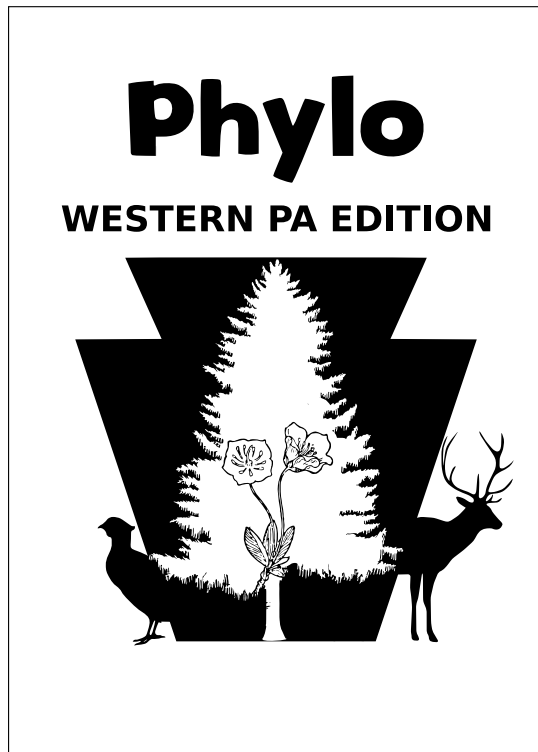


# GAMIFYING EDUCATION THE LIBRE WAY



# GAMIFYING EDUCATION

THE LIBRE WAY

- Gamification
- The Phylo(mon) Project
- Phylo: Western PA Edition
- DocGen
- Education
- Q&A

# GAMIFICATION

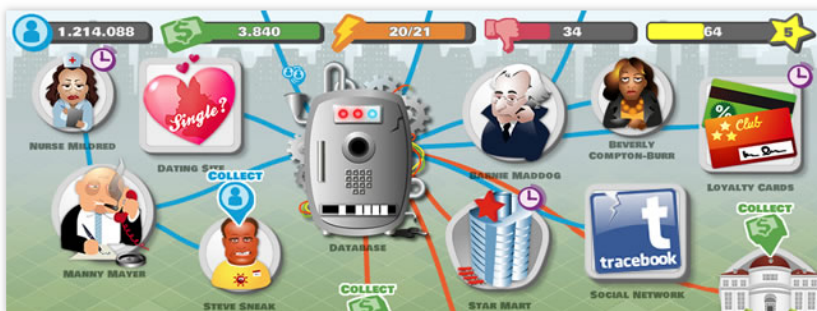
The application of game design principles in a non-game context.

It is about **motivation** and forming **habits**.

Gamification is ***not*** Educational Gaming.



Eyewire

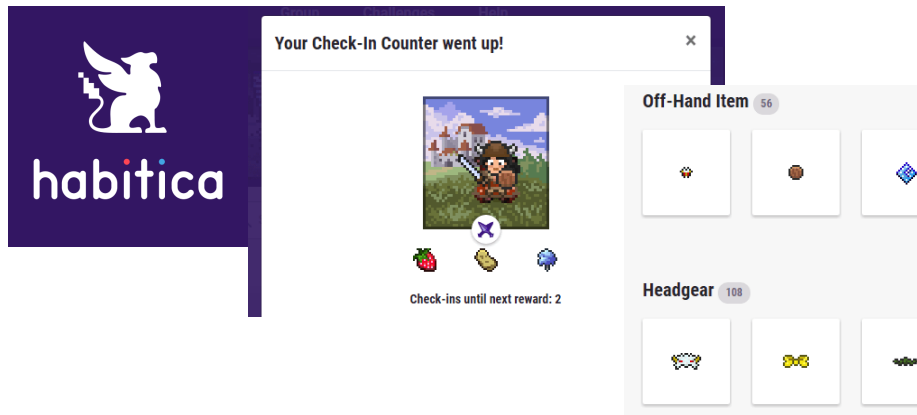


# GAMIFICATION

## Rewards



Players earn badges and trophies for meeting certain fitness goals.



Players earn items and events based on which goals they accomplish.

A screenshot of the Eyewire leaderboard titled "Magnificent Eyewirers". It has tabs for "today", "week", and "month". The table lists 12 users with their rank, name, and points.

rank	user	points
1	Nseraf	56218
2	susi	22414
3	twister2	18526
4	DannyS	16956
5	damocles357	14824
6	erlnys	13230
7	JacquesG	10614
8	Chainsaw_NL	10586
9	marhav	9735
10	jax123	9343
11	sambob496	8544
12	aldof	8318

Players earn points and place on leaderboards if they do well.

