



Moveable Game Jams: Students Designing Games

Matthew Farber, Ed.D.

Warm-Up

YES, AND...

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Handouts & Slides:

<https://goo.gl/MHH9oE>



"The world of games in education is vast. Matthew Farber is a clear-eyed guide to lands both familiar and foreign, and *Gamify Your Classroom* is a combined atlas and encyclopedia of game-based learning. This book is valuable for teachers, school leaders, and scholars. No matter what your destination in game-based learning, Farber can help you navigate like a native."

Barry Fishman, Professor, University of Michigan

"Matthew Farber's voice rings with authenticity—he's a real teacher, in a real classroom, who is passionate about working with young people. He is a true practitioner of what he presents, but he also is able to float above his school to offer us a comprehensive, bird's eye view of the complicated and often contradictory field of games and learning. It is a gift for all of us to have a teacher's voice as part of the literature and research in this field. In this book, Farber has done what games and play have the power to do—raise big questions, investigate different perspectives and stories, explore challenges, and allow us to emerge from the experience full of joyous curiosity and inspired to learn more."

Rebecca Rufo-Tepper, Director of Programs, Institute of Play

"Matthew Farber's *Gamify Your Classroom* is the definitive guide to game-based learning. Whether you are dipping your toes in the pool or swimming in the deep end, this book is a rich resource. He has left no stone unturned as he provides background of game theory, history of the game industry (commercial and educational), and a tremendous practical overview of what is happening in the game-based learning space. The book is an easy read and demonstrates that he is a walking encyclopedia on the topic. I am truly amazed at the fact that Farber clearly connected with everyone in the field, and ties the work together beautifully."

Steve Isaacs, middle school teacher of video game design and development

www.peterlang.com

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This completely revised and expanded field guide is packed with new, innovative ideas on how to implement game-based learning and gamification techniques in everyday teaching. With nearly two dozen more experts than the first edition, this book contains interviews with more than seventy authorities in the field, including academics such as James Paul Gee, Kurt Squire, Mizuko (Mimi) Ito, Lee Sheldon, Jordan Shapiro, and Mary Flanagan. The author also shares conversations with experts from numerous organizations such as Common Sense Media, iCivics, DragonBox, Connected Camps, GlassLab Games, Schell Games, Institute of Play, Games for Change, BrainPOP, Tiggly, Toca Boca, ThinkFun, BrainQuake, Filament Games, BreakoutEDU, Kahoot, Classcraft, and more. Featuring a new introduction, as well as a foreword from *USA Today's* national K-12 education writer, Greg Toppo, this book provides new, practical lesson plan ideas, ready-to-use games, and links for further research in each chapter. Also included are best practice recommendations from star game-based learning teachers, including Steve Isaacs, Peggy Sheehy, Michael Matera, Rafranz Davis, Zack Gilbert, and Paul Darvasi. Regardless of your teaching discipline or grade level, whether you are new to game-based learning or experienced and want to take a deeper dive, this book will engage and reinvigorate the way you teach and how your students learn!



MATTHEW FARBER, Ed.D., is a social studies teacher at Valleyview Middle School in Denville, New Jersey. He is also an adjunct instructor, Edutopia blogger, and cohost of *Ed Got Game* on the BAM Radio Network. Dr. Farber was a recipient of a Geraldine R. Dodge Teacher Fellowship, a Woodrow Wilson HistoryQuest Fellowship, and is a Certified BrainPOP Educator. He lives in New Jersey with his wife, Laura, son, Spencer, and playful Weimaraner dog, Lizzie. To learn more, visit: MatthewFarber.com.

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gamify your classroom

FARBER

PETER LANG



gamify your CLASSROOM

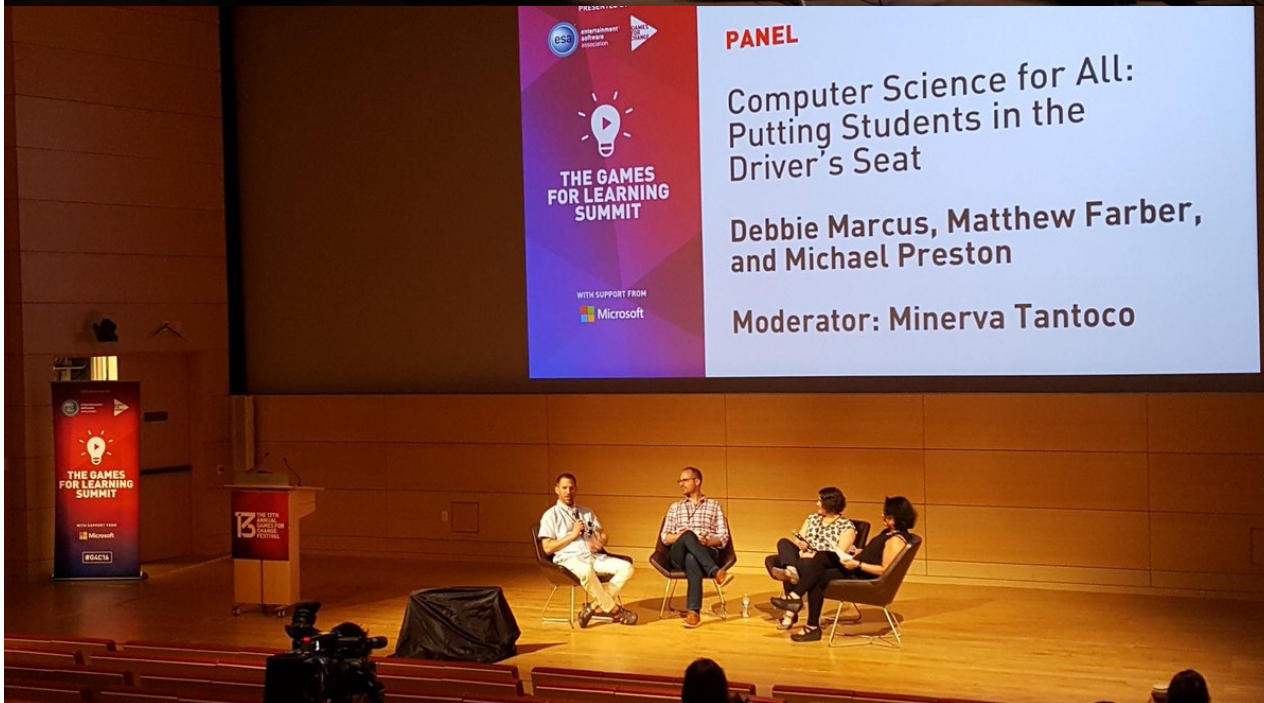
REVISED
EDITION



a FIELD GUIDE TO
GAME-BASED LEARNING

MATTHEW FARBER

foreword by greg toppo



Matthew Farber, a social-studies teacher in Denville, N.J., has been using “Minecraft,” “SimCityEDU” and other games in his sixth- and seventh-grade classes for years. Games provide students with personalized instruction and a safe setting to fail, said Mr. Farber, author of “Gamify Your Classroom: A Field Guide to Game-Based Learning.”

And because games are made to be entertaining, “students are engaged and learning at the same time,” he said. “That’s what teachers want.”

Write to Sarah E. Needleman at sarah.needleman@wsj.com

FOX's Lisa Brady reports:



'Pokémon GO' mania is inspiring teachers; some posting suggestions on how to use it in school:

(Farber) *"I want my students to feel that they are in control of their learning. To do that, you have to bring in students passions and interests."*

New Jersey Social Studies teacher Matt Farber, author of 'Gamify Your Classroom' has been using games to teach for about four years:

(Farber) *"Where the learning really comes in a game in a classroom, it's the conversations about and around the game."*

So kids can be learning Geography, History and landmarks around the Pokestops, while also learning to dig for information:

NEWS
SPORTS
LIFE
MONEY
TECH
TRAVEL
OPINION
68°
CRO

2412

 169

Since the game's July 6 release, teachers [have been blogging](#) about how they might use the game once school begins. One observer [noted](#), "Almost overnight, it has gotten a generation that's most comfortable inside on the couch playing a game outside walking around, getting fresh air, sunshine, and exercise."

"It's a great opportunity," said Matthew Farber, a [Denville](#), N.J., middle school social studies teacher and author of the recent book [Gamify Your Classroom](#).

Teachers, he suggested, could use the game to get students to explore and research important historic Poké Stops near their home or school. After Farber and his wife downloaded the game, they quickly discovered that one of the stops near their home was a previously unknown (to them) historic 1790 building.

BLOG

[← previous](#)

[next →](#)

Coding as Self-Expression

by Matthew Farber, Ed.D.
August 11, 2016

"Ugh! I hate coding!" cried out one of my seventh-grade students. "I don't see why I have to move Elsa three spaces to meet Anna. It's soooo boring!"

"But with **Twine** you *are* coding," I explained.

"I guess," she responded, unenthusiastically.

The above conversation was an actual exchange I had with a student in my social studies class this past school year. She was referencing an **Hour of Code** activity she was assigned to complete for another class. In it, students had to drag lines of code to instruct characters from Disney's *Frozen* to move across the screen. To her, it was boring; coding meant solving rote puzzles. In my class, however, she was using Twine, an authoring tool, to code choose-your-own-adventure stories. It took some time for me to convince her that there are, in fact, multiple approaches to coding—beyond puzzles.

Beware of Loaded Words!

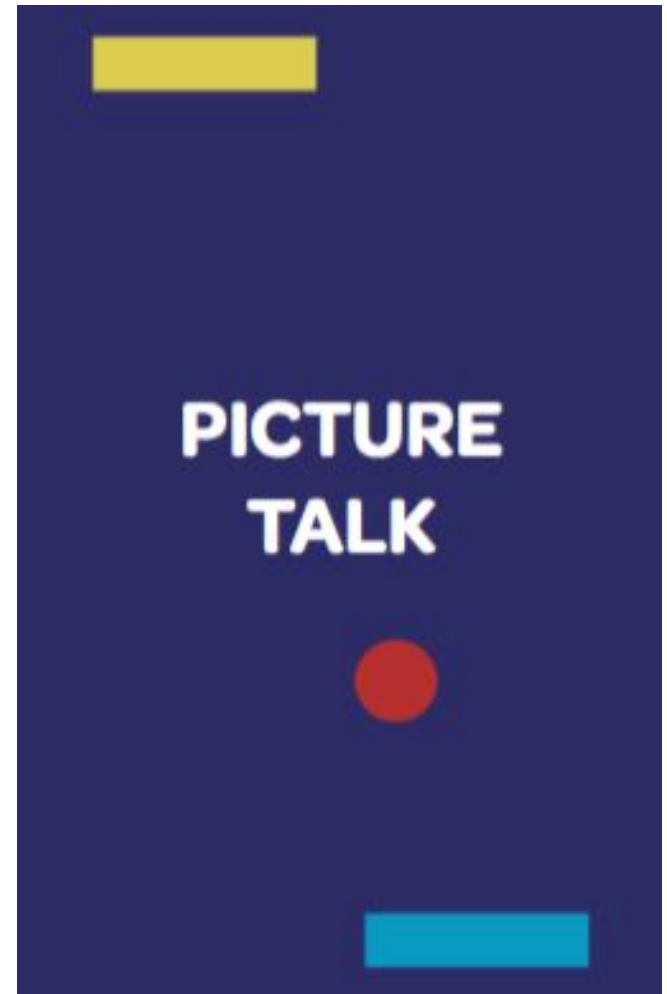




PLAY

Picture Talk

- ▶ One person is the describer, remaining players are copiers.
- ▶ The describer selects a card. S/he may use any words to instruct the copiers how to draw the picture.
- ▶ The copiers are not allowed to speak, except to say "Repeat."
- ▶ When all copiers are finished, each copier reveals her/his drawing.



UNPACK, DEBRIEF, REFLECT



What Are Games?



A game is a system in which
players engage in an artificial
conflict, defined by rules, that
results in a quantifiable
outcome.

