

TERRAFORMERS

v 1.0

Manual

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ASTEROID
LAB

LET'S GO THEN

Hello there!

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01 Introduction

Welcome to the Red Planet!

In Terraformers you will take charge of settling humanity on Mars and terraforming the planet. Settle new cities, mine & trade resources, import oceans, raise the temperature, create an atmosphere and spread life. Can you meet your population's ever increasing expectations and create humanities' second home?

About this manual

This manual is meant to provide additional information on the game mechanics and concepts. For new players, we suggest to first play the tutorial before reading this manual. In the tutorial everything will be explained in a contextual manner when it is important, which is a better way of learning the game. However, if you want to read more about certain mechanics or about how some of the underlying game systems work, this manual is for you.

02

Game modes

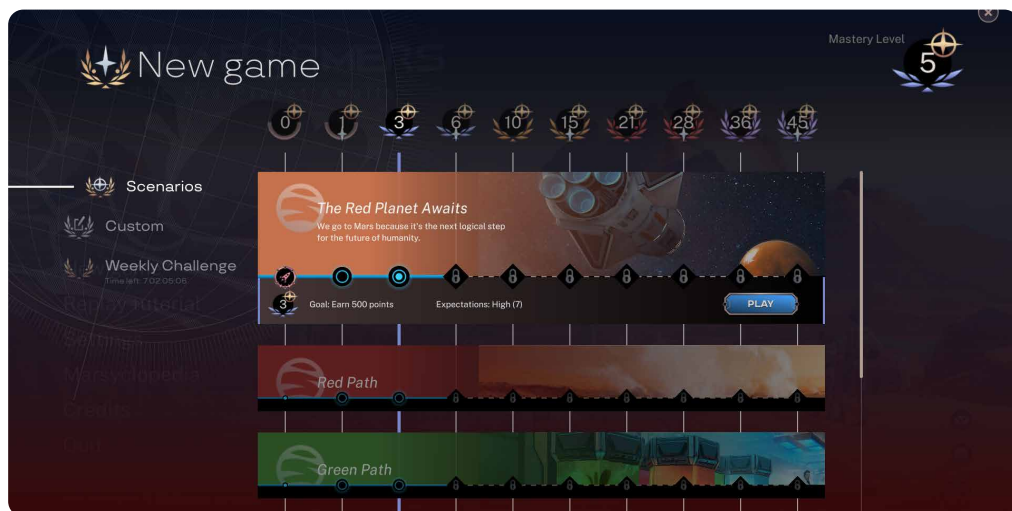


3 game modes





- Scenarios
- Custom
- Weekly Challenge

Scenarios

Scenarios are the first way in which you play Terraformers. Every scenario has a different victory condition, so a different strategy is required for each of them. Each scenario comes in multiple difficulty levels, indicated with Mastery Levels horizontally. The chosen difficulty dictates how high the victory condition is, and how fast your people's expectations of their lives on Mars increase.



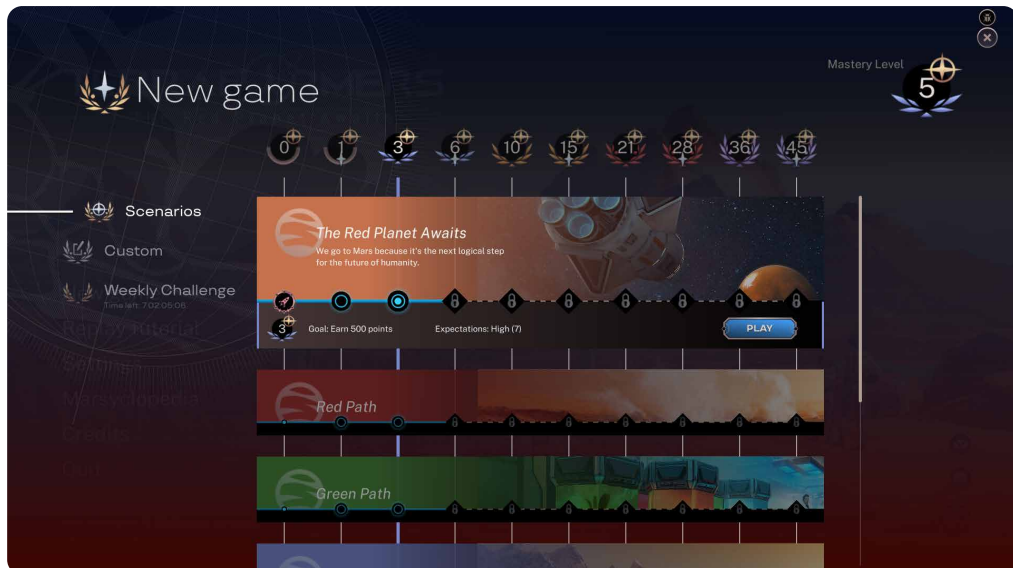
When winning a scenario, you will increase your Mastery Level (shown in the top-right area of this screen). Depending on how many turns it took you to win the scenario, your mastery level will increase by a different amount:

-  **Bronze:** win in any number of turns. Increases your mastery level by 1.
-  **Silver:** win in 80 turns or less. Increases your mastery level by 2.
-  **Gold:** win in 70 turns or less. Increases your mastery level by 3.
-  **Platinum:** win in 65 turns or less. Increases your mastery level by 5.

02 | Game modes

Your mastery level dictates which scenarios you can play at what difficulty. New scenarios and difficulties unlock when you reach Mastery Level 0, 1, 3, 6, 10, 15, 21, 28, 36 and 45.

Completing a more difficult entry in a scenario will also give you the same trophy in easier entries of that scenario that you might have skipped. For example if you did not complete “The Red Planet Awaits” on Mastery level 1, but then complete it on mastery level 3 in 68 turns (gold), you will also directly receive the gold trophy in Mastery Level 1 (which means your total mastery level increases by 6 instead of by 3). So you don’t have to be afraid that you won’t have all the trophies at the end when you skip ahead to more challenging difficulties.



The player has won 1 scenario in 62 turns, so they won the platinum trophy, resulting in a Mastery Level of 5. This unlocks all challenges of Mastery Levels 0, 1 and 3.

