

# ENDEAVOURS

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Unless otherwise noted in the Endeavours rule set (i.e., this document), all rules from the official Core game and the official Modules apply. If a situation arises that is not addressed in the Endeavours rule set, please use your judgement to decide what ruling fits best with the spirit of the game. In addition, unless otherwise indicated, all rule references (e.g., E3d) are to the Endeavours rule set itself, not to the rules for the official Core game and the official Modules.

## A. GAME COMPONENTS

### A1. OFFICIAL COMPONENTS

- a. **General:** The components from the official Core game and any official Modules being used are required. **Note:** Endeavours was primarily designed for use with the Core game and Modules 1 and 2.
- b. **Player Tokens:**
  1. **Yellow:** The Player uses the yellow player tokens.
  2. **Other Colours:**
    - **2 Colony Domes:** White
    - **7 Small Wooden Cubes:** White
    - **2 Outpost Chits:** White
    - **4 Big Wooden Cubes (Module 1):** 1 each of green, purple, red, and white
    - **1 Kalpana Bernal (Module 2):** White
    - **1 Stanford Torus Bernal (Module 2):** White
- c. **6 Discovery Chits:** 1 each of the 6 Spectral Types (C, D, H, M, S, and V)

### A2. ADDITIONAL COMPONENTS

In addition to the official game components, place the following into the Pool:

- a. **91 d6 Dice (12 mm):** 20 black, 13 blue, 22 green, and 36 red
- b. **1 d4 Die**
- c. **6 Large Glass Beads:** 2 each of 3 different colours
- d. **180 Small Glass Beads:** 60 black; 30 each of green, purple, red, and yellow
- e. **1 Cloth Bag**
- f. **295 Cards - 64 x 89 mm (Standard Card Game Size):**
  - **215 Base Mission Cards**
  - **69 Research Project Cards**
  - **11 Drift Bernal Cards**
- g. **621 Cards - 57 x 89 mm (Standard American Size):**
  - **261 Exploration Cards (Including 2 Cover Cards)**
  - **216 Observation Cards (Including 2 Cover Cards)**
  - **24 Station Cards**
  - **84 Equipment Cards (Including 4 Space Tourists Cards)**
  - **12 Spectral Type Sample Cards**
  - **8 Synodic Comet Cards**
  - **8 Damaged Cards**
  - **8 Lonely Cards**

- h. **6 Playmats:**
  - **Research Lab**
  - **Emergency Response/Infrastructure**
  - **Satellite Network/Drift Bernal**
  - **Space Outpost**
  - **Site Outpost**
  - **Slipstream Freighter**
- i. **3 Location Maps:** BER, FAC, and MAP
- j. **Operations Log (Optional):** Used to track seasons, events, profits, movement, and Operations

## B. GAME SET-UP

### B1. GENERAL

Set up according to the rules for the official Core game and any official Modules being used. In addition:

- a. **Number of Players:** 1
- b. **Player Colour:** Yellow
- c. **Game Length:** 84 years (i.e., 7 Sunspot Cycles)
- d. **Win Condition:** Select a difficulty level for the game and draw the number of base mission cards (**F1**) indicated in the table below. To win the game, the Player must meet or exceed the required score **and** complete the required number of base missions (**C2**). **Example:** If playing at difficulty level 2, the Player's score must equal or exceed 80 points and the Player must complete two easy base missions, one medium base mission, and one hard base mission.

Difficulty Level	Required Score	Required Base Missions*		
		Easy	Medium	Hard
Level 1	60	1	1	1
Level 2	80	2	1	1
Level 3	100	1	2	1
Level 4	120	1	1	2

\***Base missions (F1a):** easy (1-10 mission points), medium (11-20 mission points), and hard (21+ mission points)

- e. **Patent Decks:** Shuffle each of the patent decks separately. Remove three random cards from each patent deck from the game without looking at them.
  1. **Remove Sail Thrusters (Optional):** Remove the Photon Kite Sail, Photon Heliogyro, and one random card from the thruster patent deck.
- f. **Exploration Deck and Observation Deck:** Shuffle the exploration cards (**D4**) and observation cards (**D5**) separately to form two decks. Place each deck face down. Place a cover card on top of each deck to identify it.
- g. **Discovery Bag:** Place 150 small glass beads (i.e., 30 each of black, green, purple, red, and yellow) into the cloth bag. **Note:** The remaining 30 black small glass beads are left in the Pool as they may be required to represent black holes (**D11**) on the map.

## B2. STARTING RESOURCES

- a. **Aqua:** 9
- b. **Crew Location:** LEO
- c. **Hand Cards:** Draw the top card of each of the following six patent decks: generators, radiators, reactors, refineries, robonauts, and thrusters. The Player may Discard any of these six starting Hand Cards and receive 1 Aqua for each card that is Discarded.
- d. **Anchored Home Bernal and Colonist:** Draw a random Bernal card. Place an Anchored Home Bernal into the Home Orbit indicated on the Bernal card.
  1. **Exomigration:** Perform an exomigration and place one Colonist into the Home Bernal Stack. **Note:** *If either the L1 Climate Control Bernal or the SSO Diplomatic Bernal is drawn, add one to the colonist limit and perform two exomigrations, placing two Colonists into the Home Bernal Stack.*
- e. **Claim and Factory:** Roll 1d6 black and 1d6 blue. Place a Claim and Factory onto the Site specified on the FAC location map. **Note:** *Re-roll both dice if the result is either a Site that is specified on a base mission card that was drawn during game set-up or a Site with a feature (e.g., a Push Site) that is specified on a base mission card that was drawn during game set-up (B1d).*
  1. **Site Rolls:** Perform site rolls (D7) for the starting Factory's Site.

## B3. PLAYMATS

- a. **Research Lab Playmat:** Shuffle the research project cards. Randomly select four research project cards and place them onto the project spots (e.g., PROJECT 1) on the playmat. Place the extra test die (D1f) onto the blue cube spot near the middle of the playmat.
- b. **Emergency Response/Infrastructure Playmat:** Shuffle the station cards. Randomly select three station cards and place them onto the station spots (e.g., STATION 2) on the playmat. Place three big wooden cubes (i.e., green, purple, and red) onto the matching cube spots above the station cards.
- c. **Satellite Network/Drift Bernals Playmat:**
  1. **Undeployed Satellites (D15):** Place the seven white small wooden cubes onto the satellite spots (i.e., the white numbered spots) near the top of the playmat.
  2. **Kalpana Drift Bernal (D14):** Shuffle the Drift Bernal cards. Randomly select one Drift Bernal card and place it onto the KALPANA spot on the playmat.
    - A. **Location:** Roll 1d6 black and 1d6 blue. Place the unanchored white Kalpana Bernal into the Lagrange Point at or Adjacent to the location specified on the BER location map.

## C. CORE AND MODULE RULE CHANGES

### C1. GAMEPLAY

- a. **Faction Privileges (Core B6a):** Adjust the faction privileges as specified in the Faction Privilege bullet (Core V4b) and the special rule (Core V4c):

1. **Taxes, Secretary-General, or Felonious:** The Player starts the game with an additional 6 Aqua.
2. **Marketeer:** During research auction operations, the Player may buy 3 cards for 2 Aqua.
- b. **Dirt FTs (Core F4d and G2b):** Spacecraft can carry dirt FTs (represented by black dice) as Cargo. **Note:** *The cumulative value of any black dice on a Spacecraft Stack corresponds to the number of dirt FTs being carried by the Spacecraft.*
- c. **Buggy Roads (Core H9):** As a free action once per year, each Curiosity Rover/Exomars Rover and card with a buggy platform can move from one Site to another along a buggy road and carry Cargo with a cumulative Mass less than or equal to 2. Site rolls (D7) must be performed if the Site moved to is a new Site.
- d. **Research Auction Operation (Core I2):** Use the special rule (Core V4c): Take the top card of a patent deck and its bonus supports (Core I2g). Pay a number of Aqua equal to the number of cards taken.
- e. **Event Rolls (Core K2):**
  1. **Loneliness Event:** Isolated Crew and Human Colonists are lonely (D17).
  2. **Wormhole Event:** Place a wormhole (D13) onto the map.