(Salen & Zimmerman, 2003, p. 80)

Parts of Games

- ▷ Goal
- ▷ Space
- ▷ Core mechanics
- ▷ Components
- ▷ Challenge
- ▷ Rules

Your First Challenge

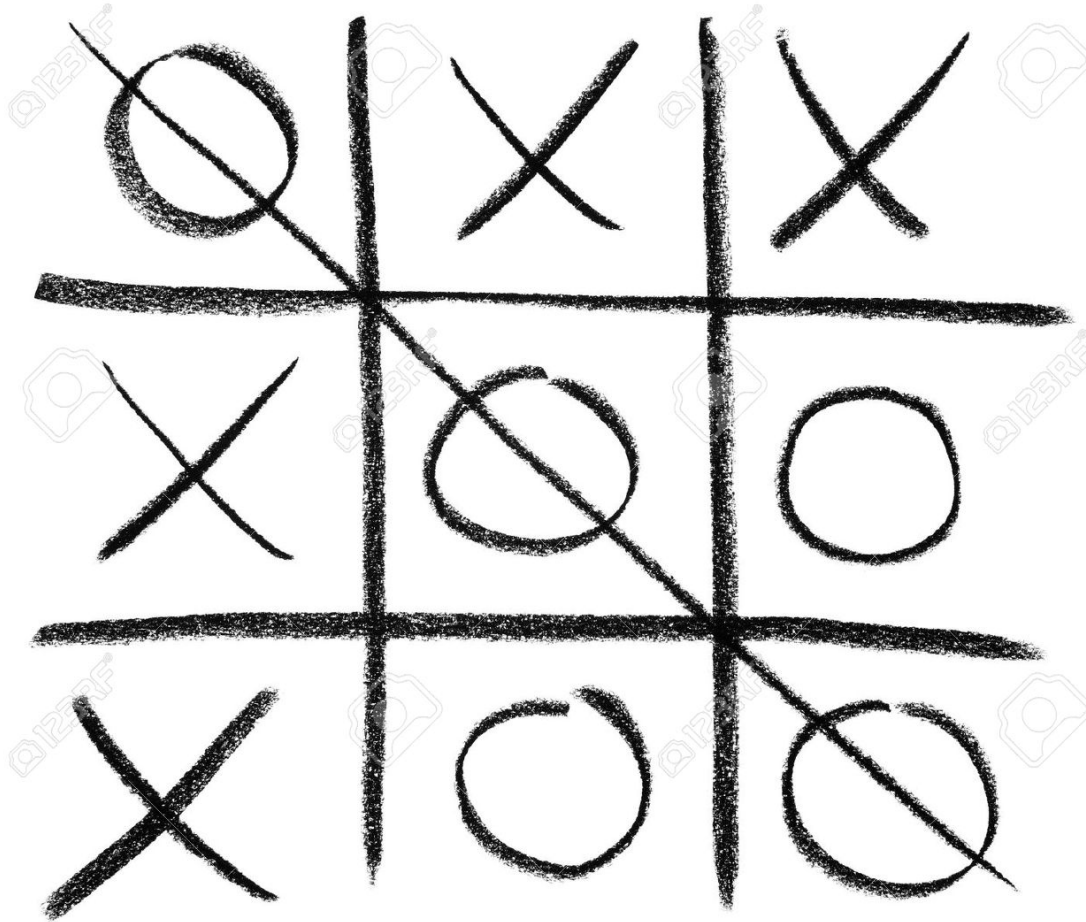
- ▷ **Goal** Guess the picture/Transmit the picture
- ▷ **Space** Cards, room
- ▷ **Core Mechanics** Guessing, drawing
- ▷ **Components** Cards, pen/pencil, paper, players
- ▷ **Challenge** Difficulty level on cards
- ▷ **Rules** ...

Add a constraint

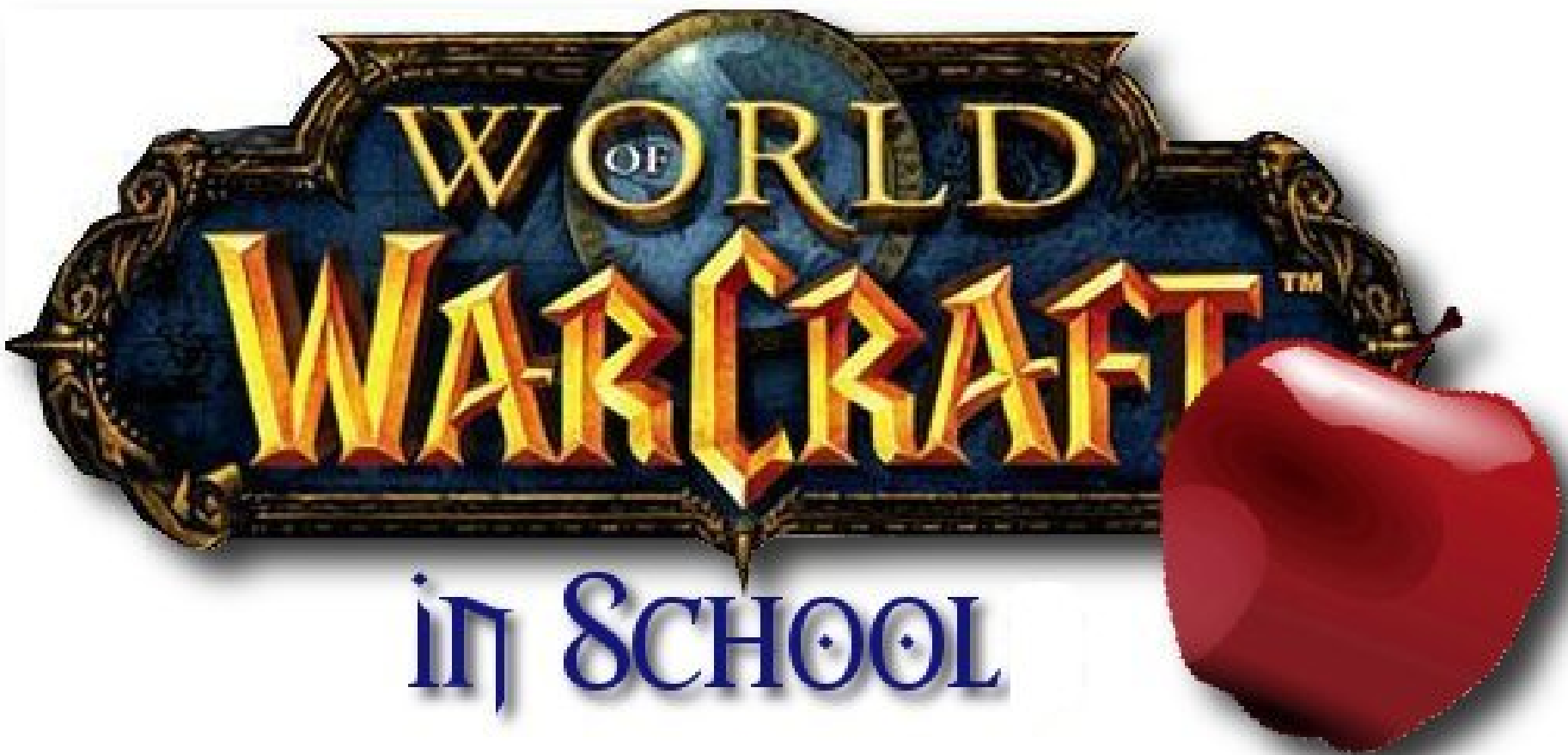
Now... make a card for us to play!

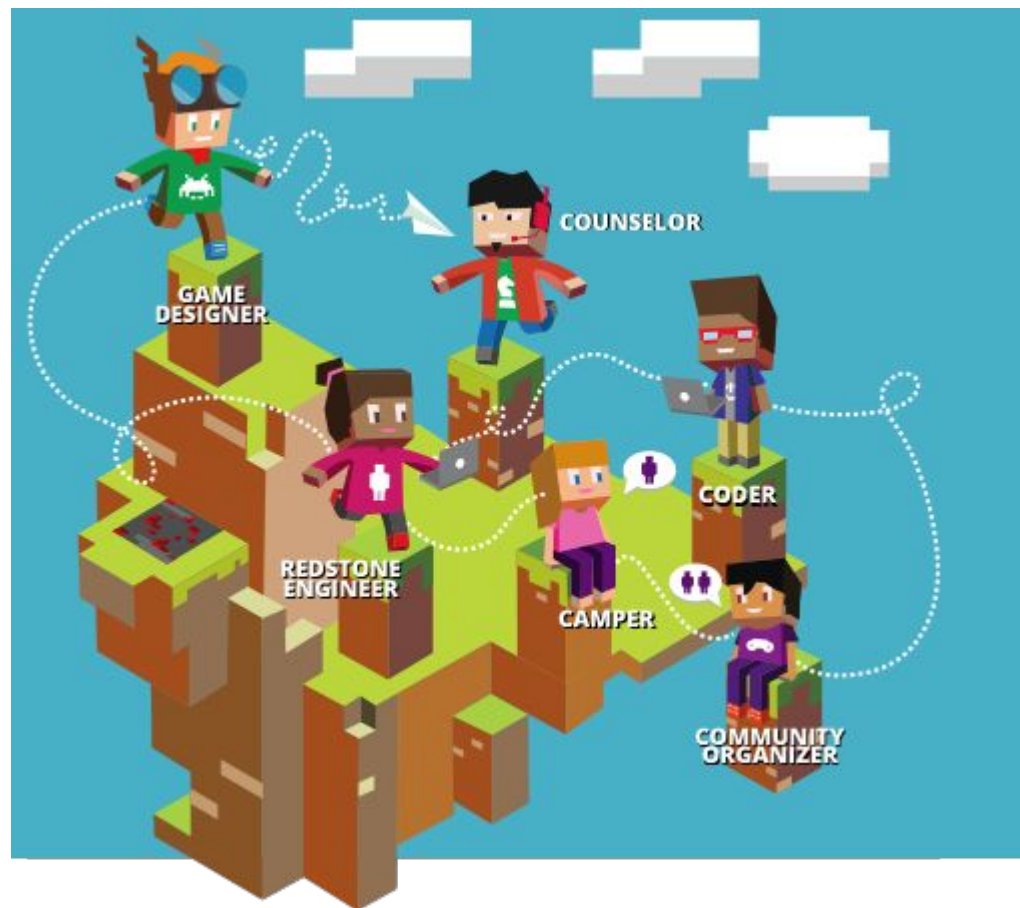
EASY	MEDIUM	MEDIUM	EASY
DIFFICULT	DIFFICULT	DIFFICULT	MEDIUM

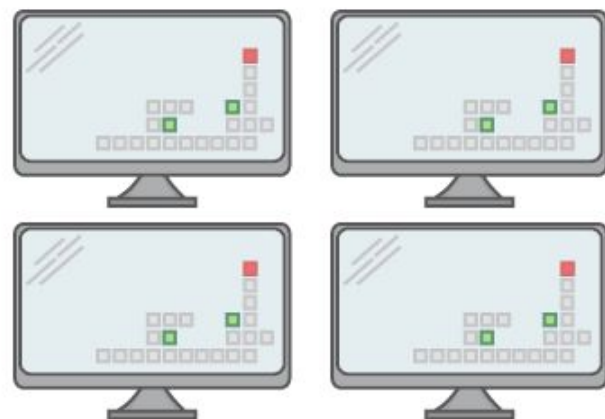
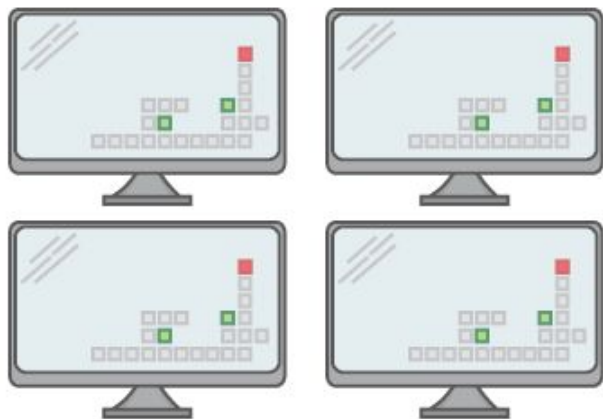
Three-Tac-Toe



AFTERSCHOOL GAME CLUBS







2017 National STEM Video Game Challenge Now Open

national stem
VIDEO
GAME
CHALLENGE



MAKING GAMES

What Is a Game Jam?