Custom Mode

By clicking “custom mode”, you can choose to set up a new game however you wish. There are 3 sliders that you can change:

Goal

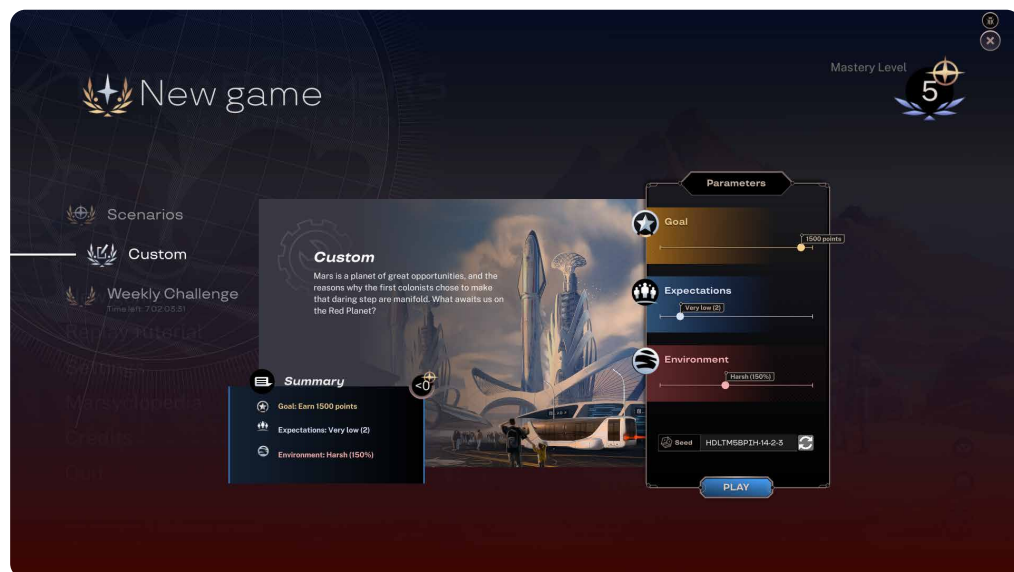
By editing the goal-slider, you can set the amount of victory points that are required to win. By sliding it all the way to the right, you can set the game to endless.

Expectations

By editing the expectations-slider, you can change how much your people’s expectations rise each time an expectation-rise event happens. This is the main difficulty of the game, so if you wish to play a relaxed game, you can set it lower. You can also choose to set it to “none”, meaning no expectation rise events will come. Setting the goal to endless and expectations to none basically means playing the game in sandbox mode.

Environment

By editing the environment-slider, you can change how harsh the Martian environment will be for your settlers. Increasing this slider will increase the amount of damage events that will happen, and how much damage they’ll deal. By sliding it fully to the left, you will not receive any damage.



Custom mode

Mastery level approximation

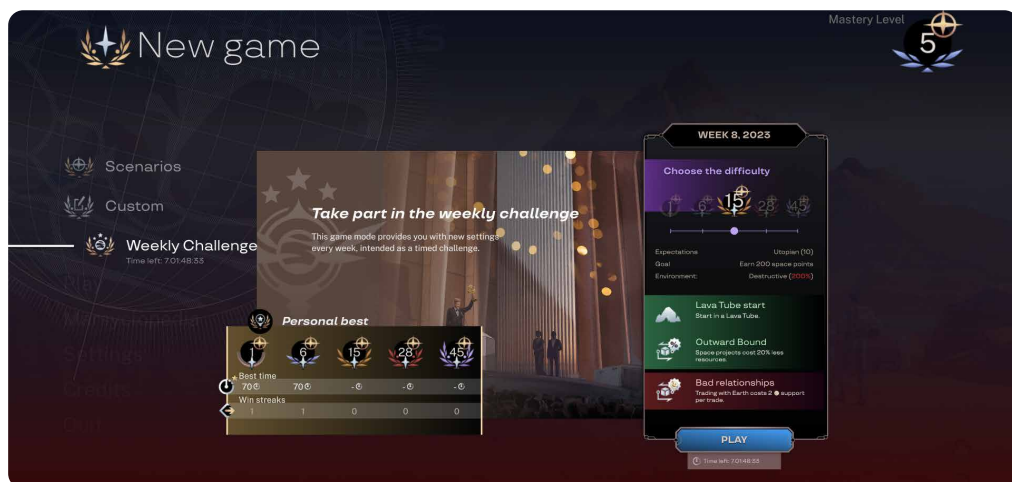
Next to the summary, you can see the approximation of the Mastery Level (difficulty) that your current setup represents. In this way, you know more or less what to expect in terms of total difficulty compared to the scenarios.

Seed

Above the player button, you can see the specific seed of the game you are about to play. You can share this seed with other players, and they will play the exact same game (same planet, same projects proposed, same events etc.). In this way, you can exactly compare your skill with others, or challenge each other to beat difficult games.

Weekly Challenge

At the start of every week, at 12:00 pm CET, a new weekly challenge is generated. This challenge can be played on 5 different difficulty levels. 3 random modifiers will be applied to every weekly challenge, making it harder or easier and changing the strategic balance.



Weekly challenge

In “Personal best”, you can view the shortest amount of turns it took you to complete this weekly challenge on every difficulty level. You can also view how many weekly challenges you managed to complete in a row. If you lose a challenge, you won’t lose your streak, as long as you manage to win the challenge before the week is over.

03

Victory condition



Depending on which Scenario you are playing, there is a different victory condition. The victory condition is always shown as a progress bar (or multiple progress bars) in the top-left area of the screen. By hovering it, you can get more information about the victory condition.



Victory condition

04 Support





😊 **Support** represents how happy your Martian residents are under your governance. It is shown in the top-left area of the screen. The upper number indicates your current amount of support, and the lower number indicates the change per turn. After every couple of turns, your people's expectations rise, lowering your support income. If your current support reaches 0, your people have lost faith in you and the Mars mission will be deemed a failure.

😊 **Support** can be acquired in various ways:

- By constructing 🏗️ **buildings** that give support income directly, or that let the **Adjacencies** 🏘️ **population** provide extra support income.
- By raising the ❤️ **Comfort of living** in your cities, and by settling new cities in locations that have a high comfort of living (because each 🏘️ **population** generates 😊 **Support** equal to the ❤️ **Comfort of living** in the city it lives in).
- By acquiring a new 🏘️ **population**. Besides the support they'll generate every turn equal to the comfort of living, you will also receive support equal to the **Mars enthusiasm** at that moment.
- By Increasing a global **Terraforming** parameter.
- Through the prestige provided by **Lifeforms**.
- Via certain **Leader** skills and specializations
- By developing certain **Technologies**.
- Via **Leaders**.

Comfort of living

Every 🏘️ **Population** living in a city generates 😊 **Support** every turn equal to the ❤️ **Comfort of living** in that city. To see the comfort of living in a city, look at the top area of the city view. The comfort of living is a combination of the ☢️ **radiation protection** that the city has, and the 🌡️ **local temperature** and 🌬️ **local oxygen** level in the climate zone that the city is located in. Oxygen cannot impact the comfort of living in a city negatively, so it doesn't matter if it's 0 or -3. 🌧️ **Local rain** does not affect the comfort of living in a city.





This city has a **comfort of living** of 3 (+4 from **radiation protection**, -1 from **temperature**, and because the oxygen is negative it doesn't influence the comfort of living). As it has a **population** of 4, it produces $3 \times 4 = 12$ **support** per turn.

Some buildings also increase the comfort of living in a city. For example the Courthouse provides the city with 2 comfort of living.




