



JOB-FILE

# SCHRÖDINGER'S LAB

DESIGN BY JAMES MAPES

ART BY EMILY BLOCK

MANUAL V8-4

# Welcome to Schrödinger's Laboratory for Quantum Research!

## COMPONENTS:

1X BOARD

140X TILES

32X CARDS

32X PAPER CLIPS

8X SCIENTISTS, WITH STANDS

2X COORDINATE DICE: 1 AND A

1X SECTOR DIE: 

4X DATA CUBES

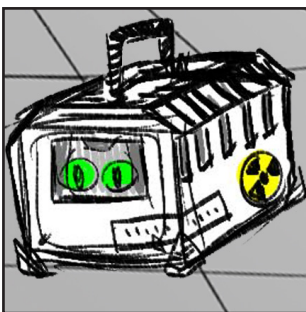


## The Story:

Your normal routine as a Scientist at Schrödinger's Laboratory for Quantum Research has been interrupted: overnight, your lab has split into four entangled sectors and become a superpositioned nightmare. To make matters worse, someone left all of the experimental technology running.

But look, publish or perish, right? So buck up, put on your lab coat, and go collect your data from each Sector. Take your cat with you, all those experiments have... changed them. They might be able to help!

Come on, what's the worst that'll happen - you'll blink out of existence like Dexter? Haha, what are the chances of that?



## Abstract:

- Control a scientist and move around the Lab
- observe your surroundings to place tiles and navigate the scrambled-up rooms
- Use Teleporters, wormholes, and Coffee Breaks to get an edge over other Scientists
- collect Data and log your results at the Mainframe computer
- Gather data from all four sectors to beat the other Scientists to publication!

# Lab Set-Up

1. Lay out the board on a table. The board is divided between different parts of Schrödinger's Lab:

Hallways (white), with an office for each scientist.

- and -

Sectors (Green, Yellow, Red, and Blue). Over the course of the game, tiles will be played into these Sectors to allow the Scientists to move through them to get to their Data.

**IMPORTANT:** Tiles are never placed on hallway spaces!

2. Place your scientist in their office, and their card in front of you.

3. Deal each player a Cat card (skip this step for practice games - see Page 10 for variants).

4. Separate out the wormhole Ends and Vacuum Collapsers with the gray backgrounds, then shuffle the tiles and stack them, face-down, near the board.

5. Advanced Players may want to use a Scenario (see page 9). If so, draw or choose it.

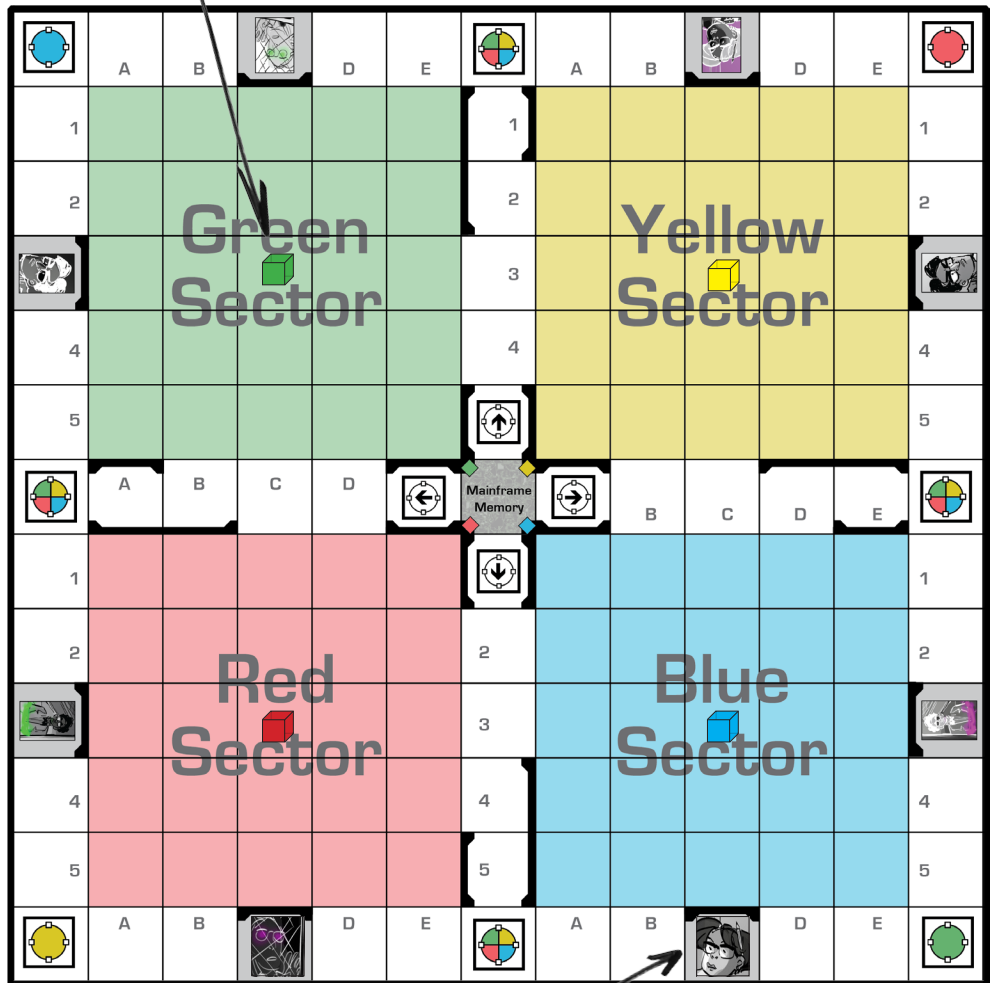
6. Place each Experiment on C-3 of the sector of the same color. The coordinates around each sector will be used through-out the game.