**GAMES FOR CHANGE
STUDENT CHALLENGE**

**FOR NYC
STUDENTS**

MOVEABLE GAME JAMS



NATIONAL ENDORSEMENT FOR THE
Humanities



HIVE

Digital Media
Learning Fund
in The New York Community Trust



GAMES FOR CHANGE STUDENT CHALLENGE

DESIGN DIGITAL GAMES ABOUT REAL-WORLD ISSUES!

1

FUTURE COMMUNITIES

Using smart tech to
make your city a
better place to live

2

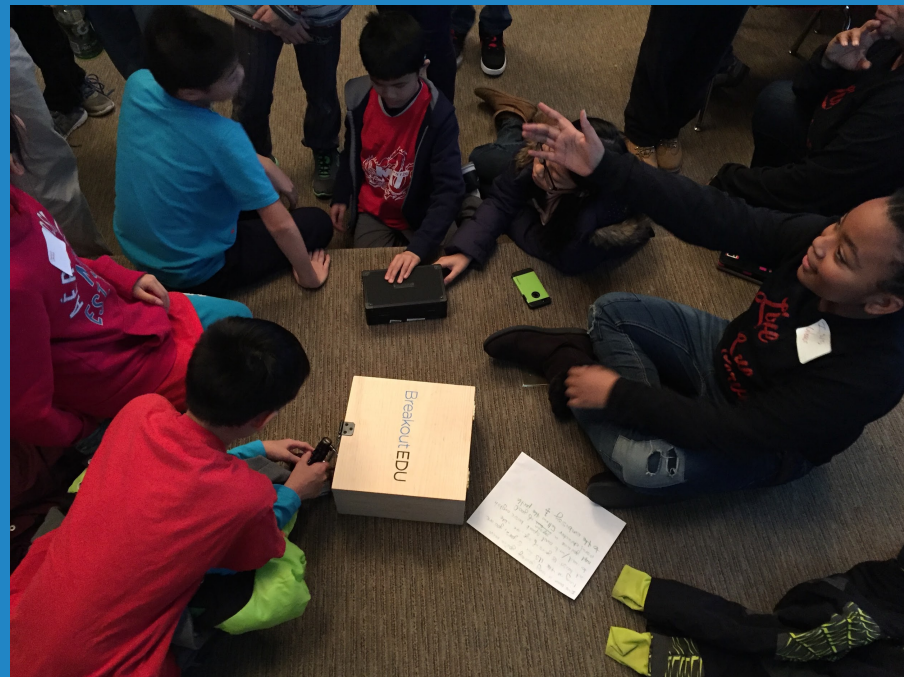
CLIMATE CHANGE

Saving our planet and
preparing citizens
for our climate future

3

LOCAL STORIES & IMMIGRANT VOICES

Exploring the historical
and current immigrant
experience in your city



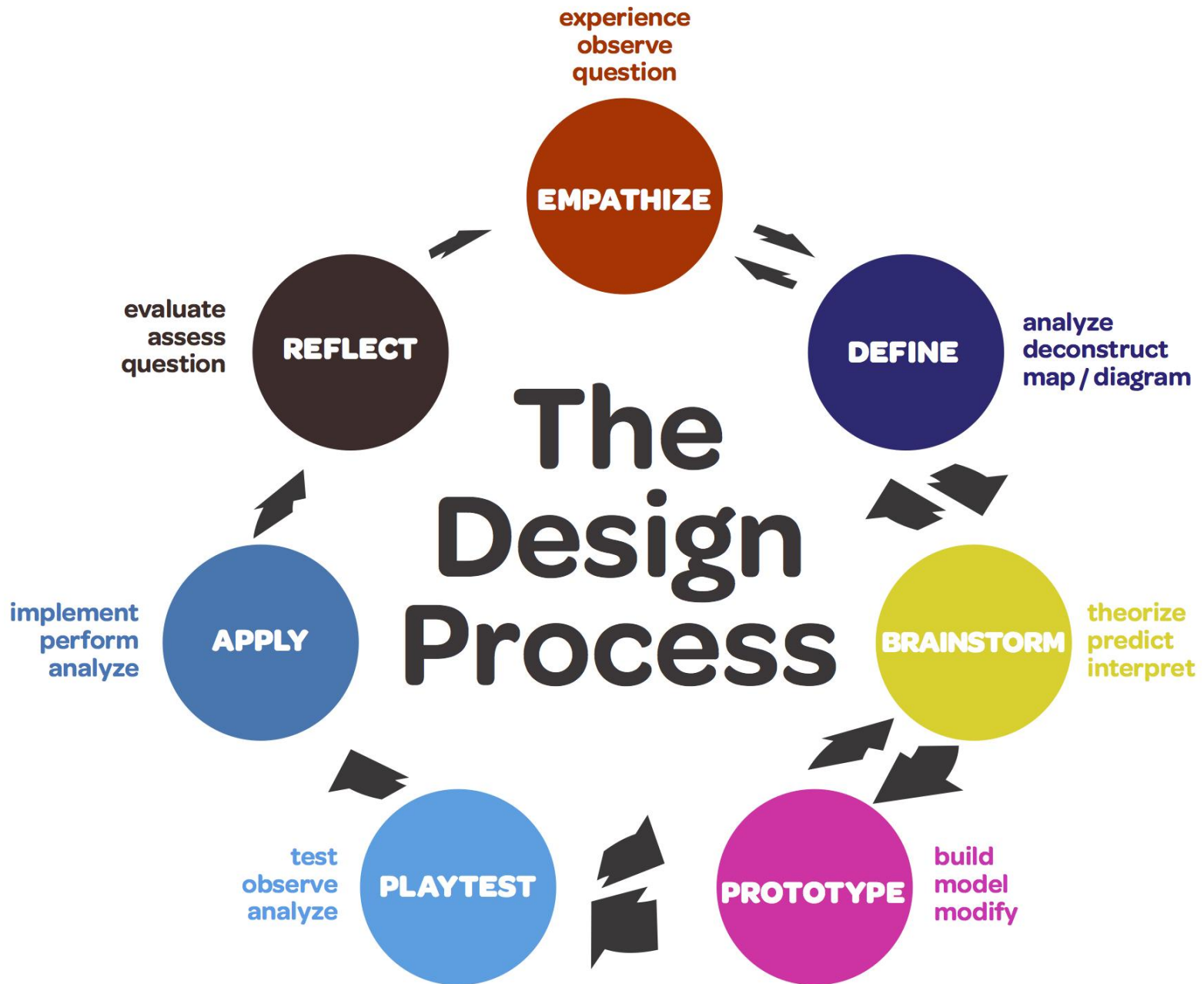








DESIGN



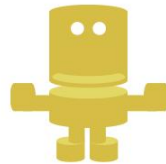
Game Design Process

ROLES



FUN CRITIC

You make sure to constantly monitor fun levels of the game. Don't be afraid to speak up if it's not FUN.



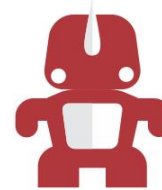
PLAYTEST FACILITATOR

You support the team in planning and implementing game rollout and feedback strategies.



INCLUDER

You make sure every voice is heard.



PLAY PROVOKER

You constantly provoke the group to jump in and test ideas.



LEARNING GOAL-KEEPER

You constantly question whether your game is reaching your targeted learning goal



GAME JAM!



**GAMES FOR CHANGE
STUDENT CHALLENGE**

**BRIGHT
INNOVATORS**
FUTURE COMMUNITIES

MOVEABLE GAME JAM

WITH EXPERTS IN SMART TECH FROM CURRENT POWERED BY GE

**SATURDAY, NOV 5TH, 10AM-4PM AT MUSEUM OF THE MOVING IMAGE
FOR NYC MIDDLE & HIGH SCHOOL STUDENTS**

REGISTER FOR FREE:

http://bit.ly/MakeGames_Nov5

PARTICIPATING PARTNERS

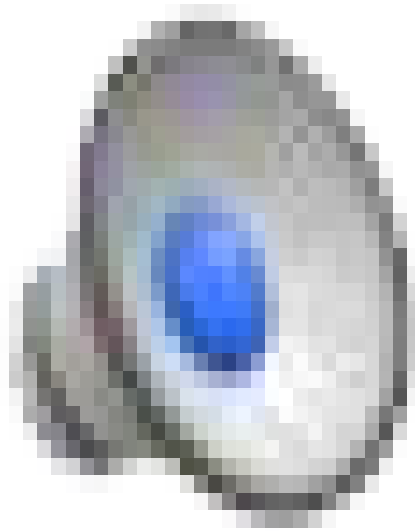


current
powered by GE

SUPPORTED BY



Future Communities Theme



Themes



Local Stories & Immigrant Voices – Make a game that explores the immigrant experience, comparing past and present. Supported by the National Endowment



Climate Change – Make a game that teaches citizens how to prepare for our climate future. Supported by NOAA



Future Communities – Make a game that shows how smart technology can make your community, school and neighborhood a better place to live, learn and play. Supported by Current, powered by GE

RESKINNING FLUXX

Play, and then redesign, your own themed version of the card game Fluxx.



Players: 2-6

Playtime: 5-30 minutes

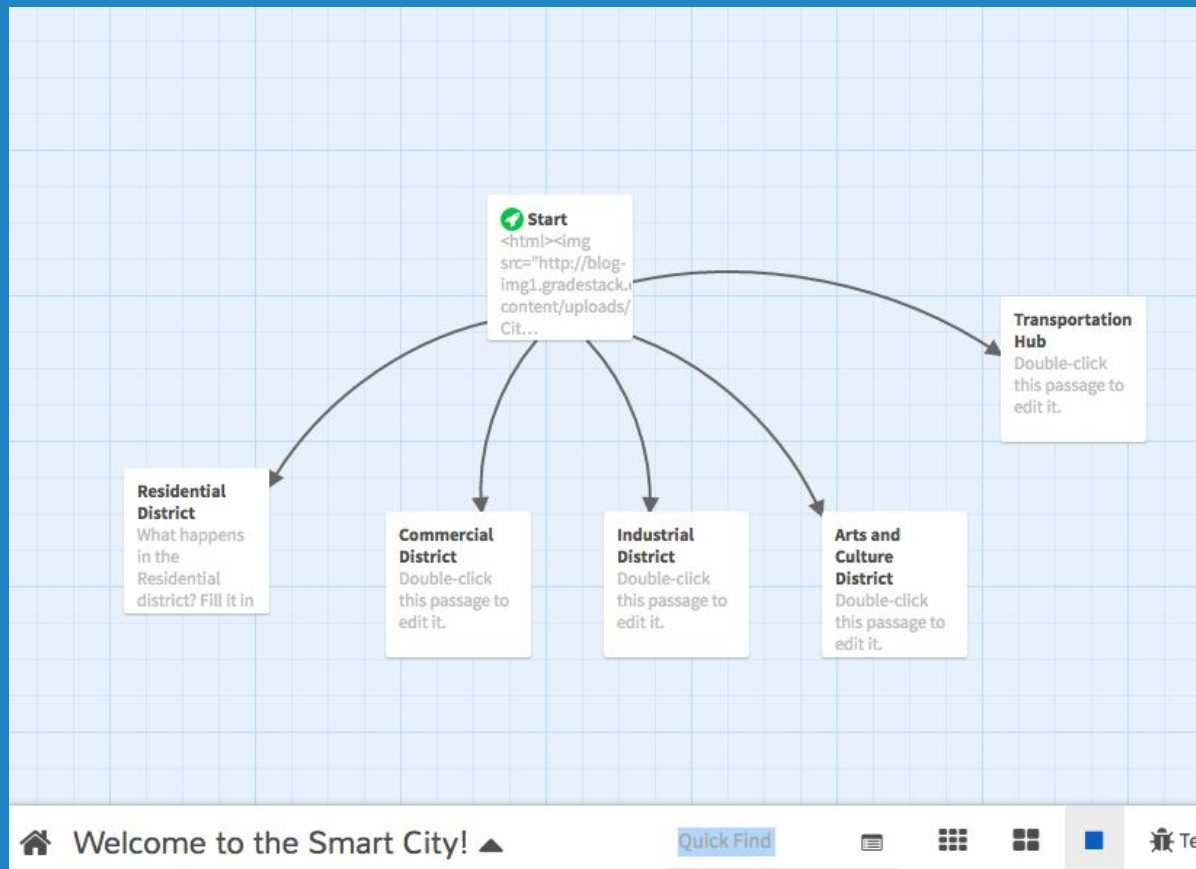
Ages: 8-Adult

Game Play

It all begins with one basic rule: Draw one card, Play one card. You start with a hand of three cards... add the card you drew to your hand, and then choose one card to play, following the directions written on your chosen card. As cards are drawn and played from the deck, the rules of the game change from how many cards are drawn, played or even how many cards you can hold at the end of your turn.