A good way to increase the comfort of living in your cities is to [terraform](#) the planet (increasing the **temperature** and **oxygen**, and the **atmosphere** which in turn increases the **radiation protection**). Also be sure to settle new cities in locations that start with a higher comfort of living like lava tubes which have a high **radiation protection**, or cities located near the equator (as they have a higher **temperature**).

Mars enthusiasm

The Mars enthusiasm is shown at the top-right area of the screen and indicates how excited people on Earth are to move to Mars. It starts at 0 and increases every turn. The first turn it increases by 10, then by 9, then by 8 and so on. When you increase your  **Population**, the amount of stored Mars enthusiasm is converted to  **Support** and is then reset to 0. With each expectation rise, the amount of Mars enthusiasm income per turn also increases by 1.



To make optimal use of the Mars enthusiasm, it is best to grow your  **Population** at a steady pace.

05

Events & Expectations rising



Every few turns a new event takes place. This can be positive like extra resources or unique projects, or negative like a spacecraft crash or rising expectations.

Expectation forecasting

The chance of a negative event (usually an expectation rise) is indicated by the bar above your support. The further it is filled up, the higher the chance of a negative event.



The expectation forecasting bar.

By hovering it with your mouse, you can see the amount of support that will be subtracted by the next expectation rise. You can also see what factors influenced the chance of an expectation rise this turn. The chance on an expectation rise changes every turn, and is impacted by:

- **New year:** Every turn that passes increases the chance of an expectation rise (as time passes, your people will expect a higher quality of life).
- **Events:** Positive events increase the chance of an expectation rise, negative events decrease the chance of an expectation rise (your people remember the good or bad fortune that overcame you and will adjust their demands). Depending on the chosen difficulty and when it occurs, the same event can impact the expectation-rise-chance differently.
- **Past (bad) luck:** The earlier a positive or negative event (like an expectation rise) happens, the bigger its lasting impact. Your population takes these early moments of (bad) luck into consideration when setting their next expectations.

Damage

Mars has a hostile environment, and some events cause damage to your buildings. When this happens, the game also takes into consideration how much damage was afflicted to your buildings in total (the total cost of repairing them), and lowers the chance of an expectation rise accordingly. This means that if a sandstorm causes a lot of damage to your cities, the chance of other negative events happening is reduced for the remainder of the game.

When a building is damaged, it is damaged for 50% of the construction costs, rounded down. Except if the building is located inside a lava tube, then it is only damaged for 25% of the construction costs. A damaged building will keep functioning, but generates 10 negative support per turn. At the start of every turn the population of the city will repair the building a little bit, lowering the repair costs by 1 (a random resource is repaired). You can also choose to directly repair a building by paying the required resources.




The laboratory was damaged by a sandstorm. You can choose to repair it directly for 2 nitrates and 2 silicates, or wait 4 turns until it is repaired by itself (which will cause 10 negative support per turn).



06 Cities

Founding a new city

New cities can be settled in locations that have the city icon: . To found a new city, first click on a city location.



A city can be founded inside this crater.



Then, click the “Found city” button in the top area of the screen. Founding a city costs 30 food and 10 water, and requires that all adjacent locations of the city location are explored first.




Click this button to found a city.

City expansion



Each new  **Population** or  **Robots** allows your city to expand to a new location. To do so, go to the planet view and click on the hexagon with a number in it. The number indicates how many times the city can still expand. Some buildings, like the Road Paver Depot, also allow your city to expand.

When expanding your city, be careful not to expand it too far outward. Every distance further from the city itself will cause an increasing amount of  **negative support** per turn.










If you expand this city to the location to the left, it will generate 2 negative support per turn as it is located far away from the city. Expanding to the right (adjacent to the city itself) will not cause any negative support income because it is adjacent to the city.

Some buildings, like the Road paver depot, also allow your city to expand. Public transport buildings like the bus station also reduce the negative support income from expanding far out from the city.




Expanding a city over ocean locations works differently. In order to do so construct a dock or shipwright. These buildings provide a repeatable action (with a button appearing on the map) to expand over nearby ocean locations.

Maximum buildings

The maximum amount of buildings that can be constructed in a city depends on the total amount of  **Population** and/or  **Robots** that the city has:

- **1**  **Population /robots:** → 5 buildings
- **2**  **Population /robots:** → 9 buildings
- **3**  **Population /robots:** → 12 buildings
- **4**  **Population /robots:** → 14 buildings
- **5**  **Population /robots:** → 15 buildings



← In this example, the city has **1**  **Population** and **2**  **Robots**, and can therefore have **12**  **Buildings** at maximum.

Some projects, like the coffee shop, make your population work harder and more efficiently, resulting in a higher number of maximum buildings without requiring more population or robots.

Rocks & Special slots

Most city locations have rocks inside them, and some city locations have special slots inside them.

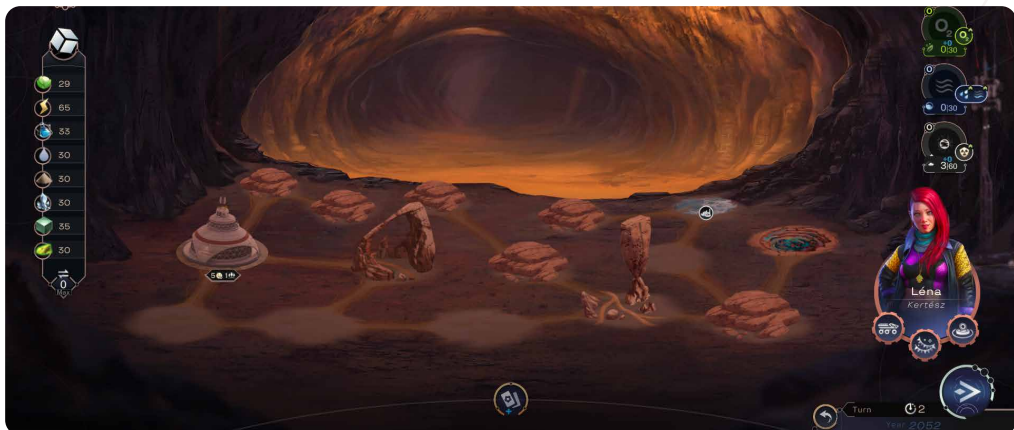
Rocks block the slot underneath it, and the slots behind it. This means that they need to be cleared before a building can be constructed on these slots. Removing a rock costs 3 power. Some leaders have a skill to remove rocks for free. Lava tube city locations have the most rocks, and plains city locations have the least.



In this example, the slots that cannot have a building on them are marked with a red cross, because they are either underneath a rock, or a rock is in between that slot and other buildings in the city.