7. Finally, randomly determine who plays first. Play will continue clockwise.

**EXAMPLE: A TWO PLAYER GAME SET-UP**



**NOTE THE COORDINATES AROUND THE BOARD - DATA CUBES START ON "C - 3" OF EACH SECTOR**

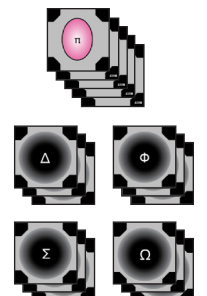


**OFFICE/STARTING SPACE FOR KATZENBERG**

**WORMHOLES AND VACUUM COLLAPERS (GRAY BACKGROUNDS)**

<p><b>Guapo del Guano</b> Ph.D. Quantum Scatological Studies</p> <p><b>Checklist:</b> [Red box] [Yellow box] [Green box] [Blue box]</p> <p><b>Data to Log:</b> [X]</p>	<p><b>Meowzer</b></p> <p><b>Waveform Interference:</b> Once per turn, you can swap the tile you're on or discard a tile you've drawn while seeing.</p> <p>When you pick up Data, fully randomize yourself.</p>	<p><b>Diane von Katzenberg</b> Ph.D. Particle Physics and Hairballs</p> <p><b>Checklist:</b> [Red box] [Yellow box] [Green box] [Blue box]</p> <p><b>Data to Log:</b> [X]</p>	<p><b>Rowdy Kitty Pawper</b></p> <p><b>The Ghost Paw:</b> When you elbow a Scientist, teleport them one space instead of just moving them.</p> <p>When you pick up Data, pick up and move all adjacent tiles directly away from you one space. (Remove any that end up on a hallway.)</p>
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**CHARACTER CARDS WITH CAT CARDS**  
(USE PAPER CLIPS ON THE CHECKLIST TO MARK WHAT DATA YOU'VE LOGGED)



## The Turn

Schrödinger's Lab is played in turns, with only one player acting at a time. Each turn, a player will:

### 1. SEE

*Observing the Lab collapses its waveform, which allows you to place tiles and move around inside it.*

Scientists can see in a straight line (up, down, right, and left - no diagonals) any number of spaces, but can not see through black walls.

Whenever a Scientist sees, they pick one single direction to look in, then place random tiles along that sightline.

Rules for placing tiles:

- Place tiles in the color-coded Sectors, never halls.
- A Scientist must choose the direction they're looking in before drawing any tiles.
- Tiles are drawn and placed one by one.
- The opening that is being seen through must connect to an opening on the new tile. (Aside from that, players decide how to orient a tile.)
- Tiles continue to be placed until there are no more blank spaces visible in that direction.

### 2. ACTIONS

Then, a Scientist may take up to 4 actions. Actions include:

- Move 1 space (not diagonally). They can't move through black walls or onto a blank (i.e. unseen) space
- Pick up Data in the same space (see next page)
- Activate a Cat Power (as noted on their card)
- Elbow another Scientist (see page 8)
- Transit a wormhole (see page 7)

### 3. BOARD ELEMENTS

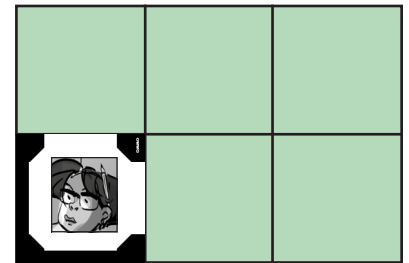
After finishing their actions, if a Scientist is on a Board Element, then it is activated. This can lead to additional Element activations (see page 6). If multiple Scientists activate Board Elements at once, begin with the Active Player and go in turn order.

### 4. SEE AGAIN

Once the scientist comes to rest, they can once again choose a direction to see in. If they see blank spaces in their line of sight, they place tiles.

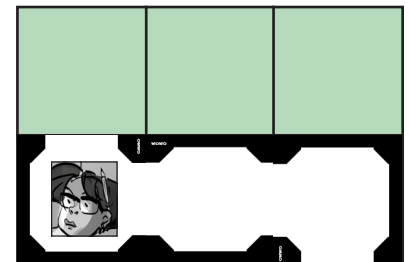


### **START OF TURN**



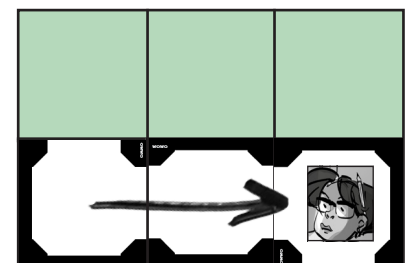
*The Scientist begins by choosing to see rightwards*

### **1. SEEING**



*She places tiles one by one, connecting openings*

### **2. ACTIONS**



*She decides to move right; she can see again downwards at the end of her turn*



# Data and Winning:

To win the game, you must collect and log Data from all four sectors. (But see page 10 for alternate game modes and shorter games, especially with five or more players.)