TWINE

Interactive Fiction



STORYWEAVERS

*An exploration of theme and core mechanics,
through the lens of stories.*



BLOXELS

Where stories and games collide!



Theme



Local Stories & Immigrant Voices – Make a game that explores the immigrant experience, comparing past and present. Supported by the National Endowment



Climate Change – Make a game that teaches citizens how to prepare for our climate future. Supported by NOAA



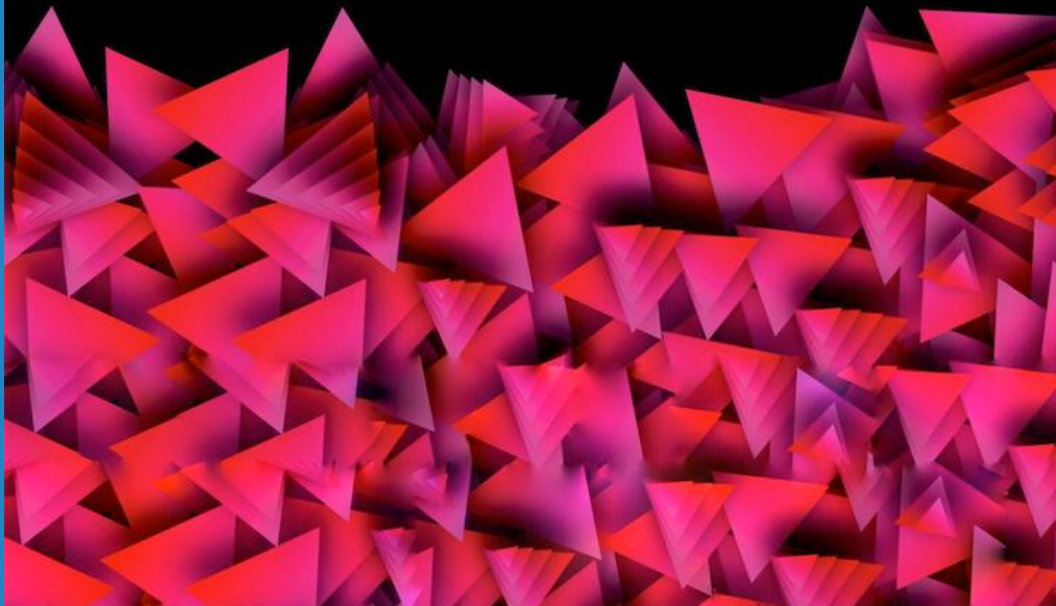
Future Communities – Make a game that shows how smart technology can make your community, school and neighborhood a better place to live, learn and play. Supported by Current, powered by GE

SHARE-OUTS

20▲ GAMES 17▶ FOR 17◀ CHANGE 17▼ FESTIVAL

JULY 31 - AUGUST 2
NEW YORK CITY

gamesforchange.org/festival **#G4C17**



Los Angeles 2017-18



GAMES FOR CHANGE
STUDENT CHALLENGE

HOME

SUBMIT

CHOOSE YOUR CITY

RESOURCES

BLOG

ABOUT



STUDENTS ARE CHALLENGED TO CREATE DIGITAL GAMES ABOUT REAL-WORLD ISSUES IMPACTING THEIR COMMUNITIES

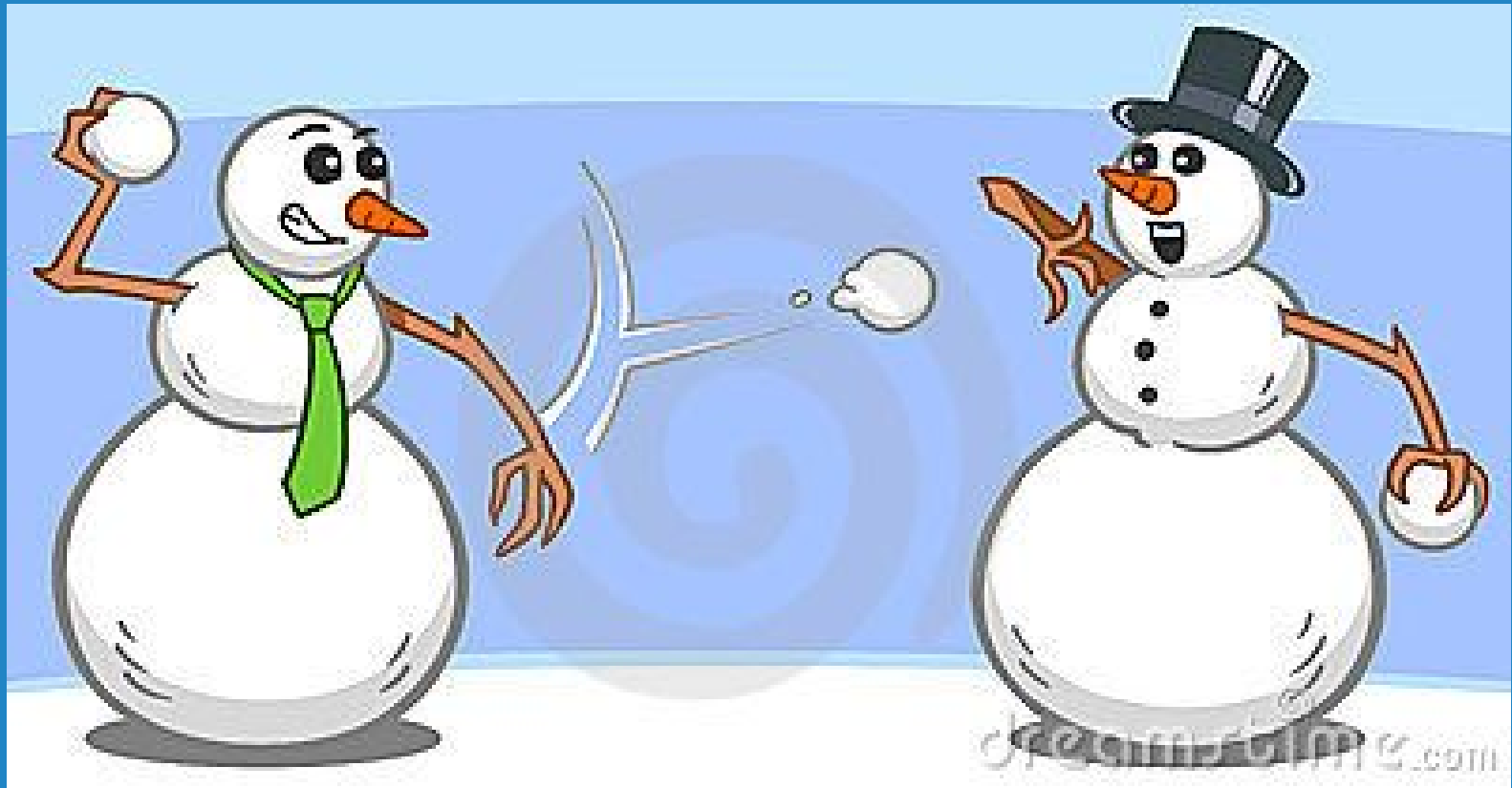
We are recruiting teachers from Los Angeles public schools for professional development in game design and game-based learning. 20 teachers will be trained to run game design courses at Los Angeles area schools. **Apply via our teacher application form starting March 28, 2017.**

The Games for Change Student Challenge invites middle school and high school students in Los Angeles Unified School District to learn game design, make games about social issue themes, and join a citywide competition for the chance to win awesome prizes.

The 2018 Challenge themes will be announced in Spring 2017.

<http://www.gamesforchange.org/studentchallenge/la/>

Snow Ball Fight!



Thank You.

Any questions?

@MatthewFarber

MatthewFarber.com

mattfarber1@gmail.com

Handouts & Slides: <https://goo.gl/MHH9oE>



Work with a team to build a collaborative story!

PLAYERS 4-6

AGES 4 and up

SETUP Print and cut out the Storyweavers cards

RULES

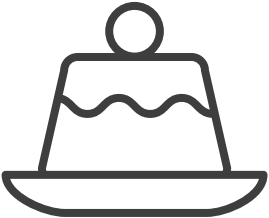
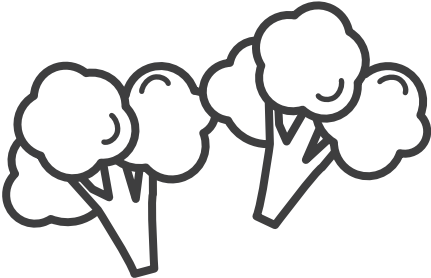
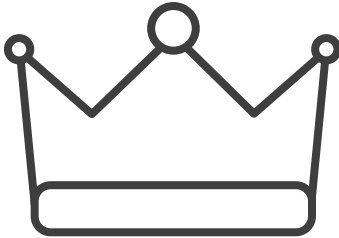
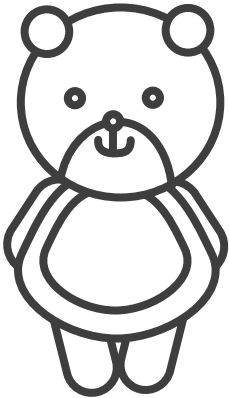
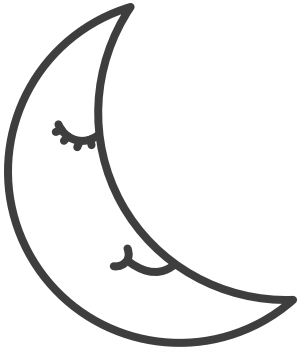
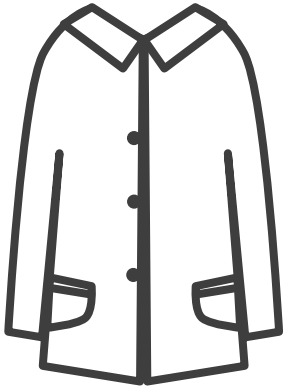
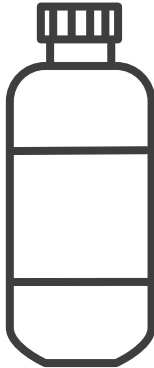
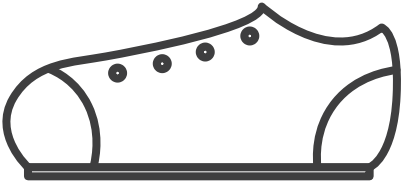
- ① Put the Character, Place, Object, Action and Emotion cards in different stacks in the middle of the table.
- ② Player 1 chooses a Character card. Make up a sentence that uses that character.
- ③ The next player chooses a Place card and makes up a sentence. The sentence must fit into the story Player 1 started.
- ④ The next player chooses a card from the Object category, and so on.

Make your own rules!

As you continue the game, decide if players will continue to draw from the different categories in a specific order, or if players can choose any category they want when it's their turn.

- ⑤ Make a great story!