Special slots are unique type of city slots that provide bonuses to the building on top of it or adjacent to it:

- **Natural sights** let adjacent **Population** provide extra **Support** per turn.
- **Fertile slots** let food producing buildings on top of it produce **1** **Food** extra. **Anomalies** let science producing buildings on top of it produce **1** **Science** extra.
- **Resource deposits** allow the construction of a mine on top of them. To construct the mine, click the “mine” button on the resource deposit. Beware that a mine inside a city lets adjacent **Population** generate **1** **negative support** per turn.



This city has 2 natural sights (1 great and 1 normal one) adjacent to which population buildings will generate extra support, 1 anomaly on which a science producing building will generate 1 extra science, and 1 aquifer on which a mine can be constructed to mine water.

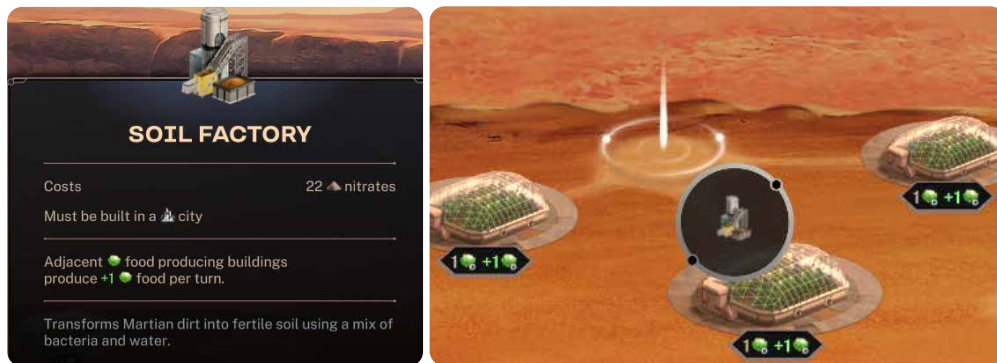
Adjacencies

Some buildings in a city benefit from being adjacent to specific other buildings. For example the Public Baths:



the Public Baths gives +5 **support** per turn, and every **population** living adjacent to it will provide an extra +2 **support** per turn.

Another example: the Soil Factory enhances the food production of adjacent buildings that already produce food by 1, meaning that if it were to be placed next to this Greenhouse Farm, it would increase the food production of the hydroponic farm from 1 to 2.



If you would place the soil factory in-between these 3 Greenhouse Farms, the Greenhouse Farms will produce 1 extra food per turn.



07 Landmarks
& Resource
deposits

Mars is full of special locations and resource deposits. When exploring, you are bound to find them. Landmarks and resource deposits can be upgraded, and some landmarks offer multiple upgrade options




This is a Geothermal spot landmark. It can be upgraded in 2 different ways.

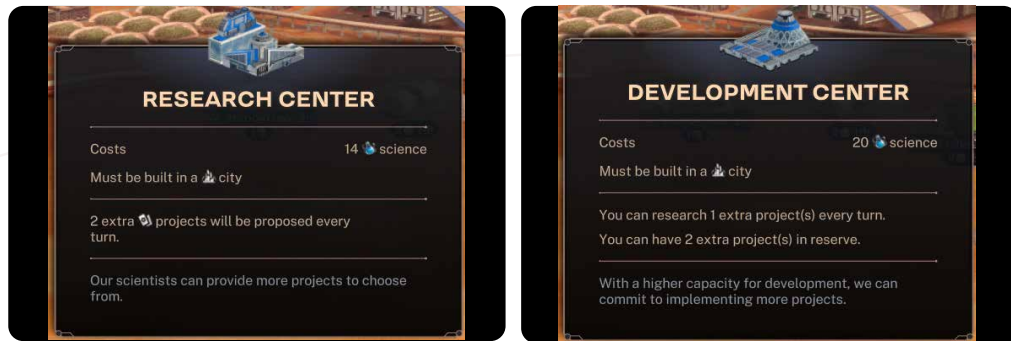
Before you can construct an upgrade on a landmark, you first have to **expand** towards it with one of your cities.

08 Projects



Project proposal system

At the start of every turn, **3**  **projects** are proposed, of which you can choose (research) 1. Some buildings increase the amount of projects that are proposed per turn, others the amount of projects that you can research per turn:



By constructing the Research Center, you increase the amount of projects that are proposed every turn. By constructing the development center, you increase the amount of projects you can research every turn and the amount of projects you can store.

Projects are divided into 9 different “decks”, all revolving around a particular category:

Deck	Category
1	Food
2	Power & Industry
3	Population
4	Support
5	Expansion & Robots
6	Science & Extra technologies
7	Trade & Extra projects
8	Terraforming
9	Lifeforms & Exploration

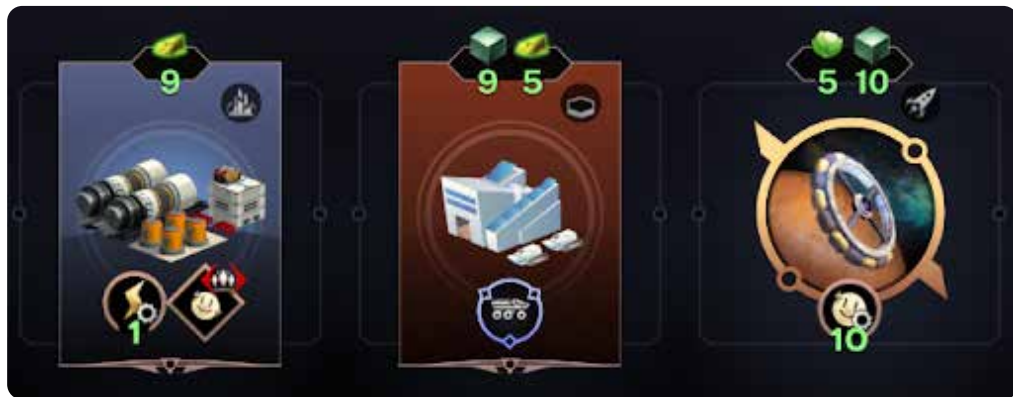
When proposing a new project, the game cycles through these decks in order. So it will always propose a project from every category at least once every 3 turns. If you get more projects proposed per turn, it will cycle through these decks faster.

Not all decks are there from the start of the game, for example deck 7, 8 and 9 are only added in later turns.

At certain turns in the game, new projects are added to these decks. The later in the game you are, the more advanced and expensive projects are added to the decks.

Project types

There are 3 types of projects that can be proposed via the project proposal system:



City buildings

Regional buildings

Space projects

City buildings must be constructed inside a city. Regional buildings must be constructed on a planet location that one of your cities has **expanded** towards. **Space Projects** are constructed outside of Mars, and resources must be transported there with trade routes.

