on being near to water. While in a harder mode, your Avatar is unable to travel as far away from water and will respawn back to an area with water much more quickly. Additionally, the harder the mode, the more rugged the landscape will be. This makes it more challenging to expand waterways and access arid zones.

Level 6

In Level 6 you discover Habitat G. Another creature becomes available to add to your Pack, the Dropper. You have now met all the different creatures in Algos. You must collect nine seeds in this level.

Free Play

After you have completed all of the levels, collected all of the creatures, and woken up your friend, the world of Algos still might not be completely restored. Use the skills you have learned, with the help of your Pack, to restore areas of Algos that are still depleted of water and other resources.



Achievements

The Achievements page gives you the statistics on your gameplay as well as specific feats you can achieve through your Pack experience. While some achievements will happen on your way to collecting the seeds hidden throughout Algos, others might give you ideas for new things to try in your travels!



Achievement Clues

- Repeater Algorithm: Build an algorithm with more than one creature. The Repeater must be part of the algorithm.
- Dig for Food: Use the Digger to unearth buried food.
- \bullet Bump for Food: Use the Bumper to hit something in the game that drops fruit.
- Rock Breaker: Use the Bumper to bump and break something in the terrain.
- Seed Seeker: Build an algorithm using the Seeker, Mover, and Repeater.
- Seed Grabber: Use a specific creature to obtain a seed.
- Food Collector: Build an algorithm using the Grabber, Seeker, Mover, Holder, and Repeater.
- 5 Creature Algorithm: Build an algorithm using five creatures.

- Tower Builder: Build and elevate a square of land.
- River Builder: Find ways to add or expand A LOT of water across the terrain.
- Highest Peak: Locate the highest point in the game.
- World Traveler: Thoroughly explore areas you see or don't see in the world map.
- Algorithm Master: Build an algorithm using a variety of creatures and at least two Repeaters, without having two Repeaters in a row in the algorithm.
- Friend of the Forest: Add plants to the world in Algos.
- Reveal all Biomes: Explore many different biomes in Algos across multiple levels.
- Befriend all Creatures: Add different types of creatures to your Pack.