Roll	Season Blue	Season Yellow	Season Red
1	Inspiration Event (Core K2a)		
2			
3	Glitch Event (Core K2b)		
4	Pad Explosion/Space Debris Event (Core K2c) <b>and</b> Loneliness Event (C1e1)		
5	Loneliness Event (C1e1)	Budget Cuts Event (Core K2f)	Solar Flare Event (Core K2d)
6	Wormhole Event (C1e2)		

- f. **Ad Astra Exits (Module 1D1b):** Movement ends when entering an ad astra exit; however, a Spacecraft is only Decommissioned on an ad astra exit if it is completing a Starship Future.
- g. **Profits (Module 2B3a and Module 2B3d):** Home Bernal profits can be received as Aqua at the Home Bernal (i.e., the Bank) or as water FTs in LEO.

### C2. GAME END

- a. **Scoring (Core M2):** The Player wins the game if the Player's score meets or exceeds the required score **and** the required number of base missions has been completed (B1d). The Player's score is the sum of:
  1. **Mission Points:** Points indicated on completed base mission cards (F1a) and discovered mission cards (F2c2);
  2. **Futures VP (Modules 1, 2, and 4):** Points (VP) indicated on completed Futures;
  3. **Contracts VP (Module 4):** Points (VP) indicated on completed Contracts; and,

4. **Penalties:** Negative points from failure penalties (**F1b1** and **F2d1**) and from unlocking certain spots (**D1g1**) on the Emergency Response/Infrastructure playmat.

## D. NEW CONCEPTS AND MECHANICS

### D1. DISCOVERIES AND RESEARCH

Discoveries made while exploring the solar system are used to unlock equipment upgrades, research projects, and stations; respond to emergencies; and generate Aqua.

- a. **Discoveries:** Discoveries (represented by black, yellow, green, purple, and red small glass beads) are drawn from the discovery bag (**B1g**) during discovery rolls (**E3e**).
  1. **Black Discoveries:** Each time a black discovery is drawn from the discovery bag, immediately return it to the discovery bag without drawing a replacement. **Note:** *Black discoveries represent discoveries that have no value.*
- b. **Discovery Spots:** Discoveries (**D1a**) can be used to fill discovery spots (i.e., green, purple, red, white, and yellow squares) on the playmats (e.g., the Research Lab playmat) and some base mission cards (e.g., Research Specialization) (**F1c**). Each discovery spot must be filled by a discovery of the same colour; however, white discovery spots can be filled by a discovery of any colour except black. Black discoveries cannot be used to fill discovery spots.
- c. **Unlock Costs:** Unlock costs are paid with Aqua as a free action. After an unlock cost has been paid, place 1 Aqua from the Pool onto the unlock cost spot (i.e., the blue waterdrop icon preceding a white chevron arrow) on the applicable playmat.
- d. **Equipment Upgrades:** If both discovery spots (**D1b**) on an equipment upgrade (e.g., EM Force Field) are filled, the related equipment cards can be promoted (**D3d**).
- e. **Research Projects:** If all four of the discovery spots (**D1b**) on a research project card are filled and the research project's unlock cost (**D1c**) has been paid, the Player may use the research project's ongoing ability.
- f. **Extra Test Die:** If the white discovery spot (**D1b**) below the four research project unlock cost spots (**D1c**) is filled, the Player may add the extra test die (**D6a**) to any roll requiring test dice (i.e., one-time use).
- g. **Emergency Response:**
  1. **Remove Red Busted Disks:** If one of the white discovery spots (**D1b**) is filled and the corresponding unlock cost (**D1c**) has been paid (i.e., 2, 4, 6, or 8 Aqua), the Player may remove one red busted disk from the map as a free action. A maximum of six red busted disks can be removed from the map in this manner; however, the Player suffers the indicated penalties at game end (**C2a4**) if more than four red busted disks are removed.
  2. **Generate Aqua:** If all four of the discovery spots (**D1b**) on a single row are filled, the Player receives the indicated number of Aqua (i.e., 8, 6, or 4).

### h. Infrastructure:

1. **Stations:** If both discovery spots (**D1b**) above a station card are filled and the station's unlock cost (**D1c**) has been paid, the station (**D2**) can be built.
2. **Space Outpost/Site Outpost Expansions:** If both discovery spots (**D1b**) on an outpost expansion are filled and the outpost expansion's unlock cost (**D1c**) has been paid, the corresponding playmat (i.e., the Space Outpost playmat or the Site Outpost playmat) is brought into play. Each outpost expansion playmat can hold one Outpost Stack. **Note:** *The white Outpost chips (**A1b2**) are used to track the location of these additional Outpost Stacks on the map.*
- i. **Excess Discoveries:** Any discoveries (i.e., other than black discoveries) that **cannot** be placed onto a discovery spot (**D1b**) are Discarded. The Player receives 1 Aqua for each discovery that is Discarded.

### D2. STATIONS

Stations (represented by green, purple, and red big wooden cubes on the map) are specialized facilities. Building a station increases the colonist limit and provides the Player with an ongoing ability.

- a. **Unlocked:** A station cannot be built until it has been unlocked (**D1h1**) on the Emergency Response/Infrastructure playmat.
- b. **Location:** Only one station can be built in each Heliocentric Zone. A station must be built either on a Site or at a location in space, as indicated on the station card. A station that is built on a Site does not need to be placed onto a Claim.
- c. **Construction:** A station is built as a free action by Decommissioning a Station Module card at a location with a Colocated engineer or Crew. The corresponding station (i.e., the green, purple, or red big wooden cube) is taken from the Emergency Response/Infrastructure playmat and placed at the station's location on the map.
  1. **Exomigration:** Building a station increases the colonist limit by one; therefore, an exomigration must be performed.
- d. **Human:** A station has Human status (i.e., Humans on Board).
- e. **Ability:** The Player may use a station's ongoing ability after it has been built.
- f. **Solar Flares:** A station and any cards Colocated with it are immune to solar flares.
- g. **Permanent:** A station cannot be moved or Decommissioned after it has been built.

### D3. EQUIPMENT CARDS

Equipment cards provide benefits to the Stack they are in (e.g., Aerobrake L1, Metal Plating, and Diagnostic Drone) or may be required for certain Operations or missions.

- a. **Available For Purchase:** Equipment cards can be purchased from the Pool by performing the purchase operation (**E1**). Every type of unpromoted equipment card is available for purchase throughout the game.