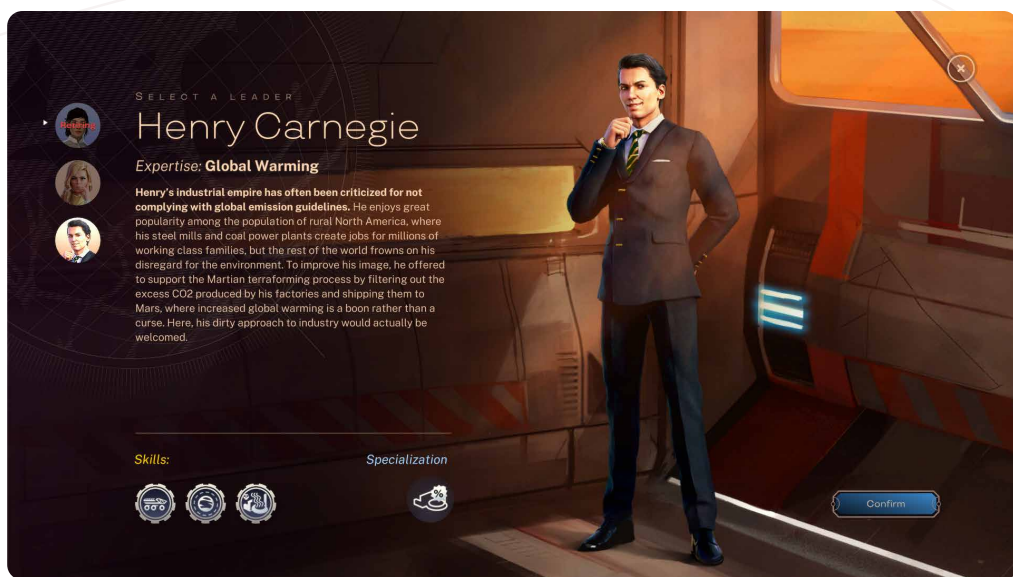
09 Leaders



At the start of the game, you must choose a leader to represent you on Mars. You always have 2 choices. The term of a leader lasts 10 turns, after which you must choose a new leader.

Each leader has 3 skills, of which they can use one per turn. The first skill is always an exploration skill.

Each leader also comes with a specialization. This is a passive effect that remains for the rest of the game, even after the leader has retired.



The player can choose between 2 new leaders here: Henry Carnegie and Hope O'Malley.

Leaders are divided into early-, mid- and late-game. Early game leaders appear in turns 1 and 11, mid game leaders appear in turns 21 and 31, and late game leaders appear in turns 41, 51 and 61. From turn 71 and onward, leaders will be randomly generated. These randomly generated leaders come with skills, but not with a specialization anymore.

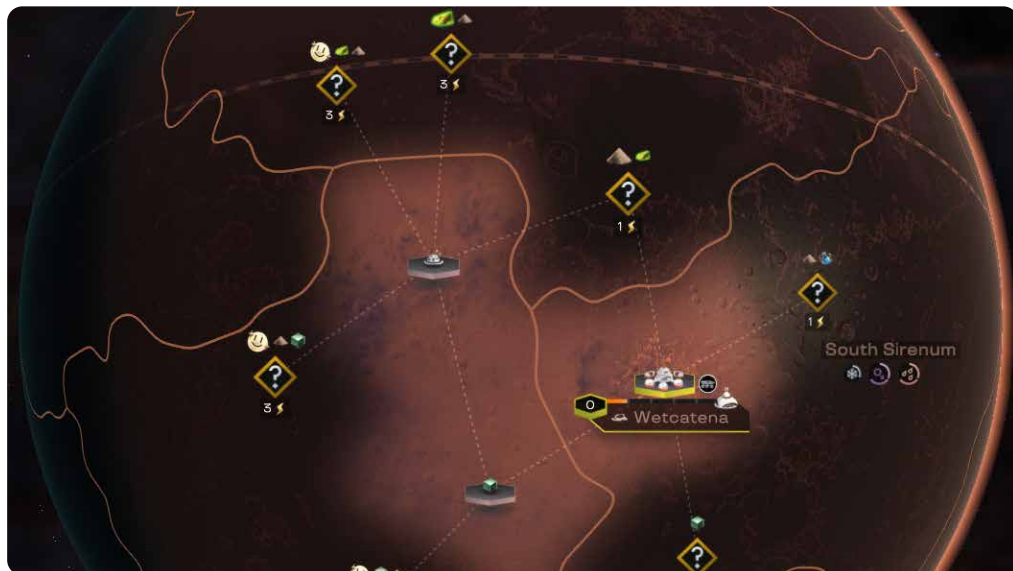
10 Exploration



By exploring, you can gather more information about your surroundings, and also loot resources directly on the planet. Exploration can be done with leaders and with special buildings and certain space projects. By hovering over an exploration action it will display its specific cost or recharge duration per map location. This can help you quickly compare different exploration methods.

Leader exploration

Each leader comes with an exploration skill. To explore with your leader, click the exploration skill and then select a location you want to explore. Exploring with your leader costs ⚡ **power**, each distance further away from the nearest city costs 1 power extra



Exploring with your leader costs 1 power per distance away from the nearest city.

Rover exploration

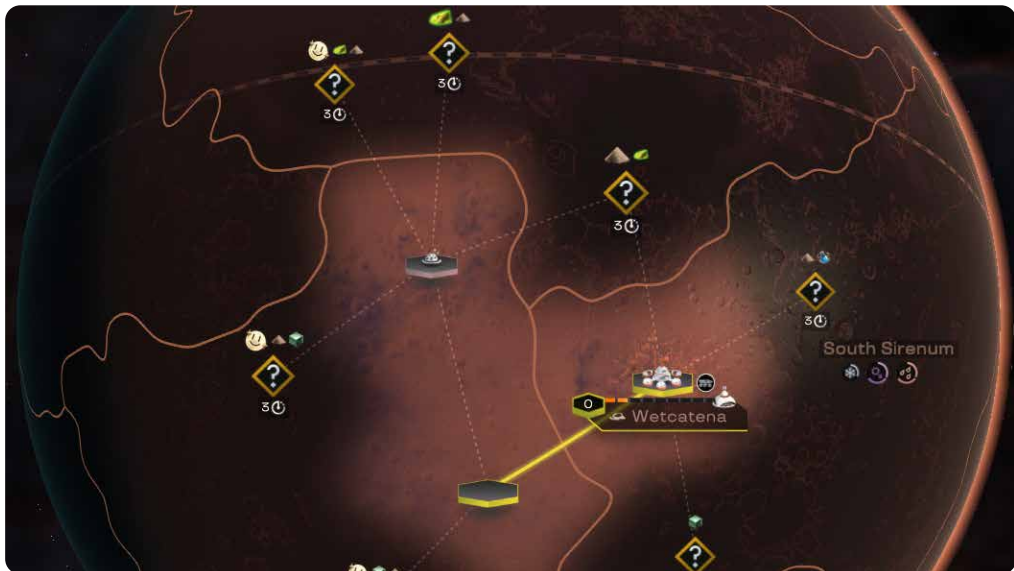
By constructing a Rover Center (regional building), you get a rover exploration action. You can click this action at the bottom-right of the screen or on top of the building itself. The rover exploration center can explore instantly for free, but has to recharge afterwards for a few turns. The further away from the building the rover exploration center explores, the longer the recharge duration.