In order to check Data off the list on your character card, do the following:

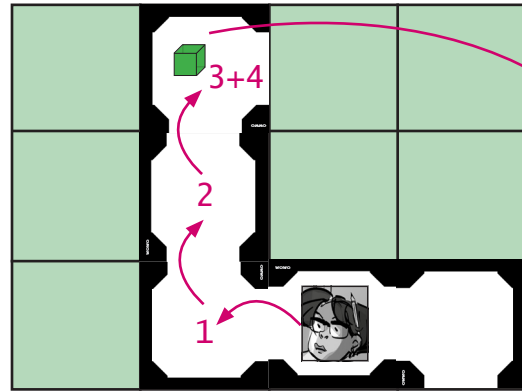
1. Be in the same space as a Data cube, or a Scientist holding a Data Cube.

2. Use one of your moves to collect that Data. Place it in the square on your character card.

The Quantum Cats often have a reaction to Data. Check your Cat Card!

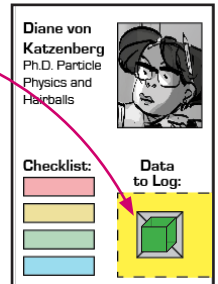
3. Move onto the Mainframe Memory. Place your Data cube in the appropriate slot. Use a paper clip to mark that color on your character card.

## PICKING UP DATA EXAMPLE

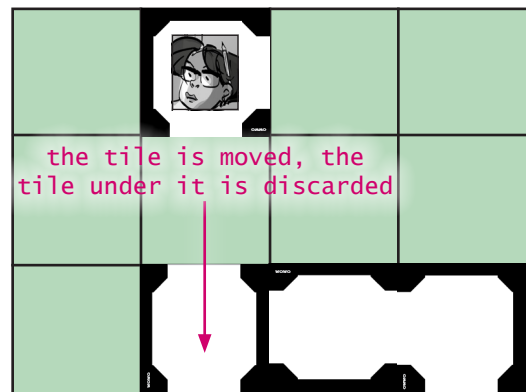


The Scientist uses three actions to move left, up, and up again. She uses her fourth action to pick up the Data Cube.

This causes her Cat to react!



This cat's ability reads: "when you pick up Data, pick up and move all adjacent tiles directly away from you one space."



Finally, the Scientist Sees Again - she could look downwards or to the right to fill in those blanks.

**IMPORTANT!**

When all four slots on the Mainframe Memory space are filled, the Mainframe is reset.

Whoever logged the fourth piece of Data rolls 1 and A, then puts all four Data Cubes on the resulting space in each sector.

### Additional Info:

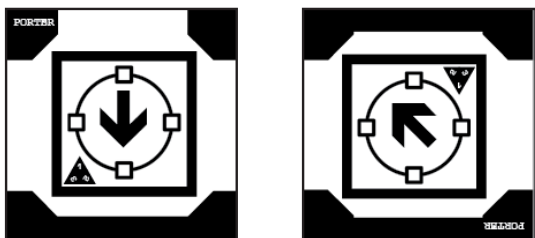
- If a Scientist is blooped (see page 8) while holding Data, that Data is lost for now. Place it in the Mainframe Memory slot.
- You cannot hold more than one Data Cube, but you can use a move to drop one.
- You cannot pick up steal Data that you've already marked off your card.
- Data is logged in the Mainframe immediately when you land on it. You cannot choose to not log it, and it does not require an action.
- If a Data Cube is ever totally inaccessible (all routes to it are known, and there is no open route from a hallway) then all players can agree to wipe the Data. Place it in the Mainframe Memory Slot. When deciding if Data is accessible, do not factor in Cat abilities.

# Board Elements:

The Experiments your Lab has been working on may prove useful. Or possibly dangerous. Or both!

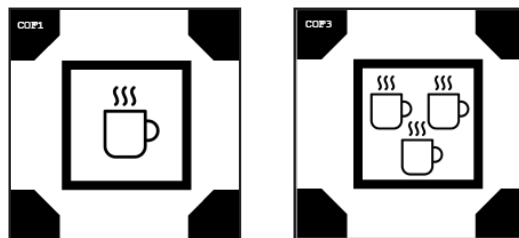
Board Elements activate each turn, after a Scientist has finished taking their actions. Most Board Elements affect any Scientist standing on them, but some can only be used on your turn.

## Quantum Teleporter



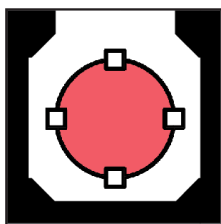
Roll 1 and teleport that many spaces in the direction of the arrow, passing through walls/Scientists. If you land on another scientist, bloop them (page 8).

## Break Room



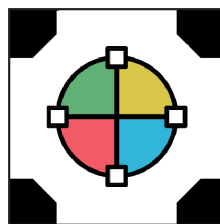
Bonus round! See, then get additional actions equal to the number of Coffee Cups in the Break Room. Once you come to rest, resolve Board Elements and See Again. Use a Break Room on your turn only.