- **Want more cards? Use the blank cards in the back to draw your own!**
- **To print the front and back of the cards, you can either print double-sided, or print on one side of the page and then glue two pages together.**
- **To print just the front of the cards, you can simply delete the odd numbered pages of this document.**

PUDDING	BROCCOLI	CROWN	TEDDY BEAR
			
 OBJECT	 OBJECT	 OBJECT	 OBJECT
MOON	COAT	BOTTLE	SHOE
			
 OBJECT	 OBJECT	 OBJECT	 OBJECT



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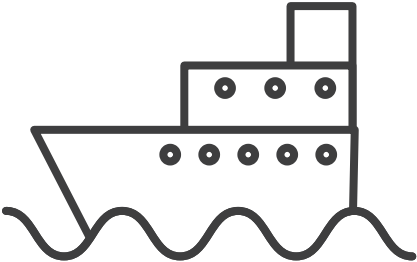
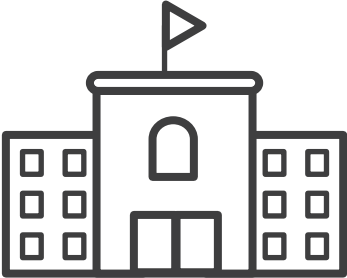
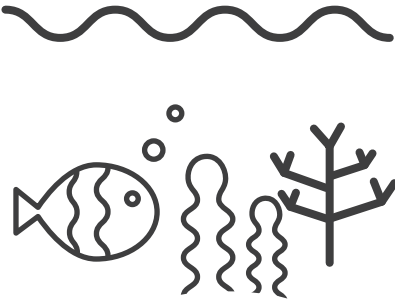
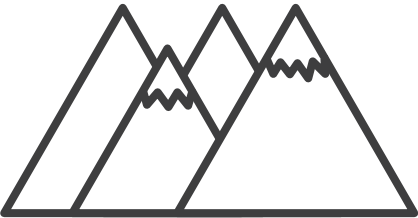
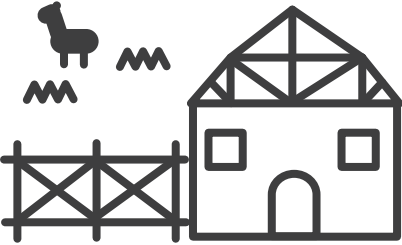
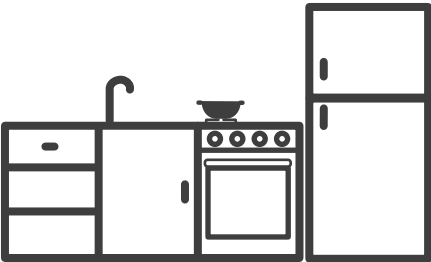
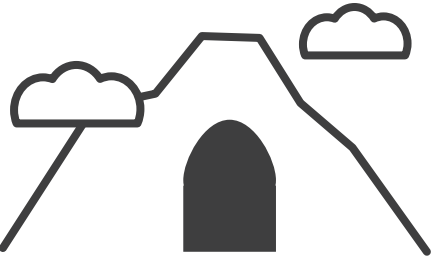
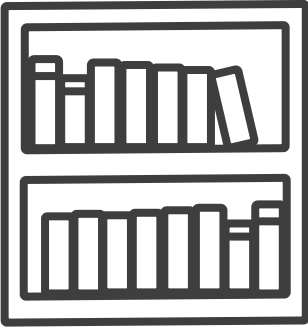
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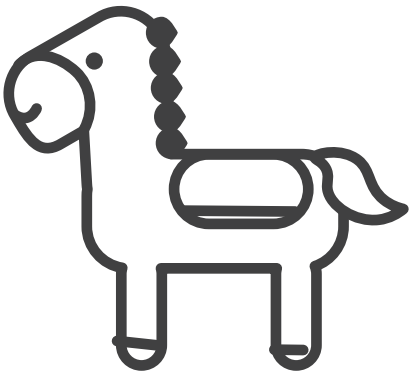
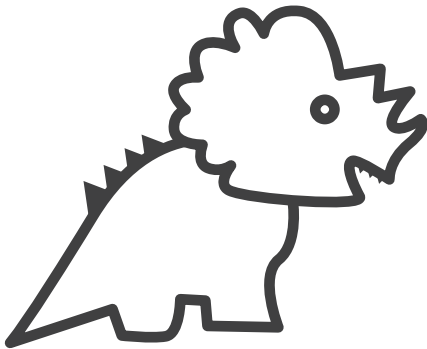
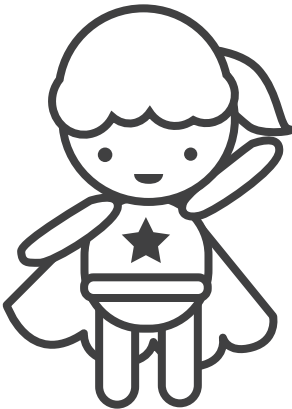
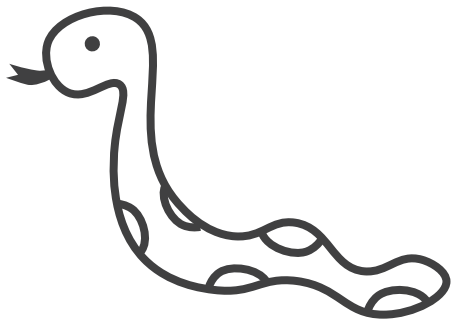
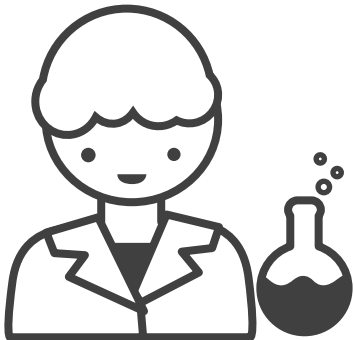
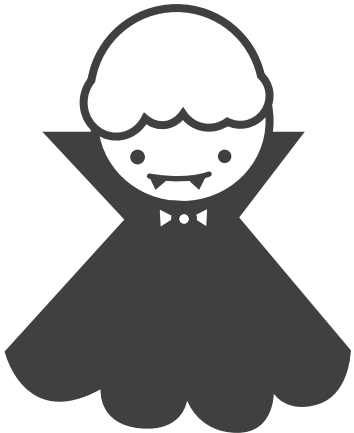
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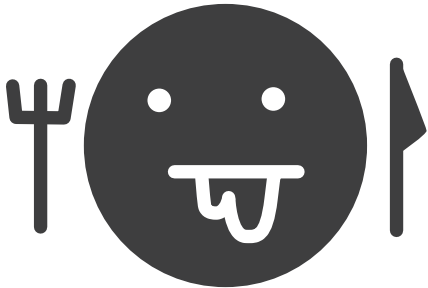
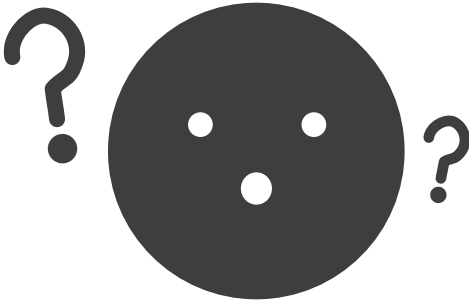
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SHIP	SCHOOL	UNDERWATER	MOUNTAIN
			
 PLACE	 PLACE	 PLACE	 PLACE
FARM	KITCHEN	CAVE	LIBRARY
			
 PLACE	 PLACE	 PLACE	 PLACE



SQUIRREL	HORSE	DINOSAUR	SUPER HERO
			
 CHARACTER	 CHARACTER	 CHARACTER	 CHARACTER
SNAKE	WIZARD	SCIENTIST	VAMPIRE
			
 CHARACTER	 CHARACTER	 CHARACTER	 CHARACTER



DISGUSTED	EMBARRASSED	SCARED	HUNGRY
			
 EMOTION	 EMOTION	 EMOTION	 EMOTION
INDIFFERENT	CURIOUS	GUILTY	PROUD
			
 EMOTION	 EMOTION	 EMOTION	 EMOTION



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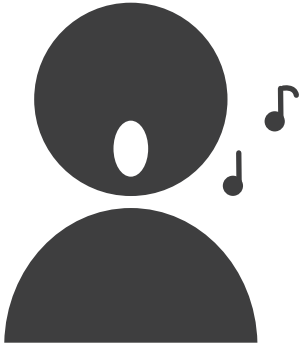
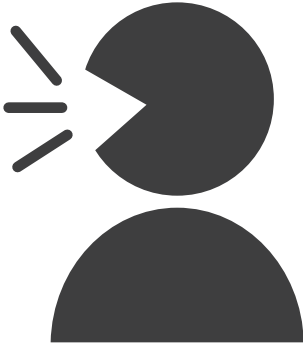
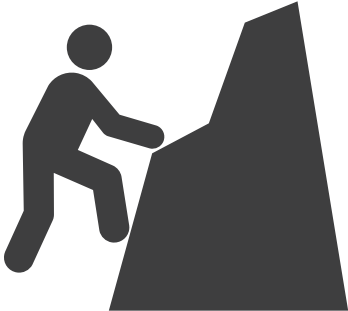
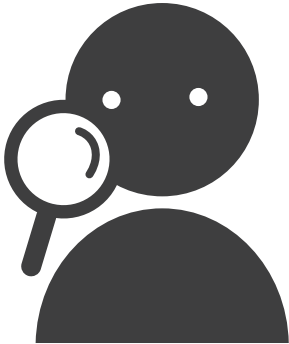
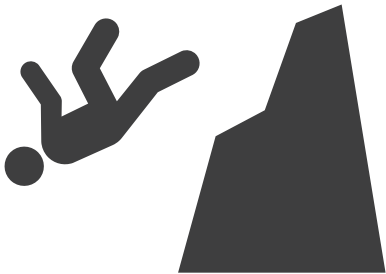
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SINGING	SHOUTING	CLEANING	CLIMBING
			
 ACTION	 ACTION	 ACTION	 ACTION
DIGGING	WRITING	SEARCHING	FALLING
			
 ACTION	 ACTION	 ACTION	 ACTION





VARIANT FOR FOREIGN LANGUAGE LEARNING

PLAYERS 4-6

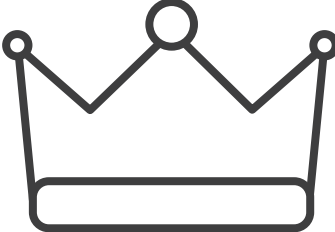
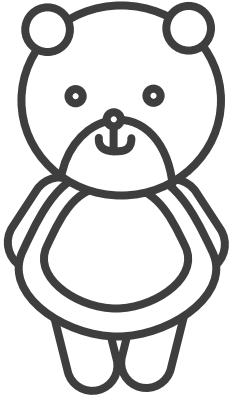
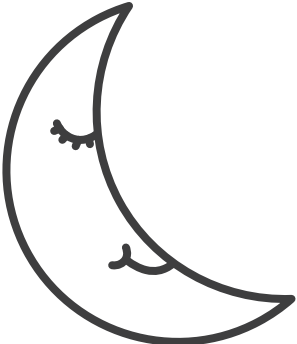
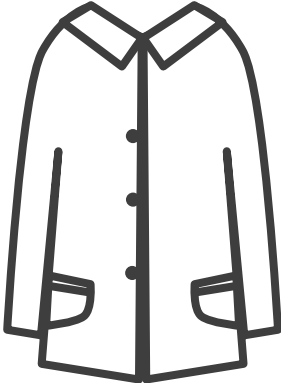
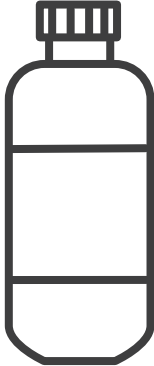
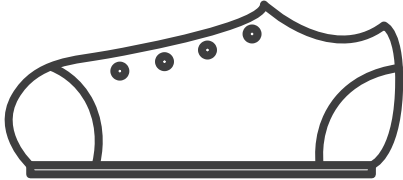
AGES 4 and up