Exploration with the rover center is instant, but the recharge duration until it can explore again depends on the distance from the rover exploration center.

Satellite exploration

At the start of turn 6, you will receive a free exploration satellite from Earth. With it, you can explore any location for free. The distance to a location doesn't matter, the recharge duration is always 3 turns. More exploration satellites can be constructed to increase your exploration capabilities.



Exploration with a satellite is instant and the recharge duration is always 3 turns.

Looting resources

While exploring, you will also find resources. You can already see which resources you will find before selecting a location to explore. A small resource icon means that you will find 2-3 units of that resource there. A large resource icon means that you will find 4-6 units of that resource there, and that there is a resource deposit located underneath it on which a mine can be constructed later.

Upon discovery, landmarks provide either a large amount of support (20-30), a large amount of science (4-6) or a large amount of power (4-6), depending on what type of landmark it is. City locations always provide a large amount of support (20-30).

Depending on if you were lucky or unlucky in the amount of resources you looted, the game will balance this out in future exploration missions by giving you more or fewer resources. If you looted for example a small nitrates icon and only looted 2 nitrates, there is a bigger chance you will loot 3 resources the next time you loot a small resource icon.











11 Terraforming



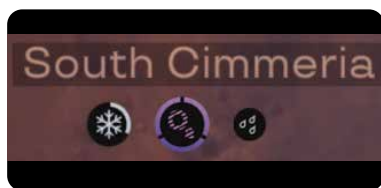
11 | Terraforming






As the name might suggest, terraforming is an important aspect of the game. Terraforming is divided into 4 parameters which can all be raised:

-  **Temperature**, which increases the  **Comfort of living** in your cities, and is required for spreading most **Lifeforms**. It can be generated by spreading bacteria, constructing certain buildings or importing it with **Space Projects**.
-  **Oxygen**, which increases the  **Comfort of living** in your cities, and is required for spreading animals and some bacteria. It is produced mostly by plants, but also by some bacteria or buildings.
-  **Rain/**  **Ocean**, which is required to spread plants and marine animals, and play ocean projects. By extracting oceans from beneath the Martian surface or importing it with **Space Projects**, oceans are created. And with that also comes rain.
-  **Atmosphere**, which increases the  **radiation protection** in all your cities, leading to a higher  **Comfort of living**. Beware that a city can only have a maximum  **radiation protection** of 5.

Each parameter requires a certain amount of terraforming progress to increase. Increasing the temperature, oxygen or rain globally by 1 level, increases that parameter in all climate zones on the planet by 1 level. Each climate zone starts with different local terraforming parameters between 0 and -3.



This climate zone has a  local temperature of -1, a  local oxygen level of -3, and a  local rain level of 0. If you were to raise the global rain level by 1 step, it would start raining here. However, if you were to increase the oxygen by 3 steps, there still would not be any oxygen.

11 | Terraforming

Increasing a global terraforming parameter also causes celebrations all around the planet, resulting in a large stock of direct support. You will receive 100 🧑🏻‍🚀 **Support** for the first level, 200 🧑🏻‍🚀 **Support** for the 2nd level and 300 🧑🏻‍🚀 **Support** for the 3rd level. Besides the direct boost in support, the local terraforming parameter in every climate zone on the planet also increases, which positively impacts the ❤️ **Comfort of living** in all your cities, resulting in a higher 🧑🏻‍🚀 **Support** income per 🧑🏻‍🚀 **Population**.






Increasing the global temperature results in support and an increased temperature in all climate zones.

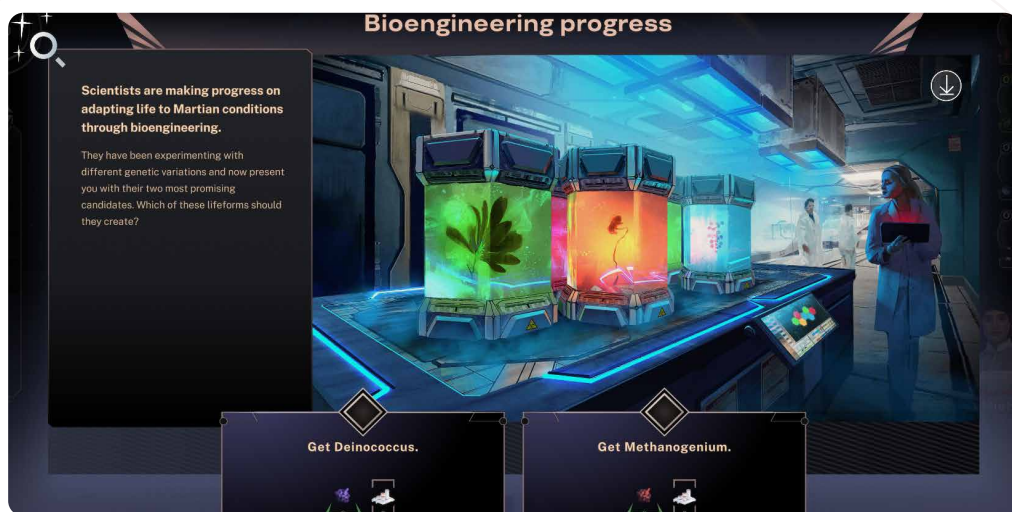
12 Lifeforms



Lifeforms can be spread around the planet and provide a variety of benefits. From temperature and oxygen to support, food and science.

Importing a lifeform


From time to time, you can import one of two proposed new lifeforms from Earth. There are also leader actions and a space project that can import more lifeforms. There are 3 types of lifeforms:  **bacteria**,  **plants** and  **animals**. When importing the first lifeform of a type, you will also receive a “spreader building” of that lifeform type.



Because the player doesn't have any bacteria lifeforms yet, he will also receive a bacteria spreader building upon importing his first bacteria lifeform.

Spreading a lifeform



There are 3 types of spreader buildings that can each spread a different lifeform: bacteria, plants or animals. It needs to be constructed first on a  **planet location**.

After constructing a lifeform spreader building, click the action beside it or above the lifeform button, and then select the lifeform you want to spread.

Then select a suitable climate zone (that meets the minimum terraforming requirements of the lifeform) to spread the lifeform there.



As the Methanogenium bacteria has a minimum temperature requirement of -1 ❄️, it cannot be spread in the Northern climate zones, as they are too cold.

The lifeform will be spread instantly, but the building will require a certain amount of turns to recharge before it can spread life again, depending on:

- The base spread duration of the lifeform.
- The distance from the climate zone that the spreader building is in towards the distance that the lifeform is being spread in (+20% per distance).
- If the same lifeform is already present in an adjacent climate zone, the recharge duration is reduced by 10%.
- If a lifeform of another type is already present in the climate zone (for example a plant or an animal when you are spreading bacteria), the duration is further reduced by 20% per other lifeform living there.
- If you are replacing another lifeform in that climate zone, the spread duration is reduced by 50% of the base spread duration of the lifeform that is being replaced.