## Randomizers



Single color:

Roll 1 and A, then teleport directly to that space in the depicted sector (in this example, the Red Sector).



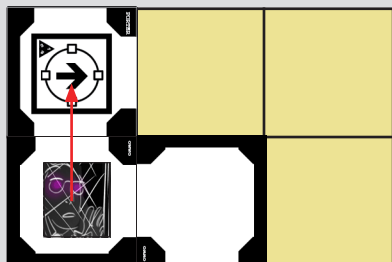
Multi color:

Roll 1, A, and a triangle, then teleport directly to the random space and Sector that was rolled.

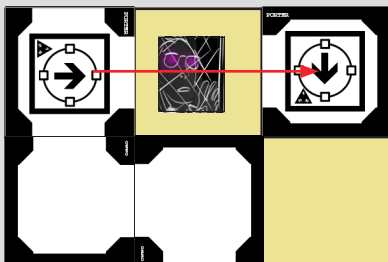
The results of Board Elements may leave your Scientist standing on a blank space.

Any time you are sent to a blank Lab space, immediately place a tile under you (you may orient the tile in any direction). If the tile contains a Board Element, it immediately activates. This may result in further interactions.

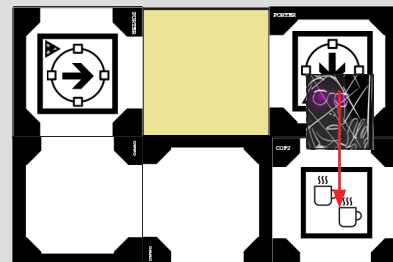
You will only see again once you come to rest, i.e. finish activating things.



After seeing, Nega-Rich moves up and onto a teleporter. They roll a 2.



They place a new tile under them. It also has a Teleporter! They roll a 1.

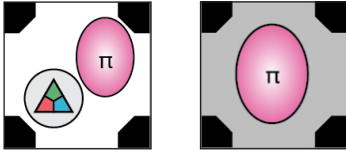



Next is a Break Room, giving them a bonus turn of 2 actions.

# Wormholes, Vacuum Collapsers, and Entanglement:

The four sectors of your lab are quantumly entangled with one another. Some of our experiments are able to bridge the same spaces in different sectors, while others, uh, destroy everything.

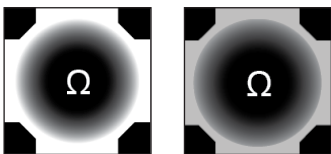
## Wormholes



When you draw and place an opening (white background), roll  and place the matching wormhole End (gray background) on the same coordinates in the resulting sector.

- Anyone may spend one move to “transit” the wormhole, moving from one end to the other.
- If a Scientist transits onto an occupied wormhole, bloop the occupant.
- If you roll the same Sector, reroll.