SETUP Print and cut out the Storyweavers cards

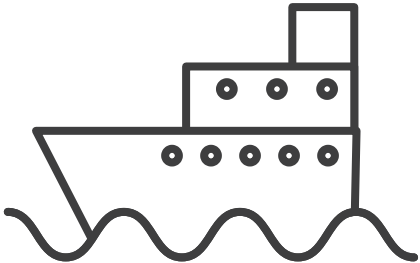
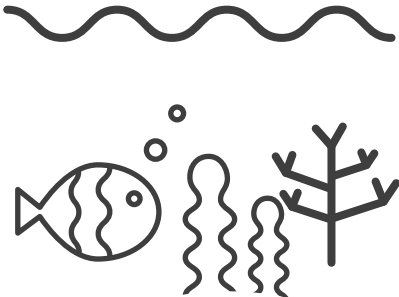
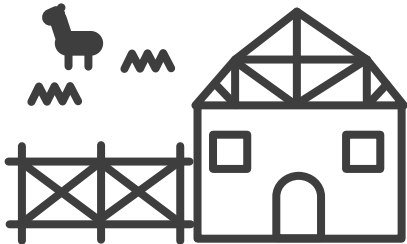
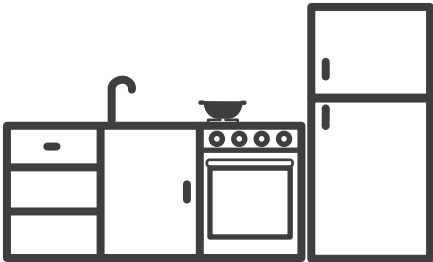
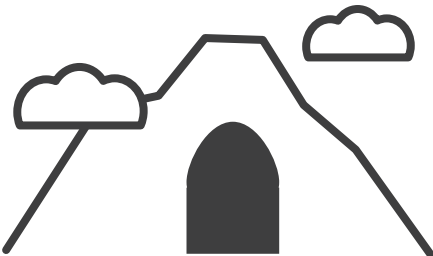
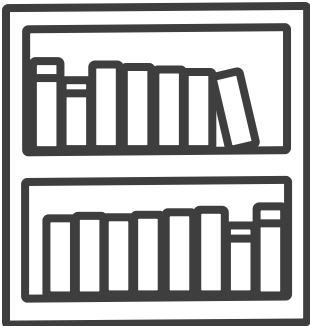
RULES

- ① Use the cards with the black space for writing in your own text on the front
- ② Write in the appropriate word in the language of your choice
- ③ Play proceeds as normal, but sentences must be in the chosen language!
- ④ For an extra challenge, don't write in any words onto the cards: players must figure out the words in the chosen language based on the image, as well as make sentences! For correctly uses words, allow players to write the words in themselves.

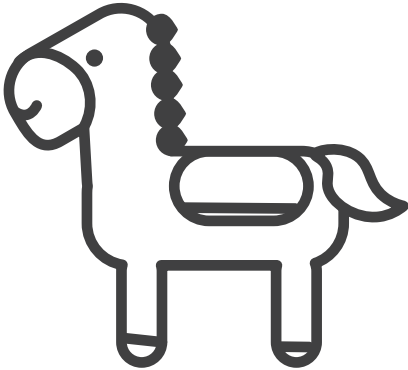
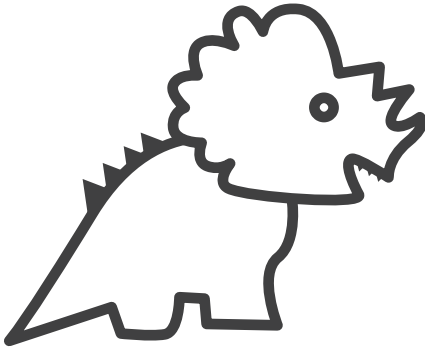
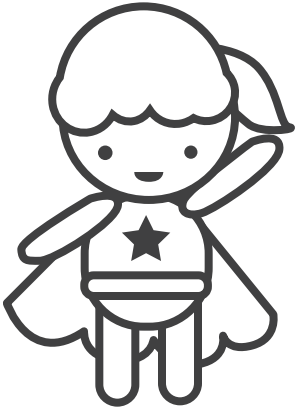
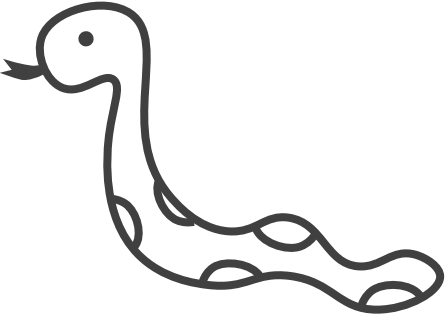
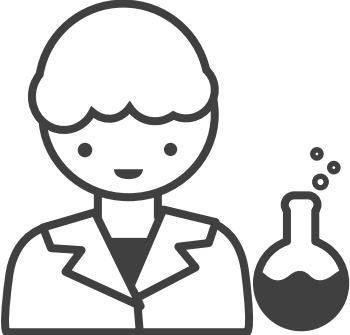
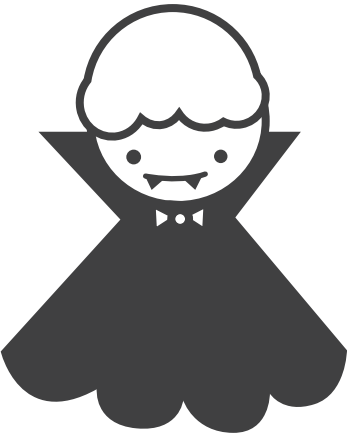
- **Want more cards? Use the blank cards in the back to draw your own!**
- **To print the front and back of the cards, you can either print double-sided, or print on one side of the page and then glue two pages together.**
- **To print just the front of the cards, you can simply delete the odd numbered pages of this document.**

			
 OBJECT	 OBJECT	 OBJECT	 OBJECT
			
 OBJECT	 OBJECT	 OBJECT	 OBJECT

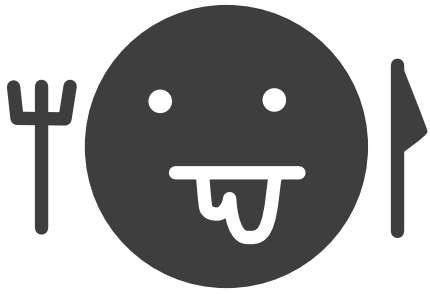
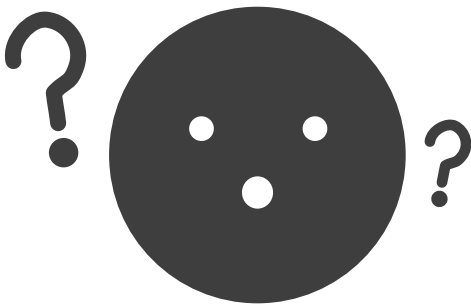


			
 PLACE	 PLACE	 PLACE	 PLACE
			
 PLACE	 PLACE	 PLACE	 PLACE

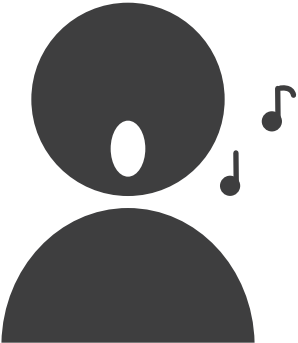
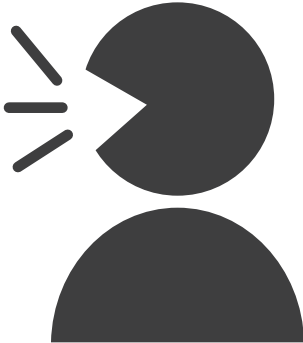
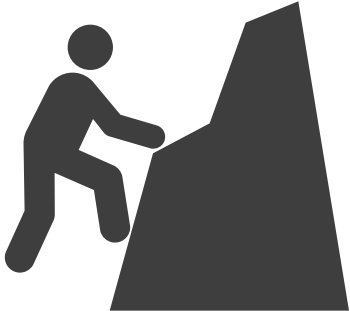
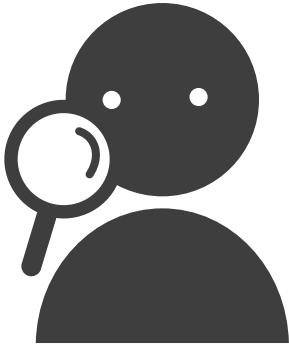
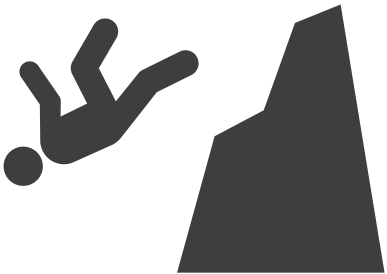


			
 CHARACTER	 CHARACTER	 CHARACTER	 CHARACTER
			
 CHARACTER	 CHARACTER	 CHARACTER	 CHARACTER



			
 EMOTION	 EMOTION	 EMOTION	 EMOTION
			
 EMOTION	 EMOTION	 EMOTION	 EMOTION



			
 ACTION	 ACTION	 ACTION	 ACTION
			
 ACTION	 ACTION	 ACTION	 ACTION



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 CHARACTER	 PLACE	 ACTION	 OBJECT
 EMOTION	 CHARACTER	 PLACE	 ACTION