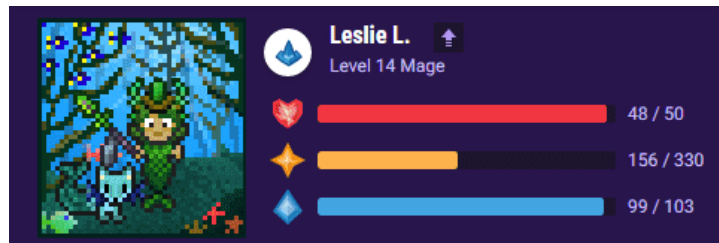


# GAMIFICATION

## Narrative



Character progression which is fueled by accomplishing tasks.



Eyewire

Players become Heroes who explore the brain and unravel mysteries.



# GAMIFICATION

## Social



Players can share data and goal accomplishments with others.



Players can form a party where accomplishing each other's goals furthers the quest of the entire group.



Events where players team up, work together, and compete.

**EYEWIRE WORLD CUP**

7/3 - 5      7/8 - 10      7/12 - 13      7/8 - 10      7/3 - 5

Quarterfinals	Semifinals	Finals
48 hours		
Top 3 Players 2x MULTIPLIER	Top 5 2.25x MULTIPLIER	Top 10 2.5x MULTIPLIER
MVP 5,000 POINTS	MVP 7,500 POINTS	MVP 10,000 POINTS
Each Round Winning Team 10,000 POINTS	All Player Bonus 1.5x SCORE	

June 25 - July 13  
eyewire.org



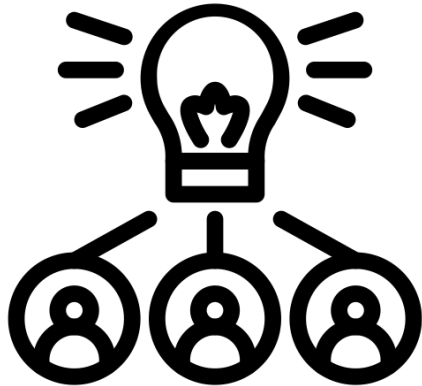
# THE PHYLO(MON) PROJECT



V



# THE PHYLO(MON) PROJECT



Created by Ian Rahmadi Kumiawan  
from Noun Project

# THE PHYLO(MON) PROJECT

## PHYTOCHEMISTRY EXPANSION PACK

Contributors: Stephen McNeil (Lead), Julia K. Kreutz (artist), and the rest of the Phylo community. This is a revenue neutral deck\* and introduces "chemistry" cards.

[phylogame.org](http://phylogame.org)

$C_{17}H_{51}NO_{14}$   
MW: 853.906 g/mol

$C_{30}O_2$   
MW: 314.469 g/mol

$C_{30}O_2$   
MW: 314.469 g/mol

$C_{30}O_2$   
MW: 314.469 g/mol

**Phylo**


(2 $\alpha$ ,4 $\alpha$ ,5 $\beta$ ,7 $\beta$ ,10 $\beta$ ,13 $\alpha$ )-4,10-bis(acetyloxy)-13-(((2R,3S)-3-benzoylamino)-2-hydroxy-3-phenylpropanoyloxy)-1,7-

(-)-(6aR,10aR)-6,6,9-Trimethyl-3-pentyl-6,7,8,10a-tetrahydrobenzo[*c*]chromen-1-ol




# PHYLO: WESTERN PA EDITION

**Pawpaw**  
*Asimina triloba*



Photosynthetic  
**9** 

Plantae, Angiosperms, Magnoliids




Scott Bauer **1 POINT**


*Pawpaws have a creamy, custard-like flesh with a complex combination of tropical fruit flavors. It's North America's largest native fruit.*

  **Cold Cool Warm**

**Cicada**  
*Neotibicen linnei*



Herbivore  
**4** 

Animalia, Anthropoda, Insecta




Mark F. Levisay **4 POINTS**


MOVE of 2

  **Cool Warm**

**Wild Turkey**  
*Meleagris gallopavo*



Herbivore  
**6** 

Animalia, Chordata, Aves



danielle.brigida **3 POINTS**

MOVE of 2

  **Cold Cool Warm**

Let's work together!