- b. **Academia Hand Limit:** The academia hand limit does not apply to equipment cards.
- c. **Boost or ET Production:** Equipment cards are brought into play by performing the boost operation or the ET production operation, as outlined below:
  1. **Boost:** An equipment card with LEO, HOME (i.e., the Home Bernal), or LAB inside a white circle in the lower-left corner of the card must be boosted to the specified location for Aqua equal to the Mass of the equipment card. *Note: Equipment cards that must be boosted to LEO cannot be boosted to the Home Bernal for double the boost costs instead.*
  2. **ET Production:** An equipment card with ANY inside a white hexagon in the lower-left corner of the card must be ET produced at a Factory of any Spectral Type.
- d. **Promotion:** If the related equipment upgrade (**D1d**) has been unlocked on the Research Lab playmat, an equipment card can be promoted at a Lab by performing the promotion operation *and* paying the cost indicated on the equipment card (i.e., the white number inside the blue waterdrop icon) with Aqua. If BER is specified as a valid promotion site on the equipment card (i.e., BER inside a purple circle), the equipment card can be promoted at any Anchored Bernal.
- e. **Free Market:** Equipment cards cannot be sold with the free market operation.
- f. **Events:** Equipment cards are immune to the inspiration event (**Core K2a**) and the pad explosion/space debris event (**Core K2c**).
- g. **Decommission:** If an equipment card is Decommissioned, it must also be Discarded.
- h. **Equipment Card Clarifications:**
  1. **Aerobrake L1/Aerobrake L2:** An Aerobrake provides a Spacecraft with a specified number of safe entries into Aerobrake Hazards (i.e., no Hazard Roll is required); however, a Hazard Roll is still required if the Spacecraft performs the air-eater refueling operation.
  2. **Nuclear Battery:** A charged Nuclear Battery cannot be used as a support during the anchoring operation or the industrialize operation.
  3. **Powersat Receiver:** A Powersat Receiver makes any Spacecraft pushable.
  4. **Space Tourists:** Space Tourists cards are equipment cards; however, Space Tourists cannot be voluntarily Decommissioned.

#### D4. EXPLORATION CARDS

Exploration cards represent the unique discoveries, events, and challenges that accompany exploring new Sites. An exploration card is drawn each time an explore roll (**E3c**) is successful. Some exploration cards are marked with // EXP for easy identification at game end.

##### a. Exploration Card Types:

1. **Discovered Missions (F2):** A discovered mission card has a mission point value (i.e., a large white number in the upper-right corner of the card). Some discovered mission cards also have Mass and rad-hardness values.

2. **Discovered Devices:** A discovered device card (e.g., Neutrino Trigger) has Mass and rad-hardness values but does not have a mission point value. A discovered device card is placed into a Stack on the Site on which it was discovered.
    - A. **Decommission:** If a discovered device card is Decommissioned, it is removed from the game.
  3. **Developments:** A development card (e.g., Thruster Reignition) is placed into the Player's Hand. The Player may Discard a development card to resolve its effect (i.e., one-time use).
  4. **No Effects:** The exploration card is Discarded without resolving any effect.
  5. **Immediate Effects:** The effect on an exploration card that features a white lightning bolt icon must be resolved immediately. The exploration card is Discarded after its immediate effect has been resolved.
  6. **Ongoing Effects:** Unless otherwise indicated, an exploration card that is not one of the five types listed above is placed into a Stack on the Site on which it was discovered; its effect is ongoing. Exploration cards with ongoing effects can only be Discarded if they are the only cards left on a Site.
- b. **Academia Hand Limit:** The academia hand limit does not apply to exploration cards.
  - c. **Events:** Exploration cards are immune to the budget cuts event (**Core K2f**).

#### D5. OBSERVATION CARDS

Observation cards represent the wonders, incidents, and dangers that accompany peering deeper into our solar system and gazing well beyond it. An observation card is drawn each time an observe roll (**E4c**) is successful. Some observation cards are marked with // OBS for easy identification at game end.

##### a. Observation Card Types:

1. **Discovered Missions (F2):** A discovered mission card has a mission point value (i.e., a large white number in the upper-right corner of the card).
2. **Astronomical Observations:** An astronomical observation card features a white circle, diamond, pentagon, or octagon icon in the lower-right corner of the card and represents the observation of a location in our solar system, a star, a nebula, or a galaxy, respectively. Astronomical observation cards are placed into the Player's Hand. As a free action, the Player may fill one astronomical observation spot (i.e., a white circle, diamond, pentagon, or octagon icon) on a base mission card (e.g., Observation) (**F1c**) or a discovered mission card (**F2**) by Discarding either:
  - A. **Matching Icon:** One astronomical observation card with a matching icon; or,
  - B. **Other Icons:** The corresponding number of astronomical observation cards with other icons indicated in the table below. *Example: The Player Discards two nebula astronomical observation cards and three galaxy astronomical observation cards to fill one solar system observation spot on a discovered mission card.*

Astronomical Observation Spot (Icon)	Required Astronomical Observation Cards	
	Matching Icon	Other Icons
Solar System (Circle)	1	5
Star (Diamond)	1	4
Nebula (Pentagon)	1	3
Galaxy (Octagon)	1	2

3. **Developments:** A development card (e.g., Science Grant) is placed into the Player's Hand. The Player may Discard a development card to resolve its effect (i.e., one-time use).
  4. **Immediate Effects:** The effect on an observation card that features a white lightning bolt icon must be resolved immediately. The observation card is Discarded after its immediate effect has been resolved. *Note: Some discovered mission cards (F2) also feature a white lightning bolt icon; however, a discovered mission card is not Discarded after its immediate effect has been resolved.*
  5. **Ongoing Effects:** Unless otherwise indicated, an observation card that is not one of the four types listed above is placed next to the base mission cards in play on the table; its effect is ongoing. Observation cards with ongoing effects can only be Discarded after they have been fully resolved (e.g., after a specified number of years have passed).
- b. **Academia Hand Limit:** The academia hand limit does not apply to observation cards.
  - c. **Events:** Observation cards are immune to the budget cuts event (Core K2f).

## D6. DICE

- a. **d6 Test Dice (Blue):** Test dice represent the relative strength of an Operation or a roll being performed. The more test dice that are included in a roll, the greater the probability of success becomes.
- b. **d6 Hazard Dice (Red):** Hazard dice represent the relative danger of landing on/lifting off a Site or entering a CME (D12). The higher the value is, the greater the danger is.
- c. **d6 Terrain Dice (Green):** Terrain dice represent the relative difficulty of exploring a Site. The higher the value is, the greater the difficulty is.
- d. **d6 Site Potential Dice (Black):** Site potential dice indicate the remaining number of explore operations (E3) that can be performed on a Site.
- e. **d4 Discovery Die:** The discovery die represents the relative productivity of exploration and observation endeavours. The discovery die is only used when performing a discovery roll (E3e).

## D7. SITE ROLLS

The first time a Spacecraft lands on a new Site, or if a Rover or card with a buggy platform moves along a buggy road (C1c) to a

new Site, two consecutive site rolls must immediately be performed: a site hazard roll followed by a site type roll.

- a. **Site Hazard Roll:** Roll 1d6 to determine the number of hazard dice (D6b) to be used in the site type roll (D7b):
  - 1-4:  $X = 1$
  - 5:  $X = 2$
  - 6:  $X = 3$
- b. **Site Type Roll:** Roll X hazard dice (D6b), 1 terrain die (D6c), and 1 site potential die (D6d). Place all 3-5 dice onto the Site. *Note: The survey free action (D8) may be used to modify the dice values rolled during a site type roll.*

## D8. SURVEY

The survey free action may be used to modify the dice values rolled during a site type roll (D7b).

- a. **Requirement:** A Base Array/Infrared Array in a Stack on the Site for which the site type roll was made.
- b. **Procedure:** The Player may re-roll a total of X dice (i.e., dice of any colour) used in the site type roll, where X is equal to the survey value of the Base Array/Infrared Array. All of the selected dice must be re-rolled together immediately after the site type roll (D7b) has been performed.

## D9. SHIELDING

Every time a Spacecraft lands on/lifts off a Site or enters a CME (D12), a shielding roll must be performed to determine if any cards in the Spacecraft Stack become damaged (D10). Shielding (e.g., from Metal Plating/Operational EM Force Field) provides increased protection from hazards, solar flares, and radiation.