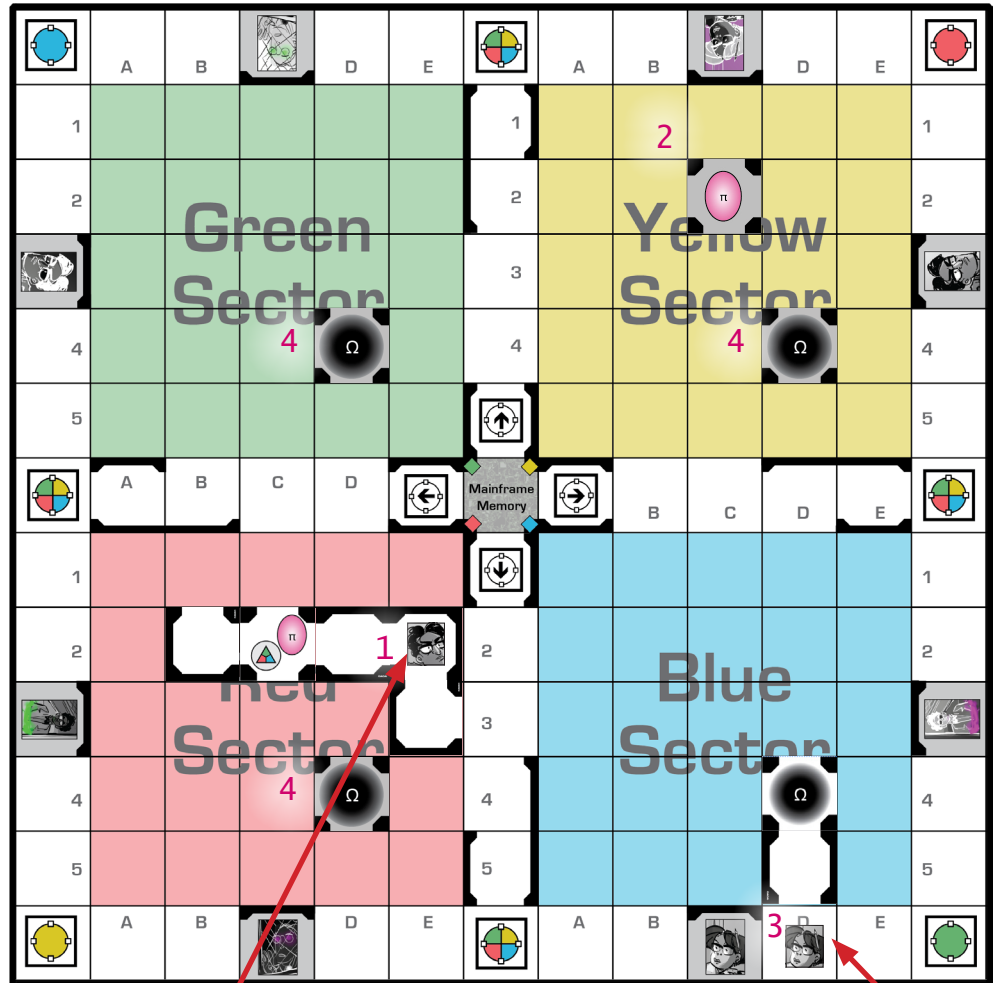
## Vacuum Collapsers




When you draw and place a Vacuum Collapser (white background), place the matching tiles (gray background) on the same coordinates in every Sector.

When Board Elements activate, any Scientist standing on a Vacuum Collapser is blooped.

If one Vacuum Collapser is ever moved, move its companions as well. They always occupy the same coordinates as each other.



wormhole:

1. Guapo sees to his left, placing a tunnel, then a wormhole, then a corner. He rolls  for the wormhole End and gets “Yellow”.

2. As a result, he places the wormhole End on the same space (C-2) in the Yellow sector.

Vacuum Collapser:

3. Katzenberg sees upwards, seeing a Vacuum Collapser.

4. She places another Vacuum Collapser in the same space (D-4) in each other Sector.

If a Cat caused one of these to shift up one space, they ALL would move upwards.

### Note on Playing Over Tiles:

If a wormhole or Vacuum Collapser would be placed on top of another tile, discard the old tile instead.

## Dealing with Your Co-Workers:

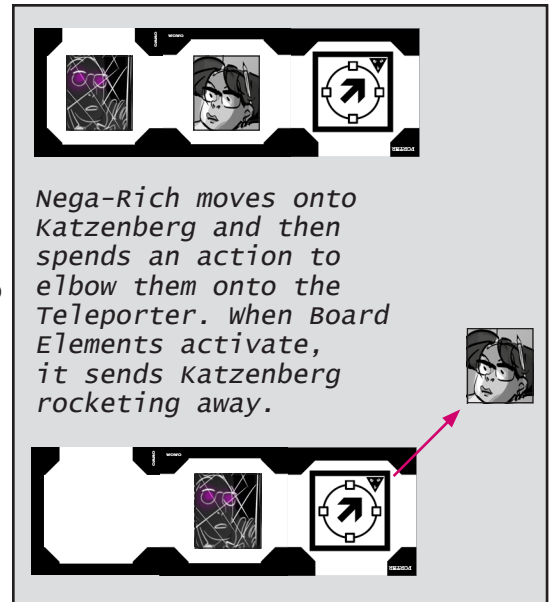
*Let's be clear: this is a struggle for life, death, and the bragging rights of being first to publication.*

You can move through other Scientists.

While you're in the same space as another Scientist, you may spend one of your actions to either steal their Data Cube (if they have one that you haven't marked) or to elbow them out of the way.

When you elbow a Scientist, move them one space in any direction (not diagonal).

Please note that you cannot elbow a Scientist through a wormhole.



## Blooming:

*Schrödinger's Lab is a dangerous place! Many things may cause you to be temporarily disassociated with your quantum waveform, or "blooped".*

In all circumstances, being blooped:

1. removes you from the board, then
2. places you on your office, and
3. takes away your Data, if you have any (Place it in the Mainframe Memory)

Here are some circumstances that may bloop you:

- A Scientist teleports onto you
- You teleport yourself off the edge of the map
- Someone transits a wormhole onto you
- Your opponents use a variety of Cat Powers on you (see below)
- You succumb to a variety of Scenarios
- You're on someone else's office and they're blooped, resulting in them placing themselves on their office (look, it's *their* office)

## Self-Blooming

Blooming yourself isn't considered polite office behavior, but sometimes it's necessary. You can spend your turn to bloop yourself, sending your body back to your office. This is intended for emergencies only, not frivolous uses. (And yes, you'll lose a Data Cube, if you happen to have one.)



## Cat Cards:

The Cat Cards should get shuffled and dealt at the start. Each Cat has a unique power that you will most likely find useful, as well as a reaction to Data, which shakes things up whenever you pick up a Data Cube.

Please note: In all cases, if a Cat card contradicts rules in this book, the Cat card wins.

It might make sense to omit Cat cards from a short learning game, since they introduce twists and strategies that may hinder a grasp of the basics. See next page for a breakdown of more options.



## A First Game for New Players:

Two adjustments make an excellent learning game:

- Play only until the first Data Cube is logged into the Mainframe
- Omit Cat Cards, as they add complications and strategy

Be sure to note that Data moves to a new position in each Sector when the Mainframe resets, as the practice game will end before this happens.