# PHYLO: WESTERN PA EDITION



## Phylo: Western PA Edition

Home / All PDFs / Visual Art / Phylo: Western PA Edition

< Previous Next >

### Goals

- 1 Know and demonstrate how arts can communicate experiences, stories or emotions through the production of works in the arts.
- 2 Choose from a range of materials and methods of traditional and contemporary artistic practices to plan works of art and design.
- 3 Incorporate the effective and safe use of materials, equipment and tools into the production of works in the arts at work and performance spaces.
- 4 Analyze works of arts influenced by experiences or historical and cultural events through production, performance or exhibition.

In this blog post, students will learn how to make their own card game and how games can be used to share knowledge and experiences with others. Focusing specifically on climate change, students can download a printable version of a card game called *Phylo: Western PA Edition*. By playing the game, students can learn about the various flora and fauna of Western Pennsylvania, as well as experience firsthand how the ecosystem is affected by human intervention. For the second part of the blog post, students can also make their own version of Phylo.

[Here is a link to a website](#) where students can make their own card designs, which they can download and print to make their very own version of the Phylo card game.

### About Creator



#### Giselle Jhunjhnuwala

Giselle is an artist, self-taught programmer, and Outreachy alumna. They like to explore the intersections of art, science, and technology, and have been exclusively using free software in their practice for several years. They have worked in technology and at an import/export multinational company, which enabled them to travel back and

PHYLO: WESTERN PA EDITION



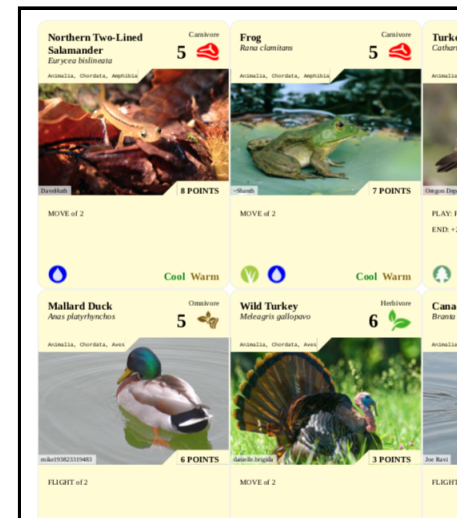
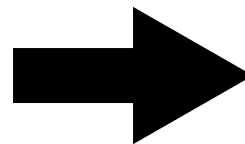
# DOC GEN

(Document Generator)

A free and open source utility to convert spreadsheet data into a beautiful, multi-page document.

Originally developed for creating playing cards, DocGen can be leveraged to create any kind of document from multiple data records.

	A	B	C	D	E	F	G	H
1								
	Quantity	Type	common-name	latin-name	scale	Food Chain	diet	Diet Value
2	1	Amphibian	Northern Two-Lined Salamander	<i>Eurycea bislineata</i>	5	3	Carnivore	7
3	1	Amphibian	Frog	<i>Rana clamitans</i>	5	3	Carnivore	7
4	1	Bird	Turkey Vulture	<i>Cathartes aura</i>	7	3	Carnivore	7
5	1	Bird	Mallard Duck	<i>Anas platyrhynchos</i>	5	3	Omnivore	7
6	1	Bird	Wild Turkey	<i>Meleagris gallopavo</i>	6	2	Herbivore	4
7	1	Bird	Canadian Goose	<i>Branta canadensis</i>	6	3	Omnivore	4
8	1	Bird	Downy Woodpecker	<i>Picoides pubescens</i>	5	3	Omnivore	3
9	1	Fungi	Chicken of the Woods	<i>Laetiporus sp.</i>	5	1	Special	4
10	1	Fungi	Mycorrhizal Fungi	<i>Olidiodendron sp.</i>	3	1	Special	4
11	1	Insect	Brown Marmorated Stink Bug	<i>Halyomorpha halys</i>	4	2	Herbivore	4



# DOC GEN

DocGen requires knowledge of HTML/CSS as well as experience with manipulating a spreadsheet or CSV.

For Phylo, we wanted a much simpler way for students to be able to create their own decks.