### a. Shielding Roll:

1. **Roll Test Dice:** Roll X test dice (D6a), where X is equal to the greater of 1 and the highest shielding value in the Spacecraft Stack.
  - **Success:**  $\Sigma$  test dice  $\geq \Sigma$  hazard dice
    - A. No effect.
  - **Failure:**  $\Sigma$  test dice  $< \Sigma$  hazard dice
    - A.  $X = \Sigma$  hazard dice  $- \Sigma$  test dice
    - B. The Player selects a card or cards with a cumulative rad-hardness  $\geq X$  to become damaged (D10).

- b. **Shielding During CME Rolls and Belt Rolls:** Add X to the rad-hardness of each card in a Spacecraft Stack when resolving CME Rolls or Belt Rolls, where X is equal to the highest shielding value in the Spacecraft Stack.

## D10. DAMAGE

Damaged cards are non-operational and cannot be used until they are repaired. Damaged cards are considered Cargo.

- a. **Tracking:** Place a red damaged card from the Pool on top of any damaged cards in a Stack.
- b. **Robot Colonists:** Robot Colonists can be damaged.
- c. **Humans:** Human cards cannot be damaged; rather, they must be involuntarily Decommissioned. If possible, non-Human cards must be damaged before any Human cards are involuntarily Decommissioned.

- d. **Repair:** Damaged cards can be repaired by performing the repair operation (**E2**).

## D11. BLACK HOLE

A black hole is a permanent hazard (represented by a group of black small glass beads on the map). A Spacecraft that enters a black hole is immediately Decommissioned.

### a. Placement:

1. **Location:** Roll 1d6 black and 1d6 blue. Place one black small glass bead into the Lagrange Point at or Adjacent to the location specified on the MAP location map.
2. **Black Hole Size:** Roll 3d6 and place the rolled number of additional black small glass beads side-by-side (i.e., touching) and radiating out from the black hole's location as equally as possible in all directions and along all routes. **Note:** *Black holes may overlap Sites.*
  - A. **Home Bernal:** If a black hole encompasses the Home Bernal, the Player may relocate the Home Bernal to any other Home Orbit as a free action.

## D12. CORONAL MASS EJECTION (CME)

A CME is a permanent hazard (represented by a group of red busted disks on the map). A Spacecraft that enters a CME must perform a shielding roll (**D9a**).

### a. Placement:

1. **Location:** Roll 1d6 black and 1d6 blue. Place one red busted disk into the Lagrange Point at or Adjacent to the location specified on the MAP location map.
2. **CME Size:** Roll 3d6 and place the rolled number of additional red busted disks side-by-side (i.e., touching) and radiating out from the CME's location as equally as possible in all directions and along all routes. **Note:** *CMEs may overlap Sites.*
3. **CME Hazard:** Roll 2 hazard dice (**D6b**) and place them onto the CME.

## D13. WORMHOLE

A wormhole is a tunnel between two Lagrange Points on the map. A wormhole has one entrance and one exit (represented by a pair of large glass beads of the same colour on the map). When discovered, a wormhole entrance is placed onto the map; however, the exit location is not determined until a Spacecraft enters and traverses the wormhole for the first time. After a wormhole's entrance and exit have both been placed onto the map, a Spacecraft may traverse the wormhole in either direction. Traversing a wormhole is always optional. A maximum of three wormholes can be on the map at one time.

- a. **Placement:** Roll 1d6 black and 1d6 blue. Place a wormhole entrance or exit (i.e., if the wormhole is being traversed for the first time) into the Lagrange Point at or Adjacent to the location specified on the MAP location map. **Note:** *A wormhole's entrance and exit cannot be Colocated.*
- b. **Traverse:**
  1. **Roll Dice:** Roll 1 test die (**D6a**) and 1 hazard die (**D6b**).
  2. **Resolve:** Sum the values of the test die and the hazard die.
    - **Success:** Test die + hazard die  $\neq$  2

- A. **Traverse:** Place the Spacecraft at the exit location.
- B. **Transit Time:** X - 1 years (i.e., excluding the current year), where X is equal to the number of Heliocentric Zone borders crossed. **Note:** *If  $X - 1 = 0$  years, the Spacecraft may resume its movement after traversing the wormhole.*
  - **Failure:** Test die + hazard die = 2
- A. **Wormhole Collapse:** Decommission the Spacecraft and remove the wormhole (i.e., both the entrance and the exit) from the map.

## D14. DRIFT BERNALS

Drift Bernals (represented by white Bernals on the map) are abandoned Bernals that can be reclaimed by the Player. Anchoring a Drift Bernal increases the colonist limit and provides the Player with an ongoing ability.

- a. **Placement:** The first Drift Bernal (i.e., the white Kalpana Bernal) is placed onto the map during game set-up (**B3c2**). A second Drift Bernal (i.e., the white Stanford Torus Bernal) may be placed onto the map if certain observation cards are drawn. A maximum of two Drift Bernals can be on the map. **Note:** *Two Drift Bernals cannot be Colocated.*
  1. **Satellite Network/Drift Bernals Playmat:** Place the Drift Bernal card onto the KALPANA spot or the STANFORD TORUS spot on the playmat. **Note:** *The playmat can hold two Drift Bernal cards but cannot hold any Bernal Stacks.*
  2. **Location:** Roll 1d6 black and 1d6 blue. Place the corresponding unanchored white Bernal (i.e., the white Kalpana Bernal or the white Stanford Torus Bernal) into the Lagrange Point at or Adjacent to the location specified on the BER location map.
- b. **Anchoring:** The Player may anchor a Drift Bernal by performing the anchoring operation.
  1. **Requirements:** One of the Operational support cards specified on the Drift Bernal card **and** the required number of water FTs must be Decommissioned at the Drift Bernal's location during the anchoring operation. **Note:** *The number of required water FTs is X, where X is equal to 12 minus the number of Heliocentric Zone borders crossed to reach LEO from the Drift Bernal's location on the map.*
    - A. **Dirtside Not Required:** A Drift Bernal does not require an Adjacent Dirtside Factory. **Note:** *A Drift Bernal may have one or more Dirtsides.*
  2. **Colony Dome:** Place a white Colony dome on top of the Drift Bernal to indicate that it has been Anchored. **Note:** *An Anchored Drift Bernal is a Human Colony.*
  3. **Exomigration:** Anchoring a Drift Bernal increases the colonist limit by one; therefore, an exomigration must be performed.
- c. **Ability:** The Player may use a Drift Bernal's ongoing ability after it has been Anchored.
- d. **Lab:** An Anchored Drift Bernal is a Lab. **Note:** *A Drift Bernal cannot be promoted.*

- e. **Movement:** An Anchored Drift Bernal cannot be unanchored or moved. **Note:** *An unanchored Drift Bernal can be moved as Cargo.*
- f. **Solar Flares:** An Anchored Drift Bernal and any cards Colocated with it are immune to solar flares.
- g. **Decommission:** If a Drift Bernal is Decommissioned, it is removed from the game. **Note:** *The Drift Bernal card and the corresponding white Bernal are both removed from the game.*
- h. **Drift Bernal Card Clarifications:**
  - 1. **Slipstream Drift Bernal:** When the Slipstream Drift Bernal is Anchored, the Slipstream Freighter playmat is brought into play, the top card (black-side) of the Freighter patent deck is placed onto the Slipstream Freighter playmat, and the Slipstream Freighter (represented by the white big wooden cube) is placed at the Slipstream Drift Bernal's location on the map. **Note:** *If the Slipstream Drift Bernal is Decommissioned, the Slipstream Freighter remains in play.*
  - A. **Slipstream Freighter:** The Slipstream Freighter playmat holds the Slipstream Freighter Stack. The Player may own the Slipstream Freighter **and** another Freighter (represented by the yellow big wooden cube); however, only one of the two Freighters can be promoted.
    - 1. **Decommission:** If the Slipstream Freighter is Decommissioned, it is removed from the game. **Note:** *The Slipstream Freighter playmat, the Freighter card, and the corresponding white big wooden cube are all removed from the game.*

## D15. SATELLITE NETWORK

Deployed satellites (represented by white small wooden cubes on the map) form a powerful network that can increase the net thrust and range of pushable Spacecraft, relay radio transmissions, and bolster the sensitivity of Telescopes.