## Scenarios and Game Length:

Scenarios can be selected randomly or deliberately. They are rated for difficulty: the higher the number, the more complicated it makes the game. Scenarios also note whether they tend to make a game longer or shorter.

Sometimes, a shorter game might be preferred - especially with more players. In that case, you can play to only 2 or 3 Experiments.

Please feel free to adjust the game to suit your needs.

NUMBER OF DIFFERENT EXPERIMENTS NEEDED TO WIN

	2	3	4 (ALL)
2 PLAYERS	V. SHORT	SHORT	MEDIUM
3-4 PLAYERS	SHORT	MEDIUM	MEDIUM
5-6 PLAYERS	MEDIUM	LONG	LONG
7-8 PLAYERS	MEDIUM	LONG	V. LONG

## Reminders and Clarifications

\* Normally, you have to place a tile with an opening connecting to the opening you're seeing through. This is not so if you arrive on a tile via teleporting.

\* Sightlines continue any number of spaces until they're blocked by a wall or the edge of the map. You can see across the central hallway, or from one sector to another.

\* You can't carry more than one Data Cube at a time.

\* You can't pick up or steal Data you've already logged.

\* You can choose to not move. You still pick a direction to see in at the end of your turn.

\* You can't push other Scientists onto blank spaces (and can't move onto them yourself).

\* Turns often feature Teleporting onto a blank space, placing a tile under yourself, and then picking a direction to see. It's important to note that placing the tile under you is separate from seeing - if you find yourself on top of another Teleporter or Randomizer, you'll continue bouncing around. It's only when you finally come to rest that you choose a direction and see to end your turn.

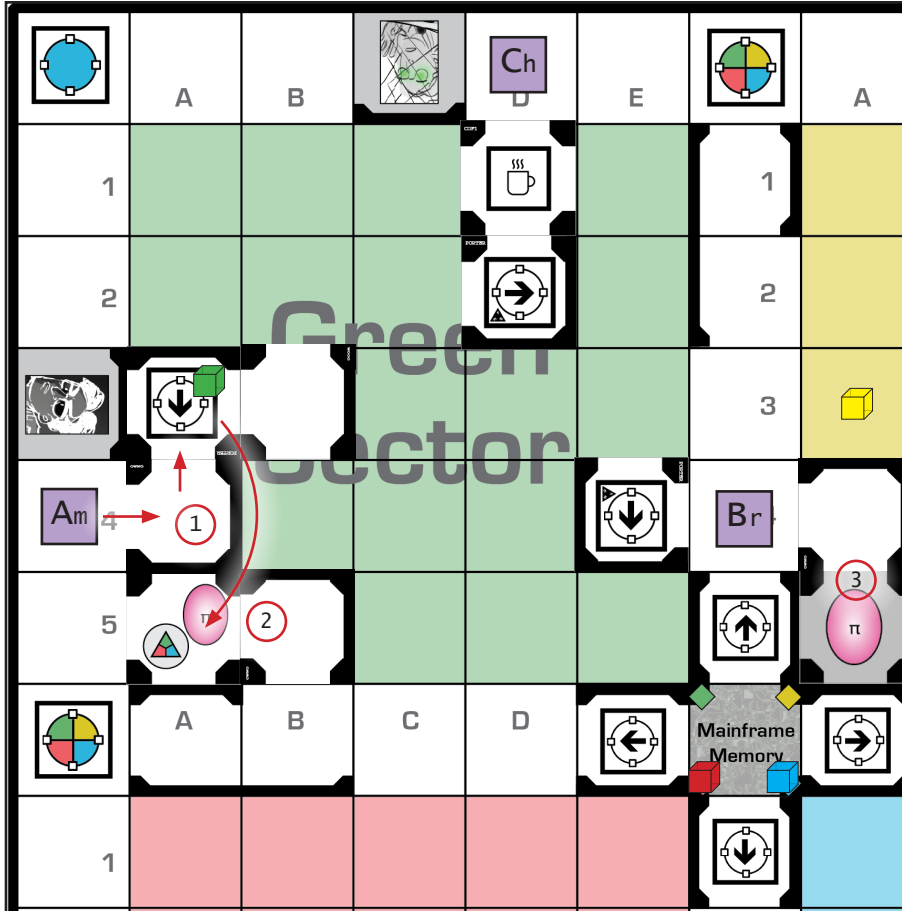
\* Teleporters, Vacuum Collapsers, and Randomizers affect all Scientists during each turn's Board Elements phase. Coffee and wormholes can only be used by the Active Player.

\* Experiments sit on top of tiles, but do not change anything about the tiles themselves.

\* You can look through other Scientists as well as move through them.

## Example Gameplay:


Ami, Brad, and Chun-Li are playing. Note that Red and Blue have already been logged, and that the Data Cubes have been reset at some earlier point; when they were, they were placed onto A-3.



1. Ami's turn begins with seeing - they place a tile at A-4 (point 1).

They move right then up to the Green Data Cube, then collect the Cube and place it on their Character Card. They choose to end on the Teleporter.

Board Elements activate - specifically, the Teleporter under Ami. They roll 1, get a "2", and are sent 2 spaces downwards. They place a tile underneath them; it is a Wormhole (point 2).