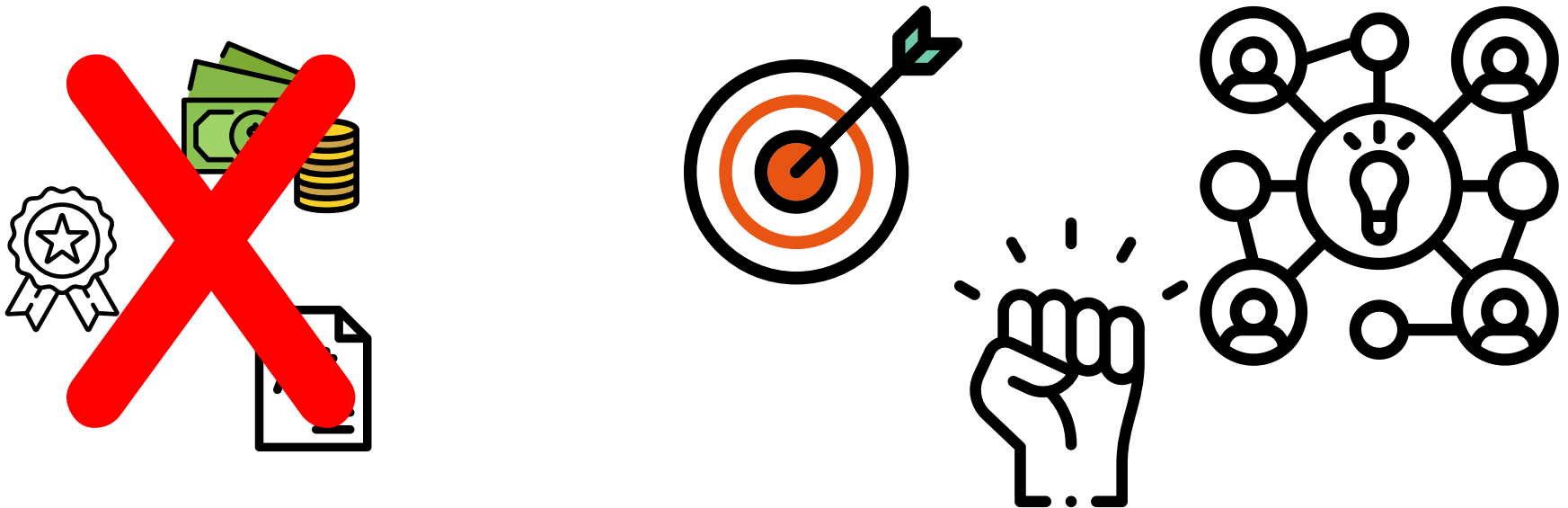
We created a web application version of DocGen specifically for creating Phylo cards.

[https://thinkcolorful.org/docgenphylo/phylo\\_docgen.html](https://thinkcolorful.org/docgenphylo/phylo_docgen.html)

# EDUCATION

Gamification can create meaningful experiences that extend outside of a game.

Dr. Scott Nicholson's "**Meaningful Gamification**" builds on 3 precepts: **Mastery, Autonomy, and Relatedness**



# EDUCATION

Principles of Meaningful Gamification/ Self-Determination Theory as applied to Free and Open Source Software:

## The 4 Freedoms:

Run



Study



Share



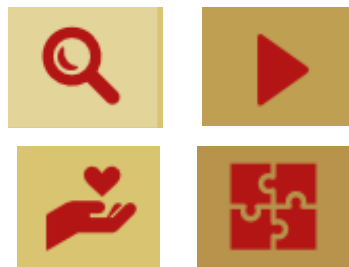
Build Upon



**Mastery**



**Autonomy**



**Relatedness**



# EDUCATION

Principles of Meaningful Gamification as applied to Education:

- **Mastery:** creation in public, for the public encourages competency
- **Autonomy:** curriculum encourages sharing and collaboration, and the freedom to take the project in new directions
- **Relatedness:** groups and communities can form around the subject or connect to existing groups in that subject

# CREDITS

- Phylo(mon) Game ([phylogame.org/](http://phylogame.org/))
- Creative Learning Network ([creativelearningpgh.org/](http://creativelearningpgh.org/))
- Habitica ([github.com/HabitRPG/habitica](https://github.com/HabitRPG/habitica))
- Eyewire ([eyewire.org](http://eyewire.org))
- A RECIPE for Meaningful Gamification by Dr Scott Nicholson  
([scottnicholson.com/pubs/recipepreprint.pdf](http://scottnicholson.com/pubs/recipepreprint.pdf))
- Giselle's website: [thinkcolorful.org](http://thinkcolorful.org)
- Charlie's website: [cerrax.com](http://cerrax.com)
- DocGenPhylo ([gitlab.com/charles.w.koch/docgenphylo](https://gitlab.com/charles.w.koch/docgenphylo))
- DocGen ([gitlab.com/charles.w.koch/docgen](https://gitlab.com/charles.w.koch/docgen))
- Slides for this talk ([gitlab.com/ephemeralwaves/libreplanet2021](https://gitlab.com/ephemeralwaves/libreplanet2021))