- a. **Satellites:**
  - 1. **Deployment:** Only one satellite can be deployed in each Heliocentric Zone. A satellite is deployed as a free action by Decommissioning a Satellite card at a Lagrange Point. The leftmost undeployed satellite (i.e., the leftmost white small wooden cube) is taken from the Satellite Network/Drift Bernals playmat and placed at the deployed satellite's location on the map.
  - 2. **Movement:** A deployed satellite cannot be moved.
  - 3. **Solar Flares:** A deployed satellite is subject to solar flares. **Note:** *The rad-hardness of a deployed satellite is indicated on the Satellite Network/Drift Bernals playmat.*
  - 4. **Decommission:** If a deployed satellite is Decommissioned, it is placed onto the rightmost empty satellite spot on the Satellite Network/Drift Bernals playmat.
- b. **Network Abilities:** If both discovery spots (**D1b**) on a network ability (e.g., Beam Reflection) are filled and the network ability's unlock cost (**D1c**) has been paid, the Player may use the ongoing network ability. For each

applicable network ability, X is equal to the highest visible number in a satellite spot on the Satellite Network/Drift Bernals playmat.

- 1. **Powersat Required:** The Player must have Powersat to use the Beam Reflection and Power Amplification network abilities. **Note:** *The effects of network abilities and Powersat are cumulative.*

## D16. RADIO TRANSMISSIONS

Radio transmissions are an essential way of transferring mission data and assisting Crew and Human Colonists to cope with loneliness.

- a. **Contacts:** A radio transmission involves two separate contacts, the transmitter and the receiver. A contact can be a Crew or Human Colonist Colocated with an Operational Radio Antenna; a Colony; an Anchored Bernal; or a station (**D2**).
- b. **Transmission:** A contact (**D16a**) generates a radio transmission by performing the transmit operation (**E9**).
- c. **Relays:** Relays help to mitigate the disruptive effect of interference on long-distance radio transmissions. A relay can be a contact (**D16a**) or a deployed satellite (**D15a1**). For a deployed satellite to be considered a relay, the Radio Relay network ability (**D15b**) must be unlocked on the Satellite Network/Drift Bernals playmat.
- d. **Intermediate Heliocentric Zones:** Any Heliocentric Zones between the Heliocentric Zones that contain the contacts (**D16a**) involved in a transmit operation (**E9**) are considered intermediate Heliocentric Zones. **Note:** *If the two contacts are in the same Heliocentric Zone or are in adjacent Heliocentric Zones, there are no intermediate Heliocentric Zones.*
- e. **Interference:** The interference value (i.e., a white number in a red rectangle) on some cards (e.g., Interplanetary Radio Transmission base mission cards) represents the disruptive effect of interference on a related radio transmission. Interference increases the farther a radio transmission travels (i.e., the more Heliocentric Zone borders it crosses), thereby decreasing the probability that a transmit operation (**E9**) will be successful. **Note:** *If a Lonely Crew or Human Colonist (**D17**) is involved in a transmit operation, the interference value is X, where X is equal to 1 plus the number of Heliocentric Zone borders crossed by the radio transmission (i.e., the number of Heliocentric Zone borders between the lonely Crew or Human Colonist and the other contact).*

## D17. LONELINESS

Isolation may lead to chronic loneliness for Crew and Human Colonists.

- a. **Isolated:** Crew or Human Colonists that are not Colocated with another Human are considered isolated.
- b. **Limitations:** Lonely Crew and Human Colonists are limited by the effects of low morale.
  - 1. **Free Actions and Operations:** Lonely Crew and Human Colonists cannot be used to build a Colony, repair a Glitch, or perform any operation other than the transmit operation (**E9**).

2. **Abilities and Specialities:** The abilities and specialities of Lonely Crew and Human Colonists cannot be used.
3. **Mission Requirements:** Lonely Crew and Human Colonists cannot be used to complete missions (**F1c**).
- c. **Tracking:** Place a grey lonely card from the Pool on top of a lonely Crew or Human Colonist in a Stack.
- d. **Recovery:** A lonely Crew or Human Colonist is no longer lonely once it is Colocated with another Human or if it is one of the contacts (**D16a**) involved in a successful transmit operation (**E9**).

## E. NEW OPERATIONS

### E1. PURCHASE

- a. **Procedure:** Purchase up to four equipment cards (**D3**) from the Pool at a cost of 1 Aqua each. Purchased cards are placed into the Player's Hand. **Reminder:** *The academia hand limit does not apply to equipment cards.*

### E2. REPAIR

- a. **Requirement:** A Human (i.e., excluding Space Tourists) or Repair Bot Colocated with Spare Parts and damaged (**D10**) cards.
- b. **Procedure:** Decommission one Spare Parts card to repair all Colocated damaged (**D10**) cards.

### E3. EXPLORE

- a. **Requirement:** A Curiosity Rover/Exomars Rover on a Site with a site potential die (**D6d**) greater than or equal to 1.
- b. **Procedure:** Perform an explore roll (**E3c**). **Note:** *Every third year, the Player may perform a bonus explore operation or observe operation (**E4**).*
- c. **Explore Roll:**
  1. **Roll Dice:** Roll X test dice (**D6a**), where X is equal to the explore value of the Rover.
  2. **Resolve:** Compare the sum of the test dice to the value of the terrain die (**D6c**) on the Site.
    - **Success:**  $\Sigma$  test dice  $\geq$  terrain die
      - A. Reduce the site potential die by 1.
      - B. Draw an exploration card (**D4**).
      - C. If the Rover is still undamaged (**D10**), perform a discovery roll (**E3e**).
    - **Failure:**  $\Sigma$  test dice  $<$  terrain die
      - A. Reduce the site potential die by 1.
- d. **Fully Explored:** If the value of a site potential die is ever reduced below 1, the Site is considered fully explored. Remove the site potential die and the terrain die from the Site. **Note:** *The hazard dice remain on the Site.*
- e. **Discovery Roll:** Roll the discovery die (**D6e**) and draw the resulting number of discoveries (**D1a**) from the discovery bag (**B1g**). Fill empty discovery spots (**D1b**) with the discoveries as a free action. **Reminder:** *Each time a black discovery is drawn from the discovery bag, immediately return it to the discovery bag without drawing a replacement. Black discoveries cannot be used to fill discovery spots (**D1a1** and **D1b**).*

### E4. OBSERVE

- a. **Requirement:** A Hubble Telescope/Webb Telescope at a location in space (i.e., not on a Site). **Note:** *The Flyeye Observatory station (**D2**) can also be used to perform the observe operation if it has been built on a Site.*
- b. **Procedure:** Perform an observe roll (**E4c**). **Note:** *Every third year, the Player may perform a bonus explore operation (**E3**) or observe operation.*
- c. **Observe Roll:**
  1. **Roll Test Dice:** Roll X test dice (**D6a**), where X is equal to the observe value of the Telescope.
  2. **Perform CME Roll:** Perform a CME Roll (i.e., 1d6 modified by the modifier number next to the Heliocentric Zone that the Telescope is in). **Note:** *Unlike a CME Roll performed during a solar flare event (**Core K2d**), a CME Roll performed during an observe roll does not result in any cards being Decommissioned.*
  3. **Resolve:** Compare the sum of the test dice to the value of the CME Roll.
    - **Success:**  $\Sigma$  test dice  $\geq$  CME Roll
      - A. Draw an observation card (**D5**).
      - B. If the Telescope is still undamaged (**D10**), perform a discovery roll (**E3e**).
    - **Failure:**  $\Sigma$  test dice  $<$  CME Roll
      - A. No effect.