Every climate zone can only have:

1 🦠 **bacteria**, 1 🌱 **plants** and 1 🐾 **animals**.

Prestige

Each lifeform has a certain amount of 🌾 **prestige**. Each level of prestige provides 10 direct 😊 **Support** and 1 😊 **Support** per turn. Prestige is triggered when the lifeform is present in a certain amount of climate zones:

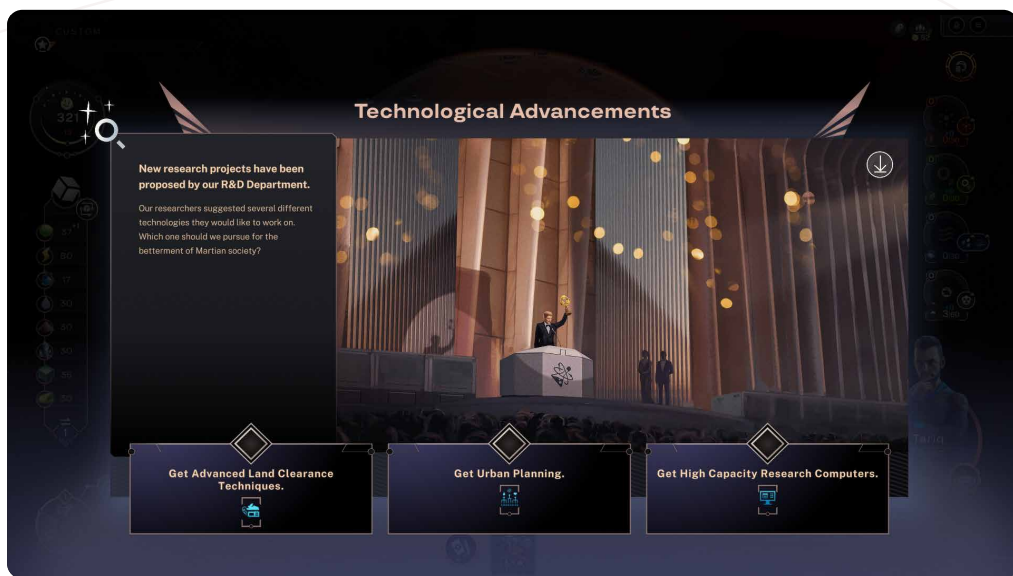
1 🍀 climate zone	1x 🌾 prestige
3 🍀 climate zones	2x 🌾 prestige
6 🍀 climate zones	3x 🌾 prestige
10 🍀 climate zones	4x 🌾 prestige

So if a lifeform has 5 🌾 **prestige** and is present in 1 climate zone, its 5 prestige has been triggered once (providing 50 support and 5 support income). If you spread it to another climate zone, its prestige won't be triggered as it will then be in 2 climate zones. You will have to spread it to a third climate zone to trigger its prestige again and receive an additional 50 support and 5 support income.

13 Technologies



Technologies are special projects that are proposed via a special event in which you can choose 1 out of 3 technologies. The first technology will be proposed after 8 turns (so in turn 9), the one after that 16 turns later, the one after that 24 turns later, and so on (the duration between technology proposals increases by 8 turns every time). To see when the next technology will be proposed, open the overview panel by clicking the button at the top-right. To reduce the duration until future technologies are proposed, construct the Applied Science Center, which reduces the duration until all future technologies are proposed by 50%.



Every time new technologies are proposed, you can research 1 out of 3.

Technologies cost science to develop, and then give a benefit that will last for the entirety of the game.

Technologies are not suggested during the tutorial.

The background of the page is a dark, atmospheric scene. In the lower-left foreground, two small figures in space suits stand on a dark, rounded rock. The background is dominated by a large, glowing, crystalline structure with many sharp, translucent facets, resembling a giant crystal or a futuristic architectural element. The overall color palette is dark with a reddish-brown tint, and the lighting is dramatic, highlighting the textures of the rock and the facets of the crystal.

14 Trading &
Space projects

If you have trade routes, you can trade resources with Earth. You receive a free trade route in turn 4, and more can be attained by constructing specific buildings or space projects.



The player has built a spaceport, which grants him 2 additional trade routes. And because the spaceport is located next to a titanium mine, he gets an additional trade route, but with this one he can only export titanium (the mine icon in the trade panel).

To trade resources, click on the small button in the top-right area of your trade panel. This opens up the trade panel. Each trade route can export and import 1 resource of your choice. To import a resource, click on the left arrow. To export a resource, click on the right arrow. You always need to export the same amount of resources as you are importing. The resources are not traded instantly, but automatically at the end of every turn.



Because the player has plenty of food and tritium, he chooses to export those resources. As he can also export one titanium with his special trade route, he chooses to do that as well. He decides to import 4 nitrates as he is in need of those.

Space Projects

Space Projects can be proposed from the mid-game in the project proposal popup. When you research one, it will be shown next to your trade panel. You can have a maximum of 3 space projects at a time. Space projects are not paid instantly when played, but require that you transport the required resources towards them using your trade routes. This means that you will have to choose if you want to use your trade routes to trade resources with Earth, or to develop your space projects. To transport a resource to a space project, click the arrow button next to the space project.



The player is exporting 3 tritium per turn to his space project. This means he can't use those trade routes to trade resources with Earth. The space project requires a total of 14 tritium to be completed.










15 Relocation,
Dikes & Height

As you raise the oceans in order to terraform Mars, you might want to move buildings or even entire cities away from locations that will flood.

Height & Dikes

Locations differ in height. There are 5 height levels on the planet:

- Height 1: 
- Height 2: 
- Height 3: 
- Height 4: no icon (most locations are on this height).
- Height 5: 

All locations on  **height 1** will flood when you raise the ocean once. All locations on  **height 2** will flood if you raise the ocean a second time, and all locations on  **height 3** will flood if you raise the ocean a third time. To prevent a location from flooding, you can construct a dike on it. To do so, click on the location and click “Dike” in the landmark panel:



As the ocean is currently on level 1, these windmills will flood if the ocean rises again. Constructing a dike prevents this.

Each dike level protects the location from 1 level of flooding. You can construct the dike multiple times on lower locations. Dikes can also be constructed to protect cities. This can be done from the city view.



You can construct a dike around a city as well from the city view. Hover the dike icon to unfold the button.