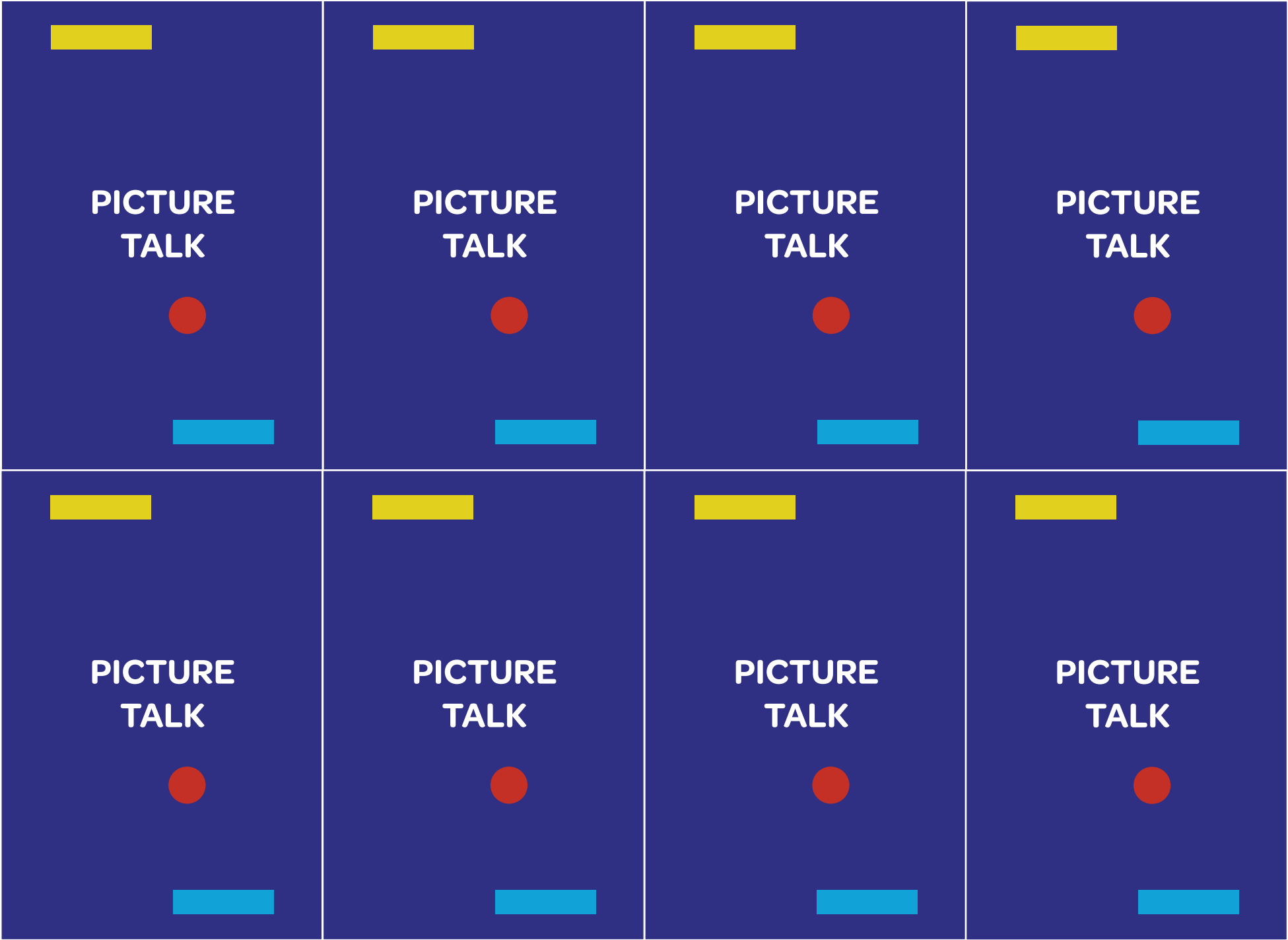
 CHARACTER	 PLACE	 ACTION	 OBJECT
 EMOTION	 CHARACTER	 OBJECT	 EMOTION



Picture Talk or Graph Talk Rules

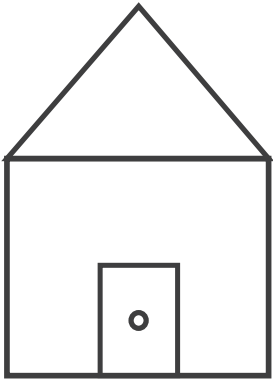
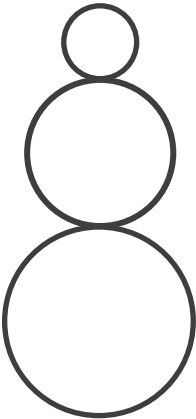
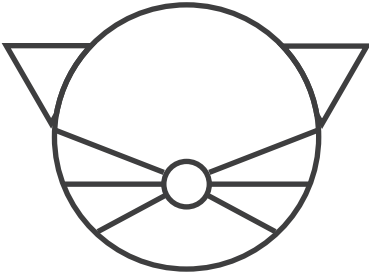
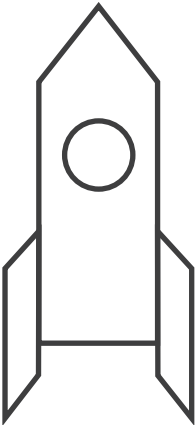
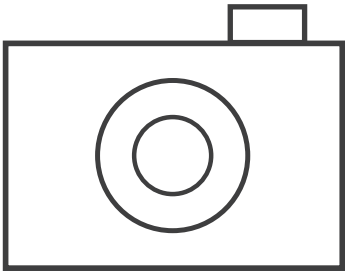
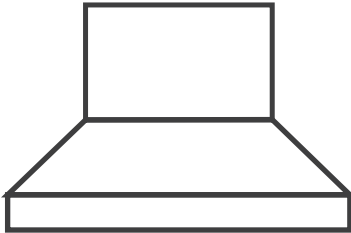
- Put students in groups of 2-4.
- Assign one person to be the describer and the remaining players are copiers.
 - The describer draws a card. S/he may use any words to instruct the copier(s) how to draw the picture.
 - The copiers are not allowed to speak, except to say "Repeat" and "Start Over."
- When all copiers are finished, each copier reveals her/his drawing one at a time.
- The describer role rotates.

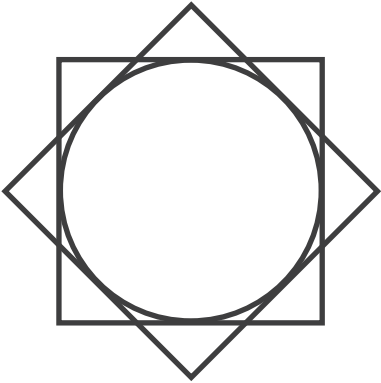
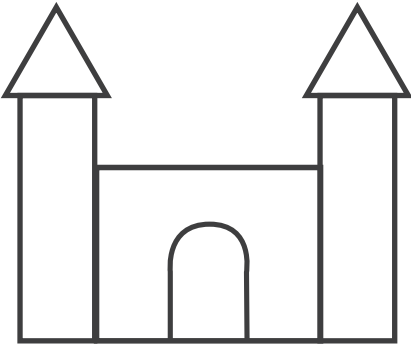
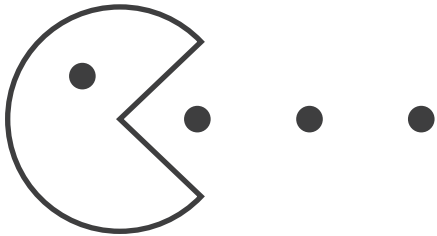
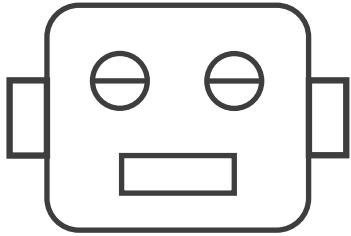
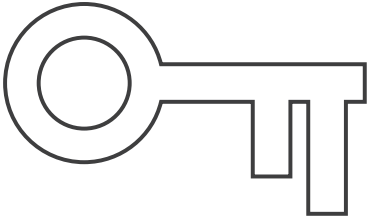
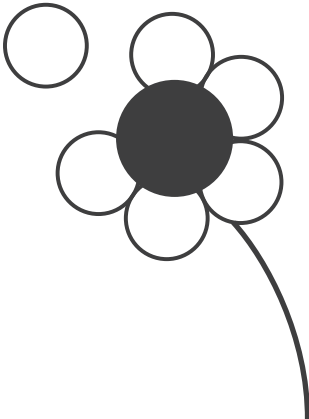
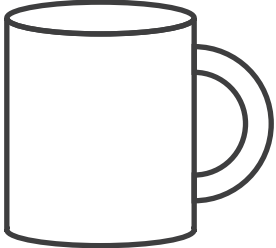
Try having students mod the game to make it more challenging or fun!

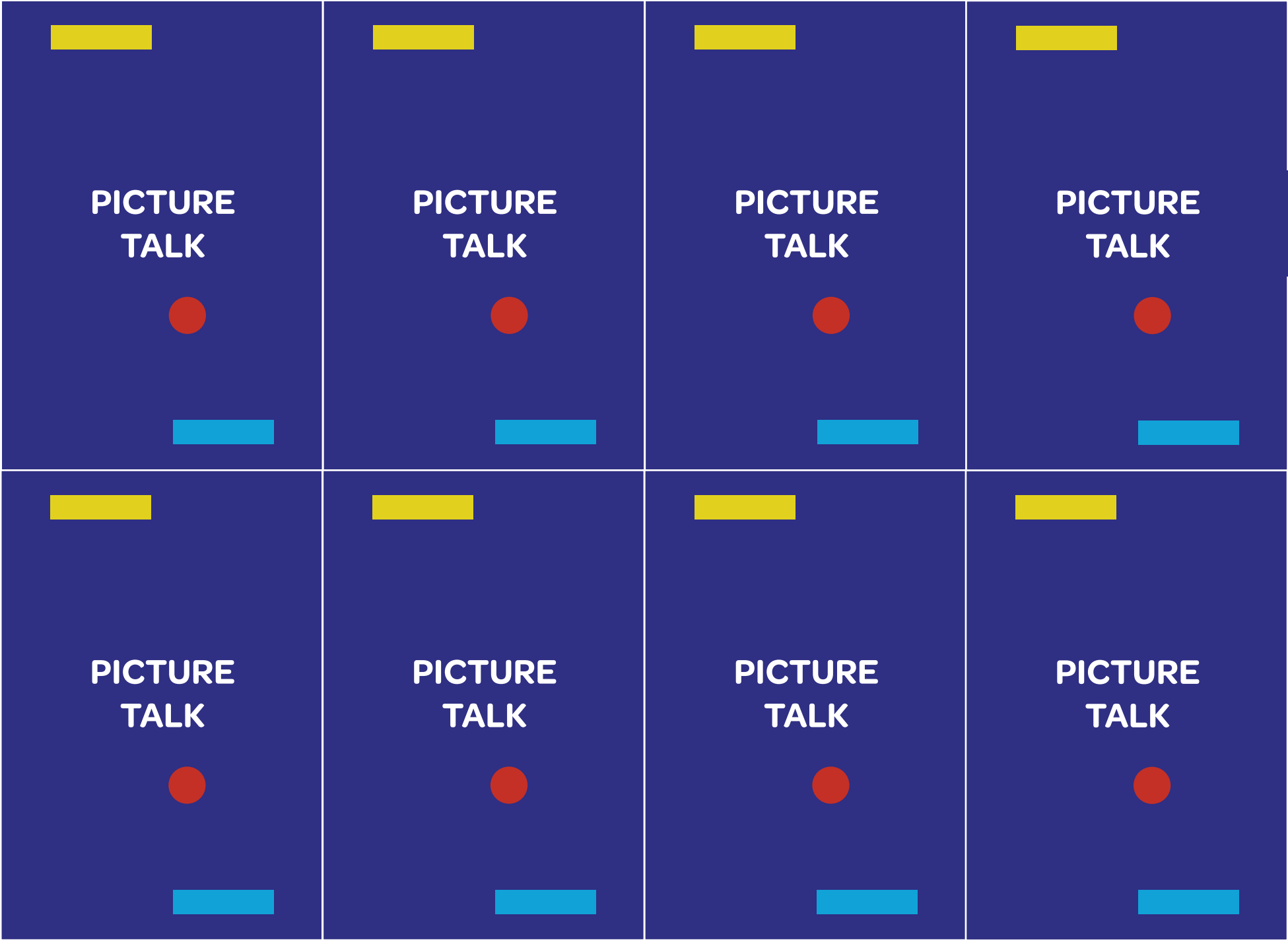


EASY	MEDIUM	MEDIUM	EASY
DIFFICULT	DIFFICULT	DIFFICULT	MEDIUM

EASY	EASY	MEDIUM	MEDIUM
EASY	DIFFICULT	MEDIUM	MEDIUM

HOUSE	SNOWPERSON	CAT	ROCKET
			
EASY	EASY	MEDIUM	MEDIUM
CAMERA	ICE CREAM CONE	LAPTOP	UMBRELLA
			
EASY	DIFFICULT	MEDIUM	MEDIUM

SUN	MAGNIFYING GLASS	CASTLE	PAC MAN
			
EASY	MEDIUM	MEDIUM	EASY
ROBOT	KEY	FLOWER	COFFEE CUP
			
DIFFICULT	DIFFICULT	DIFFICULT	MEDIUM



Parts of a Game

One entry point to becoming a game designer is to mod a game—change one part—to create a new game. Before you can change one part, you have to understand all of the parts and how they work together. The table below explains each part in detail. After

reviewing the definitions, match the words below (on the right) to the correct part(s) of Tic Tac Toe.

PARTS OF A GAME	PARTS OF TIC TAC TOE:
Goal What does a player or team have to do to win? <i>For example: Cross the finish line first, collect the most marbles, be the last standing, etc.</i>	Goal - Writing Utensils - White board
Challenge What obstacles are in the player's way of reaching the goal? <i>For example: Every player is guarded by an opponent so it's more difficult to reach the basket.</i>	Challenge Blocking
Core Mechanics What core actions or moves does the player do to power the play of the game? <i>For example: Dribbling, trading, rolling, passing, solving clues</i>	Core Mechanics - Be the first to get 3 in a row 3x3 Grid
Components What parts make up the materials of play? <i>For example: Bandanas, a grassy field, marbles, a basketball, 5 players</i>	Components - Players take turns writing their symbol - Chalkboard 2 players
Rules What relationships define what a player can and cannot do in the game? <i>For example: After a team scores a basket, the other team gets the ball.</i>	Rules - X and O - Paper
Space Where does the game take place? <i>For example: On a basketball court, in a circle, in a classroom, a park</i>	Space - Writing - You don't know where your opponent will place their symbol

current

powered by GE

BRIGHT
INNOVATORS

FUTURE COMMUNITIES



Future Communities Games for Change Theme Content

October 2016

@currentbyGE #GEVolunteers #BrightInnovators

currentbyge.com

ONLY for use with Games for Change Partnership



What is Current?