### E5. DRILL

- a. **Requirement:** An Operational Percussive Drill on a Site.
- b. **Procedure:** Roll 1d6 and resolve the effect indicated on the Operational Percussive Drill card.
  - **Success:** Place a Spectral Type sample card matching the Site's Spectral Type from the Pool into the same Stack as the Operational Percussive Drill card.
  - **Failure:** No effect.

### E6. RESCUE

- a. **Requirement:** A Rescue Pod on a Site.
- b. **Procedure:** Roll 1d6 and resolve the effect indicated on the Rescue Pod card.
  - **Success:** Flip the Rescue Pod card to its SUCCESS side.
  - **Failure:** No effect.

### E7. EXPERIMENT

- a. **Requirement:** A Bio Experiment at an Operational Life Sciences Unit or a Field Experiment on a Site.
- b. **Procedure:** Roll 1d6 and resolve the effect indicated on the Bio Experiment card or the Field Experiment card.
  - **Success:** Flip the Bio Experiment card or the Field Experiment card to its SUCCESS side.
  - **Failure:** No effect.

### E8. ENGAGE TRACTOR BEAM

- a. **Requirement:** An Operational Tractor Beam L1/Tractor Beam L2 Colocated with or Adjacent to a target (**E8b**).
- b. **Target:** A Stack or a Synodic Comet.

1. **Synodic Comet:** A Synodic Comet (represented by a Synodic Comet card with Mass equal to the Synodic Comet Site Size) can be towed to another location on the map (e.g., an ad astra exit). When a Synodic Comet is towed away from its original location, place a black small glass bead onto the Synodic Comet Site to indicate that it is no longer accessible.
- c. **Procedure:**
1. **Roll Test Dice:** Roll X test dice (**D6a**), where X is equal to the tow value of the Operational Tractor Beam.
  2. **Roll Hazard Dice:** Roll Y hazard dice (**D6b**), where Y is equal to the Mass of the target (**E8b**).
  3. **Resolve:** Compare the sum of the test dice to the sum of the hazard dice.
    - **Success:**  $\Sigma$  test dice  $\geq$   $\Sigma$  hazard dice
      - A. Place the target next to the Stack containing the Operational Tractor Beam card.
    - **Failure:**  $\Sigma$  test dice  $<$   $\Sigma$  hazard dice
      - A. No effect.
- d. **Towing:**
1. **Target Mass:** The Mass of a target is not included in the Dry Mass of a Spacecraft Stack or the Load Limit of a Freighter.
  2. **Maximum Thrust:** The THRUST/TOW table on an Operational Tractor Beam card indicates the maximum number of burns that a Spacecraft can perform in one movement (i.e., THRUST) when towing targets (**E8b**) with the indicated cumulative Mass (i.e., TOW).
  3. **Target Release:** A target can be released and placed into a Stack at any time.

## E9. TRANSMIT

- a. **Requirement:** Two contacts (**D16a**) at different locations on the map.
1. **Crew or Human Colonist:** At least one of the contacts involved in the transmit operation must be a Crew or Human Colonist Colocated with an Operational Radio Antenna.
- b. **Procedure:** Perform a transmit roll (**E9c**). **Note:** *Every third year, the Player may perform a bonus transmit operation.*
- c. **Transmit Roll:**
1. **Roll Test Dice:** Roll X test dice (**D6a**), where X is equal to the transmit value of the contact generating the radio transmission (i.e., the transmitter). **Note:** *Unless otherwise indicated, each Colony, Anchored Bernal, and station has a transmit value of 2.*
  2. **Roll Hazard Dice:** Roll Y-Z hazard dice (**D6b**), where Y is equal to the applicable interference value (**D16e**) and Z is equal to the number of intermediate Heliocentric Zones (**D16d**) that each contain at least one relay (**D16c**).
  3. **Resolve:** Compare the sum of the test dice to the sum of the hazard dice.
    - **Success:**  $\Sigma$  test dice  $\geq$   $\Sigma$  hazard dice
      - A. The radio transmission is successfully received.
    - **Failure:**  $\Sigma$  test dice  $<$   $\Sigma$  hazard dice
      - A. No effect.

## F. MISSIONS

### F1. BASE MISSIONS

To win the game, the Player must meet or exceed the required score **and** complete the required number of base missions (**B1d and C2a**).

- a. **Mission Points:** Base mission cards are divided into three difficulty levels: easy (1-10 mission points), medium (11-20 mission points), and hard (21+ mission points).
- b. **Mission Failure:**
  1. **Failure Penalties:** A base mission with a failure penalty value (i.e., a white number in a red rectangle) must be completed by the end of year specified on the mission card. Otherwise, the mission fails, and the Player suffers the failure penalty at game end (**C2a4**).
  2. **Replacement Base Mission:** Immediately after a base mission fails or becomes impossible to complete, draw a replacement base mission card with the same difficulty level as the failed base mission (i.e., easy, medium, or hard). **Note:** *The Player suffers the failure penalty (**F1b1**) from a failed base mission at game end even if a replacement base mission is completed.*
- c. **Mission Requirements:** The mission requirements for each base mission in play are independent from and exclusive of the mission requirements for every other base mission and discovered mission (**F2**) in play; mission requirements do not overlap. Equipment cards (**D3**) that are required to complete a base mission are noted in parentheses below. A Crew or Human Colonist card must be at each location marked with an asterisk (\*) below.
  - **Anchored Bernal:** Anchor a Bernal with the specified Site as a Dirtsides.
  - **Atmospheric Site Exploration (Curiosity Rover/Exomars Rover):** Fully explore (**E3**) three Atmospheric Sites\* and build a Colony on a fourth Atmospheric Site within the specified Heliocentric Zones.
  - **Bio Experiment (Bio Experiment and Life Sciences Unit):** Successfully perform the experiment operation (**E7**) at an Operational Life Sciences Unit in a Radiation Belt\* within the specified Heliocentric Zone during season red. Deliver the successful Bio Experiment card to a Lab and Decommission it there.
  - **Colony:** Build a Colony on the specified Site.
  - **Factory:** Build a Factory on the specified Site.
  - **Field Experiment (Field Experiment):** Successfully perform the experiment operation (**E7**) on the specified Site. \* Deliver the successful Field Experiment card to a Lab and Decommission it there.
  - **Flyby:** Enter the specified flyby\* and return to the Home Bernal.
  - **Heliocentric Zone Air-Eater Refuel:** Successfully perform the air-eater refueling operation in the specified number of different Aerobrake Hazards\* within the specified Heliocentric Zone.