They roll , get Yellow, and place the End Point at the same coordinates (A-5) of that Sector (point 3).

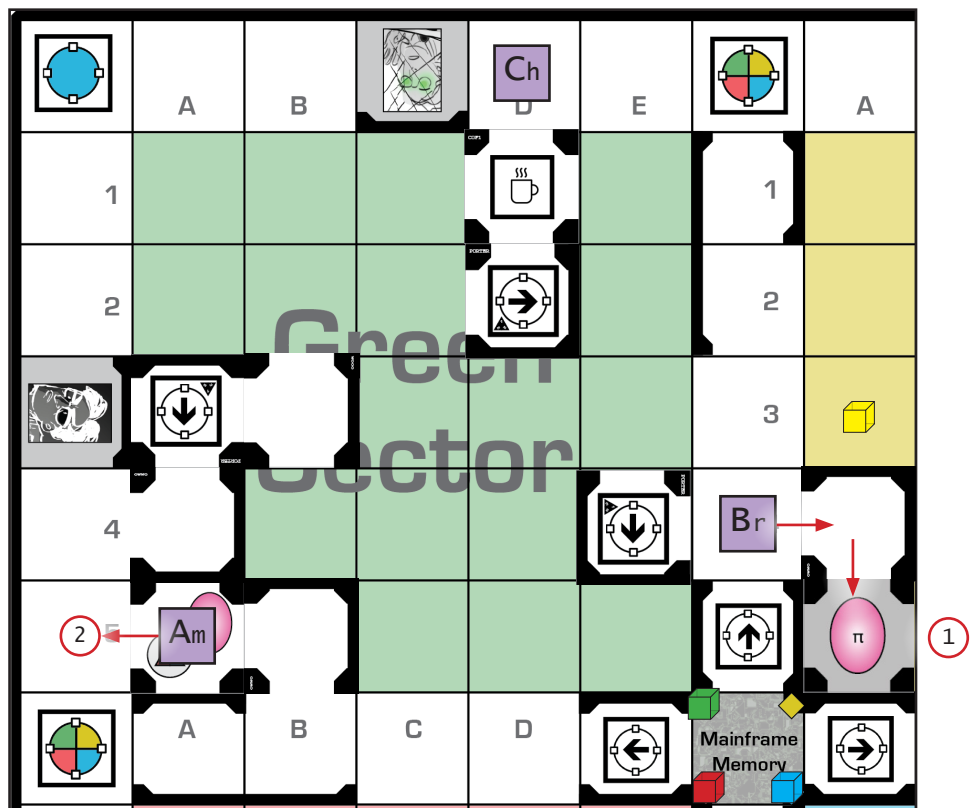
They see to the right, seeing a corner tile, and end their turn.

2. Brad see an opportunity to set Ami back.

He does not see any blank spaces, so he begins moving. He goes right and down onto the new wormhole (1), then uses his third move to transit. He arrives on top of Ami, which bloop Ami. As a result, Ami loses their Data - it is placed on the Mainframe - and is sent back to their office.

Brad uses his last action to move left once (point 2). He activates nothing, sees no blank spaces, and ends his turn.

*(Was it worth it? Brad could have set up to take the Yellow Experiment instead, too.)*





# The Science!

## Schrödinger's Cat:

This is the name of a thought experiment that, at least initially, was critical of the emerging science of Quantum Physics.

Erwin Schrödinger was a celebrated scientist and theoretical physicist who is mostly famous in the popular culture for an offhand "experiment" he suggested to his friend Einstein that, to him at least, seemed absurd.

He asked: so if I put a cat in a box and set up a simple machine that kills the cat fifty percent of the time, would the cat be simultaneously alive and dead until I open the box? And let's be clear: he thought this was a ridiculous idea.

But nowadays, we say sure, it might as well be! You do you, quantum kitty-cat.

## wormholes:

Sadly, nothing can go faster than the speed of light, which is quite slow compared to the enormity of space. But buried in Einstein's Theories of Relativity was another concept that may provide some hope for interstellar travel: it might be possible that space and time could be folded so that two distant points are right next to each other, creating a structure like a worm's tunnel through an apple.

"wormholes" (sometimes called "Einstein-Rosen Bridges" by fancy people and/or Natalie Portman) are so theoretical they're essentially a dream, but the idea of portals crossing vast distances stimulates the human mind to an incredible degree.

## Teleporting and Tunneling: (aka how our sun gets its groove on):

Quantum tunneling seems strange, but underlies the ability of all known life in the universe to survive.

When physicists first ran the math to determine how much energy the Sun outputs, they came to an unfortunate conclusion: the sun should not shine. Specifically, the gravitational energy of the Sun isn't enough to overcome the repulsion of individual particles inside its core - which means it should not be able to fuse elements to make heat and light.

Obviously, this was wrong - the Sun does shine, and we are alive.

But it took a while to discover that particles are sometimes able - on an incredibly minuscule scale - to tunnel through the repulsive shells of other particles. This happens enough in the pressure cooker of the Sun to result in fusion.

Schrödinger's Lab has taken this bedrock, beautiful principle of quantum nature and turned it into a bouncy-castle, sending the lab scientists boinging and zipping around the lab with nary an issue.