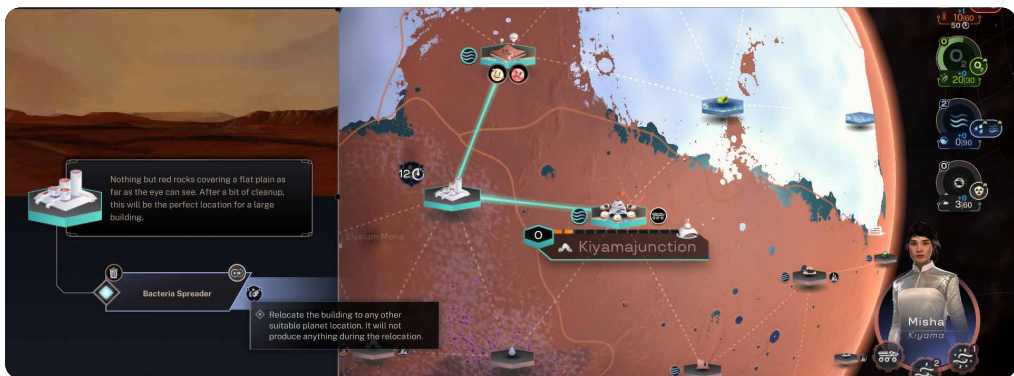
Some locations are located particularly high . Some buildings that have the benefit from being constructed on a high location, like the Photovoltaic field:



← If this building is constructed on a **high location**, it will produce 1 extra **power** per turn.


Moving regional buildings

Another way to prevent regional buildings from flooding, is to move them to another location. To do so, open the regional building panel and click the “relocate” button:



Relocating a building takes 2 turns if moved to an adjacent location, and 1 turn extra for every distance further. During the relocation process, the building will not function. You can also choose to move a building to a location you don't control. In that case, the building will finish its relocation process when you control that location with a city.

Relocating cities

You can also choose to relocate an entire city to another **city location** . To do this, click the relocation button inside the city panel and then select another city location.



By clicking this button, you can relocate an entire city.

Just like with regional buildings, this also costs 2 turns towards an adjacent location, and 1 turn extra per distance further. During the relocation process, all buildings in the city cease functioning. After choosing a new city location to relocate towards, open the city view to place the buildings however you wish for free.

Moving city buildings



You can also choose to swap buildings within a city. To do this, highlight a building and then click the relocation button and select another slot to move it towards.

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Planet Generation



Each time you start a new game, the planet is procedurally generated to provide new challenges. For those interested in a look “under the hood”, here is a simplified explanation of the planet generation procedure.

The planet generation follows the following structure:

1. The climate zones are generated first, following realistic natural features of Mars, but the borders are drawn differently every time which leads to different terraforming parameters from game to game.
2. The location grid is generated.
3. The starting city is placed on a location in a climate zone with a local temperature of -1 ❄️. The starting city is always a 🗑️ **crater**. It is also made sure that the starting city is on height 4, and that the nearby locations are not too low.
4. 0-3 volcanoes are placed in volcanic regions on Mars. They have a chance to have a lava tube beside them. Also the special CO2 ice locations are placed on the poles, surrounded by some aquifers.
5. Starting from the starting city location, 1 plains, 1 crater and 1 lava tube and 13 empty locations are added to a “city deck” and randomly placed outward from the starting city. The limitation is that no 2 city locations may directly border each other.
6. After all these locations are placed, 5 plains, 4 craters, 3 lava tubes and 25 empty locations are added to the city deck. They are placed in a random order outward from the starting city where we left off in the previous step. In the North there is a larger chance on plains, and in the south a larger chance on craters. This process repeats until the entire planet is covered with city locations or empty locations.
7. The game will now mark which of the empty locations will become a resource deposit/landmark or remain empty. The game tries to ensure a certain ratio is kept between empty and resource/landmark locations.
8. A new “resource/landmark deck” is made which has inside it 1 deposit of every mineable resource (Titanium, Silicates, Nitrates, Water, Tritium).
9. Randomly, 2 of those resources are placed adjacent to the starting city on designated resource/landmark locations defined in step 7. The other

adjacent location(s) to your starting city are left empty.

- 10.** Continuing outward from the starting city location, 2 other resources are placed nearby on designated resource/landmark locations defined in step 7.
- 11.** After those are placed and only 1 resource is left in the deck, 3 copies of every normal-sized resource deposit, 2 copies of every large-sized resource deposit and 1 copy of every gigantic-sized resource deposit (except tritium), as well as 20 landmarks are added to the resource/landmark deck. They are placed outward from the starting city on designated resource/landmark locations defined in step 7. While placing, the game checks from the perspective of every city location how good that city location is in terms of climate zone parameters, amount of connections and nearby resource deposits/landmarks (larger resource deposits being better). If the city location is strong already, it will only place “smaller” resource deposits/landmarks. When there are only a few resource deposits/landmarks left in the deck, they are added again. This process repeats until every designated resource deposit/landmark location is filled with a resource deposit or landmark.
- 12.** Now the planet has been generated, and each city picks a random slot layout. Some layouts are considered better than others, which will be balanced in the next 2 steps.
- 13.** Each city location now checks how “good” it is based on their surrounding resources/landmarks, connection amount and terraforming parameters of the climate zone they are in. If they are still bad, they will receive one or more “special slots” inside their city until they fall between 2 balance numbers. Some special slots are stronger than others, and also which slot inside the city the special slots are placed on is taken into consideration.
- 14.** Now all city locations check how good they are, and will place rocks inside the city until they are fully balanced. Where rocks are placed is also taken into consideration during this step (rocks blocking off multiple paths have a slightly bigger impact than rocks on the edge of your city). As Lava tubes have a radiation protection of 4, and craters a radiation protection of 2, these will be filled with more rocks in this step to balance out that advantage.

In the final 2 steps, not every city location will have exactly the same “balance strength”, some city locations are intentionally stronger than others. The game also keeps track of this, so if a city location is too relatively strong, the next city will be relatively weak and vice versa. Only the starting city location has a strict balance guideline which is always average. So the reason that your starting city sometimes has more rocks than other times is because then it will have either better landmarks/resources nearby, better climate parameters or more connections. Also, the starting city location never has any special slots.



17 Mars Level &
unlocking new
content

After winning or losing a game, you will receive Mars points based on how well you played:

- **Scenario points:** depends on how close you got to achieving the victory condition. It is multiplied in higher difficulty levels.
- **Scenario success:** if you win, you get extra Mars points. More in higher difficulty levels.
- **Scenario success in x turns:** the faster you win a scenario, the more Mars points you receive. You have to win in less than 80 turns to get any points here.



Mars points obtained after playing a game unlock new content.

Depending on how many Mars points you obtained, you will unlock new content that can then appear in future games. There are 32 levels of content to unlock at this moment. The new content is not necessarily stronger, but is there to provide more interesting, diverse and complex strategies that might overwhelm new players.



New content unlocked after playing a game.

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More questions?



We're listening :)

We hope that this manual has helped you to understand Terraformers more deeply. If you have more questions, you can always join our Discord Server or post them on the Steam forums. We will do our best to answer them all.

Good luck with terraforming the Red Planet!

SEE YOU ON MARS!