- **Heliocentric Zone Colonization:**
  - **Cumulative Site Size:** Build Colonies on Sites with the specified cumulative Site Size within the specified Heliocentric Zone.
  - **Hydration:** Build Colonies on the specified number of Sites, each having a specified Hydration value, within the specified Heliocentric Zones.
- **Heliocentric Zone Exploration (Curiosity Rover/Exomars Rover):** Fully explore (E3) Sites\* with the specified cumulative Site Size within the specified Heliocentric Zone.
- **Heliocentric Zone Prospecting:** Place a Claim onto the specified number of Sites, each having a specified feature (e.g., an Atmospheric Site), within the specified Heliocentric Zone.
- **Heliocentric Zone Sample Return (Percussive Drill):** Successfully perform the drill operation (E5) on Sites\* within the specified Heliocentric Zone to collect the specified Spectral Type sample cards. Deliver the Spectral Type sample cards to the Home Bernal and Decommission them there.
- **Hydration:** Successfully perform site refuel operations to produce nine water FTs on a Hydration 4 Site.\* Deliver all nine water FTs to the specified Site\* and Decommission them there.
- **Interplanetary Radio Transmission (Radio Antenna):** Successfully perform the transmit operation (E9) to generate a radio transmission at one of the specified locations and receive it at the other.
- **Observation (Hubble Telescope/Webb Telescope):** Fill all of the astronomical observation spots (D5a2) on the base mission card.
- **Push Site Exploration (Curiosity Rover/Exomars Rover):** Fully explore (E3) three Push Sites\* and build a Colony on a fourth Push Site within the specified Heliocentric Zones.
- **Rescue (Rescue Pod):** Successfully perform the rescue operation (E6) on the specified Site.\* Deliver the successful Rescue Pod card to the Home Bernal and Decommission it there.
- **Research Specialization (Curiosity Rover/Exomars Rover or Hubble Telescope/Webb Telescope):** Fill all of the discovery spots (D1b) on the base mission card.
- **Sample Return (Percussive Drill):** Successfully perform the drill operation (E5) on the specified Site\* to collect a Spectral Type sample card. Deliver the Spectral Type sample card to the Home Bernal and Decommission it there.
- **Site Industrialization:** Build Factories on three Sites with the specified Spectral Type.
- **Space Elevator Construction:** Successfully perform the epic hazard operation and build a Space Elevator to connect the specified Spaces. **Note:** *The Pluto Space Elevator Construction base mission requires two Space Elevators to be built.*
- **Submarine Site Exploration (Curiosity Rover/Exomars Rover):** Fully explore (E3) three Submarine Sites\* and

build a Colony on a fourth Submarine Site within the specified Heliocentric Zones.

- **Supply Delivery (General Supplies):** Deliver a General Supplies card to a Claim on the specified Site\* and Decommission it there.
  - **Synodic Comet Redirection (Tractor Beam L1/Tractor Beam L2):** Tow (E8) the specified Synodic Comet cards to the specified ad astra exit\* (C1f) and Decommission them there.
  - **Synodic Comet Sample Return (Percussive Drill):** Successfully perform the drill operation (E5) on the specified Site\* to collect a Spectral Type sample card. Deliver the Spectral Type sample card to a Lab and Decommission it there.
  - **Tour:** Land a Spacecraft with Space Tourists as Cargo on each specified Site.\* Deliver the Space Tourists to LEO.
- d. **Heliocentric Zones:** The following images represent the nine Heliocentric Zones featured on base mission cards:



Mercury



Venus



Earth



Mars



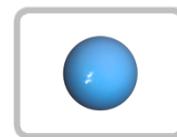
Ceres



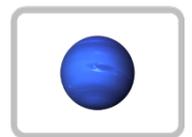
Jupiter



Saturn



Uranus



Neptune

## F2. DISCOVERED MISSIONS

Discovered mission cards are brought into play during explore operations (E3) and observe operations (E4). Discovered mission cards are marked with either // EXP or // OBS to indicate whether they were drawn from the exploration deck or the observation deck (B1f), respectively.

- a. **Placement:** If a discovered mission card has Mass and rad-hardness values or indicates that the card cannot leave the Site, it is placed into a Stack on the Site on which it was discovered. Otherwise, the discovered mission card is placed next to the base mission cards in play on the table.
  1. **Discard:** A discovered mission card without a failure penalty (F2d1) may be Discarded at any time.
- b. **Mission Requirements:** In most cases, a discovered mission's requirements are indicated on the discovered mission card itself. If not, the discovered mission's requirements are similar to the corresponding base mission's requirements (F1c). The mission requirements for each discovered mission in play are independent from and exclusive of the mission requirements for every other base

mission and discovered mission in play; mission requirements do not overlap.

**c. Mission Completion:**

1. **Timing:** A discovered mission is only considered to have been completed if its mission requirements are met *after* the discovered mission card has been brought into play.
2. **Mission Points or Alternate Reward:** Many discovered mission cards feature an asterisk (\*) after the mission point value (i.e., a large white number in the upper-right corner of the card), which indicates that an alternate reward is available after the discovered mission has been completed. After completing a discovered mission with an alternate reward, the Player must immediately decide to claim either its mission points (**C2a1**) or the alternate reward (\*) specified on the discovered mission card.
3. **Card Location:** If the Player completes a discovered mission and claims its mission points, the discovered mission card is placed next to the base mission cards in play on the table (i.e., if the discovered mission card is not already there). If the Player completes a mission and claims an alternate reward other than rotating the discovered mission card (**F2c4**), the discovered mission card is Discarded.
4. **Rotated Cards:** The alternate reward for some discovered missions requires rotating the discovered mission card itself. If the discovered mission card is already in a Stack, it is rotated and returned to the same Stack. If the discovered mission card is next to the base mission cards in play on the table, it is rotated and immediately placed into a Stack at any Colony, Anchored Bernal, or station (**D2**).
  - A. **Decommission:** If a rotated card is Decommissioned, it is removed from the game.

**d. Mission Failure:**

1. **Failure Penalties:** A discovered mission card with a failure penalty value (i.e., a white number in a red rectangle) cannot be Discarded; rather, the discovered mission must be completed within the number of years specified on the discovered mission card (i.e., excluding the current year). Otherwise, the mission fails, and the Player suffers the failure penalty at game end (**C2a4**).

*Note: Some failure penalties also require cards to be Decommissioned.*
2. **Card Location:** If the Player fails a discovered mission with a failure penalty (**F2d1**), the discovered mission card is placed next to the base mission cards in play on the table if (i.e., if the discovered mission card is not already there). If the Player fails a discovered mission without a failure penalty, the discovered mission card is Discarded.

# APPENDIX 1: ENDEAVOURS CARDS

## GENERAL CARDS

### BASE MISSION



### RESEARCH PROJECT



### DRIFT BERNAL



### STATION



### EQUIPMENT



### SPECTRAL TYPE SAMPLE



### SYNODIC COMET



### DAMAGED



### LONELY



## EXPLORATION CARDS

### COVER CARD



### DISCOVERED MISSION



### DISCOVERED DEVICE



### DEVELOPMENT



### NO EFFECT



### IMMEDIATE EFFECT

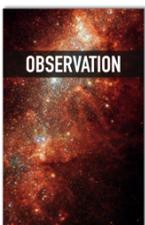


### ONGOING EFFECT



## OBSERVATION CARDS

### COVER CARD



### DISCOVERED MISSION



### ASTRONOMICAL OBSERVATION



### DEVELOPMENT



### IMMEDIATE EFFECT



### ONGOING EFFECT



# APPENDIX 2: REPLACEMENT PRINTED COMPONENTS

The original versions of some printed components have been replaced with revised versions. The full listing is included below:

File Containing Replacement Components	Component Description	File Containing Original Components
<b>07_ Endeavours_ Expansion_ v1.pdf - Pages 20-22</b>	<ul style="list-style-type: none"> <li>• <b>4 Equipment Cards:</b> The revised Diagnostic Drone cards replace the front sides (only) of the original equipment cards.</li> </ul>	01_ Endeavours_ Playmats_ Maps_ and_ Cards_ v1.pdf
	<ul style="list-style-type: none"> <li>• <b>1 Station Card:</b> The revised Solar Power Collection System card replaces the original station card.</li> </ul>	
	<ul style="list-style-type: none"> <li>• <b>6 Exploration Cards:</b> The revised discovered mission cards replace the original exploration cards.</li> </ul>	02_ Endeavours_ Exploration_ Cards_ A_ v1.pdf
	<ul style="list-style-type: none"> <li>• <b>1 Exploration Cards:</b> The revised Volcanic Ash card replaces the original exploration card.</li> </ul>	03_ Endeavours_ Exploration_ Cards_ B_ v1.pdf
	<ul style="list-style-type: none"> <li>• <b>10 Observation Cards:</b> The seven revised discovered mission cards and three revised immediate effect cards replace the original observation cards. <i>Note: The images on two of the Wormhole Survey discovered mission cards have been changed.</i></li> </ul>	04_ Endeavours_ Observation_ Cards_ v1.pdf
<b>09_ Endeavours_ Expansion_ Three_ v1.pdf - Pages 18-23</b>	<ul style="list-style-type: none"> <li>• <b>2 Location Maps:</b> The revised FAC and MAP location maps replace the original location maps. <i>Note: The blue dice values have been rearranged into descending order.</i></li> </ul>	01_ Endeavours_ Playmats_ Maps_ and_ Cards_ v1.pdf
	<ul style="list-style-type: none"> <li>• <b>4 Equipment Cards:</b> The four revised Station Module cards replace the back sides (only) of the original General Supplies equipment cards.</li> </ul>	
	<ul style="list-style-type: none"> <li>• <b>2 Research Project Cards:</b> The two revised Site Refuel Specialization cards replace the original research project cards.</li> </ul>	
	<ul style="list-style-type: none"> <li>• <b>2 Exploration Cards:</b> The two revised discovered mission cards replace the original exploration cards. <i>Note: The Water Refueling base mission card replaces the Site Refuel base mission.</i></li> </ul>	02_ Endeavours_ Exploration_ Cards_ A_ v1.pdf
	<ul style="list-style-type: none"> <li>• <b>1 Playmat:</b> The Satellite Network/Drift Bernal playmat replaces the original Satellite Network playmat.</li> </ul>	07_ Endeavours_ Expansion_ v1.pdf
	<ul style="list-style-type: none"> <li>• <b>10 Drift Bernal Cards:</b> The ten revised Drift Bernal cards replace the original eight Drift Bernal base mission cards. <i>Note: Drift Bernal base missions have been eliminated.</i></li> </ul>	
	<ul style="list-style-type: none"> <li>• <b>1 Research Project Card:</b> The revised Mental Toughness card replaces the original research project card.</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>4 Exploration Cards:</b> The four revised immediate effect cards replace the original exploration cards. <i>Note: These four immediate effect cards have been corrected to feature the white lightning bolt icon.</i></li> </ul>		
<b>10_ Endeavours_ Expansion_ Four_ v1.pdf - Page 2</b>	<ul style="list-style-type: none"> <li>• <b>2 Exploration Cards:</b> The revised Fuel Tank and Isotope Fuel Tank immediate effect cards replace the original exploration cards.</li> </ul>	03_ Endeavours_ Exploration_ Cards_ B_ v1.pdf

# APPENDIX 3: ENDEAVOURS RULE SET CHANGES

## v5 RULE SET CHANGES

Rule reference numbers have been updated throughout the rule set. Significant changes from v4 to v5 of the rule set are listed below. **Note:** *The rule reference numbers below correspond to v5 of the rule set.*

### C. CORE AND MODULE RULE CHANGES

- **C1b:** Spacecraft can carry dirt FTs (represented by black dice) as Cargo. **Note:** *The cumulative value of any black dice on a Spacecraft Stack corresponds to the number of dirt FTs being carried by the Spacecraft.*
- **C1e1:** The isolation event has been renamed the loneliness event.

### D. NEW CONCEPTS AND MECHANICS

- **D3h2:** A charged Nuclear Battery cannot be used as a support during the anchoring operation or the industrialize operation.
- **D4b:** The academia hand limit does not apply to exploration cards.
- **D4c:** Exploration cards are immune to the budget cuts event (**Core K2f**).
- **D5a2:** Astronomical observation card rules have been revised to be less restrictive.
- **D5b:** The academia hand limit does not apply to observation cards.
- **D5c:** Observation cards are immune to the budget cuts event (**Core K2f**).

### F. MISSIONS

- **F1c:** The mission requirements for each base mission in play are independent from and exclusive of the mission requirements for every other base mission and discovered mission (**F2**) in play; mission requirements do not overlap.
- **F2b:** The mission requirements for each discovered mission in play are independent from and exclusive of the mission requirements for every other base mission and discovered mission in play; mission requirements do not overlap.

## v4 RULE SET CHANGES

The entire rule set has been edited to improve conciseness and clarity; therefore, rule reference numbers have been updated throughout the rule set. Significant changes from v3 to v4 of the rule set are listed below. **Note:** *The rule reference numbers below correspond to v4 of the rule set.*

### A. GAME COMPONENTS

- **A1b2:** Additional white player tokens are required.
- **A2d:** Additional black small glass beads are required.
- **A2f and A2g:** Additional cards are required.
- **A2h:** The Satellite Network/Drift Bernal and Slipstream Freighter playmats have been added.
- **A2i:** The BER location map has been added.

### B. GAME SET-UP

- **B1d:** The win condition has been revised.
- **B1e:** Three cards are removed from each patent deck.
- **B1g:** Black discoveries are placed into the discovery bag.
- **B3c2:** A Drift Bernal is placed onto the map.

### C. CORE AND MODULE RULE CHANGES

- **C1b:** Rovers and any card with a buggy platform can move along a buggy road.
- **C1d:** The rules for event rolls have been revised.
- **C1f:** Profits can be received at either the Home Bernal or in LEO.
- **C2:** The win condition has been revised.

### D. NEW CONCEPTS AND MECHANICS

- **D1a, D1b, and D1i:** Rules regarding black discoveries have been added.
- **D2c:** Either a Colocated engineer or Crew is required when building a station.
- **D2c1:** Building a station increases the colonist limit.
- **D3g2:** Aerobrake L1/Aerobrake L2 card rule clarifications have been added.
- **D4a:** Exploration card type descriptions and rule clarifications have been added.
- **D5a:** Observation card type descriptions and rule clarifications have been added.
- **D11a2A:** A Home Bernal encompassed by a black hole may be moved as a free action.
- **D14:** The rules for Drift Bernals have been completely revised.
- **D15a2:** A deployed satellite cannot be moved.
- **D15b1:** Powersat is required to use certain network abilities.

### E. NEW OPERATIONS

- **E3e:** A reminder regarding the rules for black discoveries has been added.
- **E8:** The rules for the engage tractor beam operation have been clarified.

### F. MISSIONS

- **F1b2:** The rules for replacement base missions (i.e., formerly called additional base missions) have been revised.
- **F1c:** The following five base mission types have been added:
  1. Heliocentric Zone Air-Eater Refuel
  2. Heliocentric Zone Colonization: Hydration
  3. Heliocentric Zone Prospecting
  4. Site Industrialization
  5. Space Elevator Construction
- **F2b:** The mission requirement rules for discovered missions have been clarified.
- **F2c4A:** Rotated cards that are Decommissioned are removed from the game.