## The Role of Coffee in Laboratory Settings:

Let's just be clear: if the world ran out of coffee, then the world would also run out of science. All labs would grind to a halt. There's no question here.

**GAME CONCEPT AND DESIGN - JAMES MAPES**

**EXTREMELY IMPORTANT CONSULTATION - LYNDSEY HOGLAND**

**DEVELOPMENT - RORY BRESHEARS**

**ART - EMILY BLOCK**

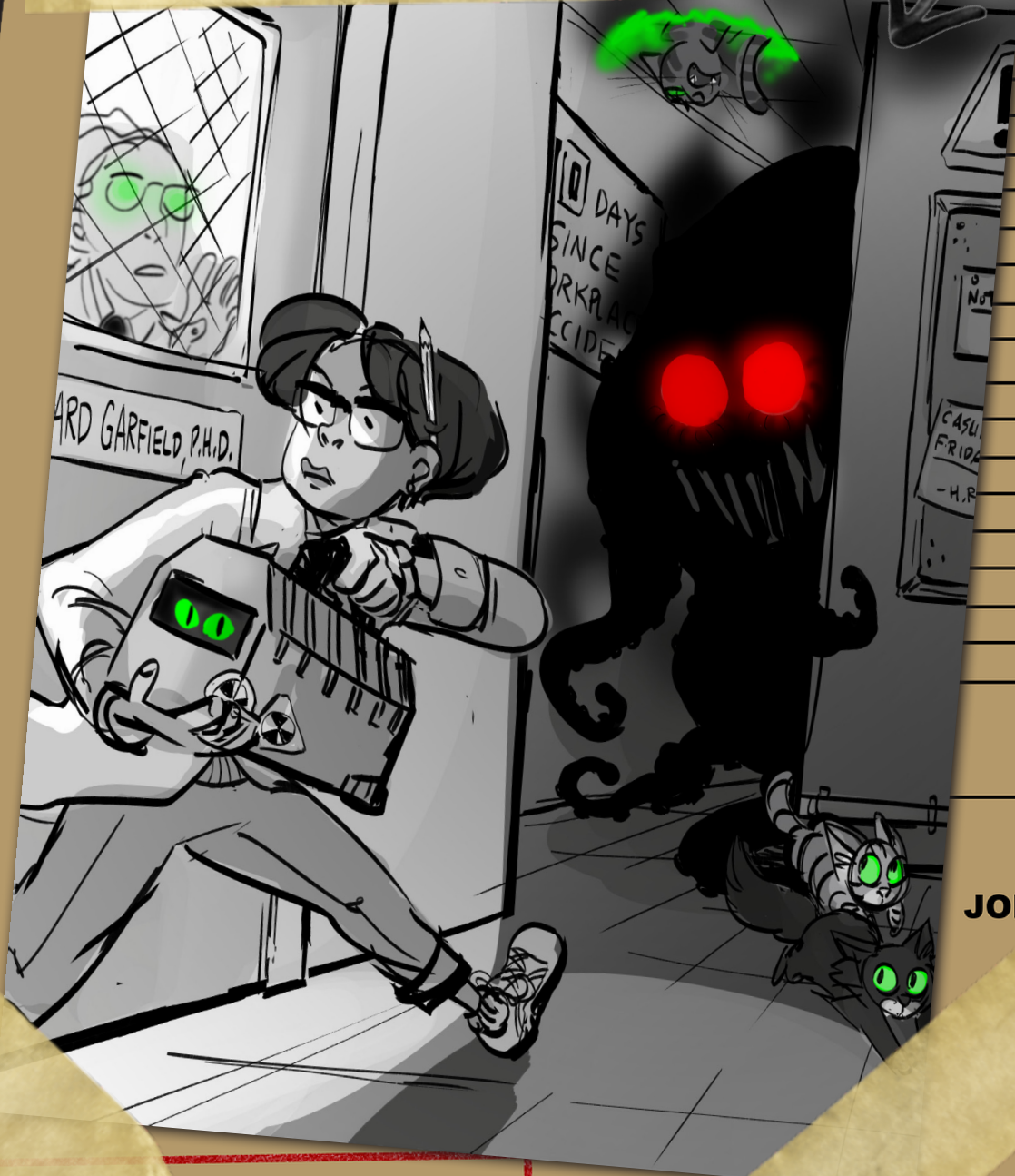
**TESTERS - STEPH BAYNE, ISAAC RAINES, THE WALLINBERRIES, JAMIE LYNNE POWELL-HERBOLD, TEELA LABRUM, PATRICK DAVIS, MOLLY GARDNER, ALAN CLINE, RYAN SCOTT, NEVAN RICHARD, LYDIA RICHARD, BRANDON MORELLI, DILLIN STRIZZI, MONICA RIVERA, BB ANDERSON, JEFFREY ARNSDORF, CHARLES COPELAND, KATIE MAPES, PAUL SUSI**

**GAME/MANUAL VERSION 8.4 - JANUARY, 2022 - PORTLAND, OREGON, USA**



# EVIDENCE OF MAXWELL'S DEMON??

COMING SOON...



JOB-FILE

**TOP SECRET**