GE REIMAGINES THE FUTURE OF ENERGY

Current is a new kind of company – a startup nurtured within the walls of GE, with access to technology and scale. Current will integrate GE's LED, Solar, Energy Storage and Onsite Power, and electric vehicle businesses with the industrial strength Predix platform to identify and deliver the most cost effective, efficient energy solutions. The company will draw on GE's energy legacy to once again transform the industry and help customers future proof their businesses.



Current's Smart Technologies

Current leads the industry with our alternative energy technologies. But we go beyond helping customers reduce energy consumption and costs. We can equip our hardware with intelligent endpoints, such as energy load controls, sensors, motion detectors or Wi-Fi- and Bluetooth-enabled monitoring, to collect valuable data about business operations. This way, we can turn any energy system into a wirelessly networked intelligent environment.



LED LIGHTING



ENERGY STORAGE



SOLAR SOLUTIONS



WIRELESS CONTROLS



ELECTRIC VEHICLE CHARGING



INTELLIGENT ENDPOINTS



Electric Vehicle Charging

EV charging stations offer convenience for businesses or cities who want their employees or residents to power up their cars while they work or play.

FORWARD-THINKING BUSINESSES KNOW

Electric Vehicle Charging Stations Are a Smart Investment

With electric vehicle ownership on the rise, why not begin to make your place of work welcoming for your EV drivers?

EVS ARE BECOMING MORE POPULAR...

The worldwide electric vehicle market is forecasted to grow from



By 2040,



of all vehicles sold will be electric.

BUT ADEQUATE CHARGING OPTIONS ARE STILL A HURDLE.



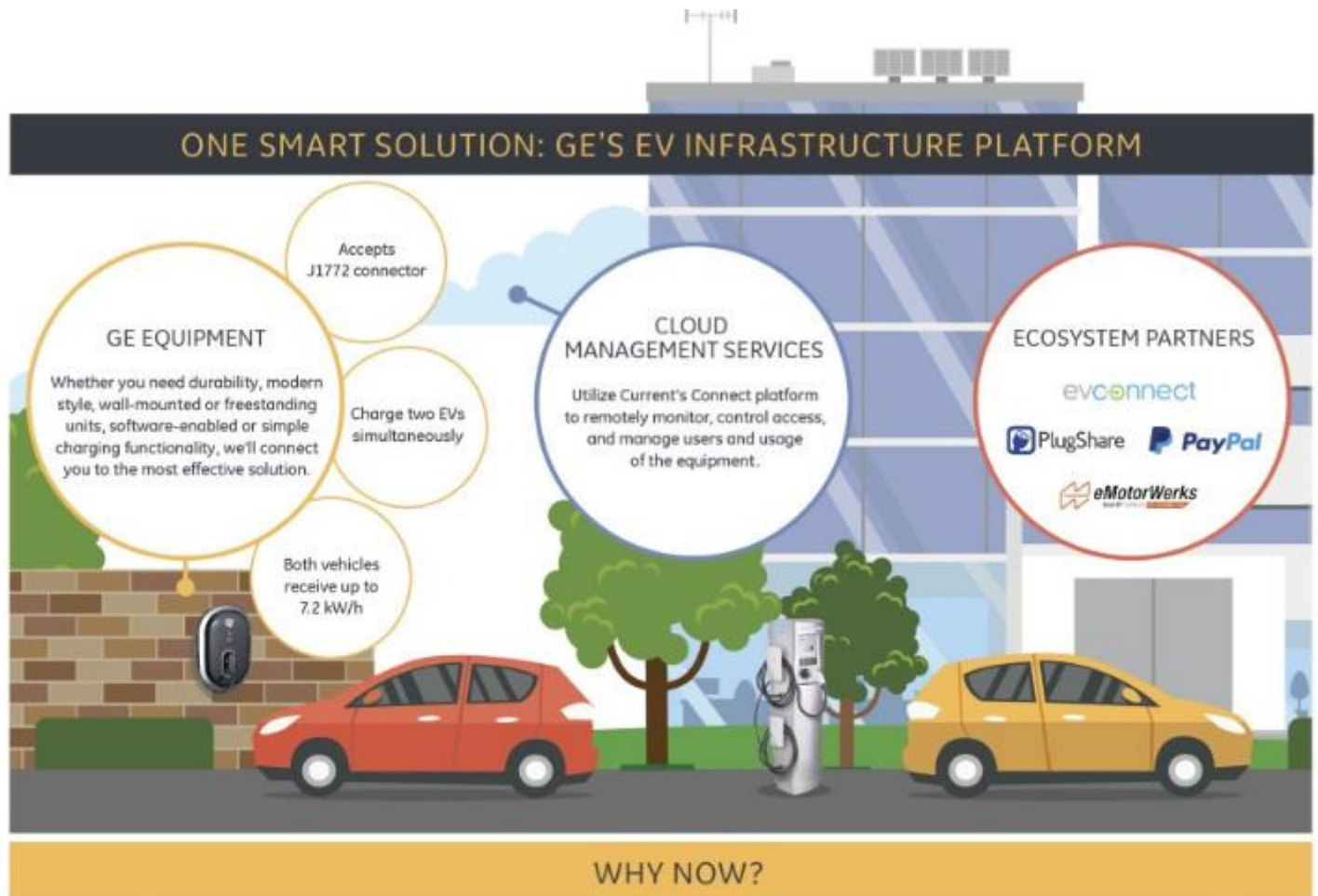
71% of current EV drivers are dissatisfied with charging infrastructure. EV drivers want charging stations at their places of work.

People are **20x** more likely to drive an EV if they have access to workplace charging stations.

SUPPORT YOUR EV DRIVERS BY OFFERING CHARGING STATIONS WHERE THEY WORK.



Electric Vehicle Charging



Reduce your net CO₂ generated by automotive transportation and lower operating costs.



Position your company as an energy-conscious leader to employees and clients.



Experience a low monthly maintenance expense.



EV stations use less than 60 kWh/day.

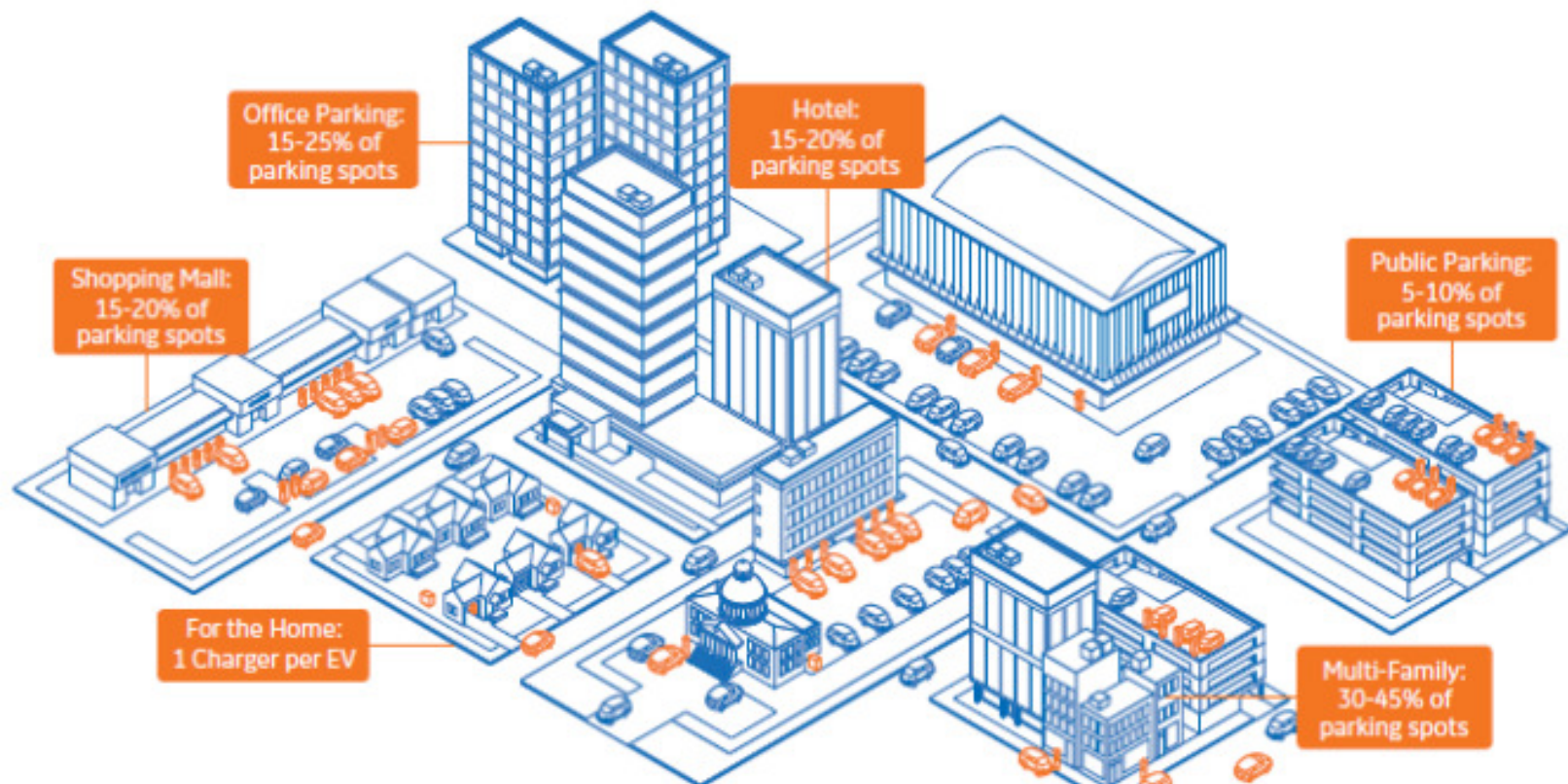


Discover potential tax credits and rebates.



Electric Vehicle Charger Solutions

...for your connected future.





Electric Vehicle Charger Solutions

WattStation^{*} Connect

Fact Sheet

Overview

Advanced Network Capabilities: WattStation Connect software is a web-enabled, cloud-based system to configure and manage your optionally equipped GE WattStation or GE DuraStation, offering user and usage management, controlled access and third party payment processing. Our Application Programming Interface ("API") helps you to interface with your own building or fleet management systems including email. You just choose the communications platform (CAT5, WiFi or available Cellular¹).

Product Features and Benefits

- **Manage. Monitor. Maintain:** WattStation Connect provides a user-friendly cloud-based web application for owners to configure, control and monitor their charging station network. Timely information about the state of their charging stations gives owners the ability to diagnose and manage problems remotely.
- **Simple Access Control:** WattStation Connect provides owners with the ability to restrict access to their stations through the use of an RFID card. Our simple to use web interface makes it easy to grant access to drivers.



Use WattStation Connect to find charging stations, authorize charging sessions and manage charging station activity.

- **Set Pricing:** WattStation Connect provides owners with the ability to set pricing for their stations through the use of a desk top web-enabled system. Choose the price schedule to fit your needs; change it when your needs change with just a few clicks!
- **Offer Payment Options:** WattStation Connect provides one of the most flexible payment options in the market. WattStation and DuraStation equipped with WattStation Connect accommodate payments through PayPal and Credit Card payments through iPhone and Android devices.
- **Open Platform:** WattStation Connect Web Services enable you to integrate data from the WattStation network into your existing systems using an Application Programming Interface (API). Our unique open platform has allowed multiple 3rd parties to develop new features and content for your benefit.

¹Cellular access requires an annual fee – see your authorized GE distributor for pricing details.



Solar Solutions

Gain energy independence by generating lower-cost, renewable solar energy on site.

Rooftop



Carport & EV Charging



Ground-mount



Who's a good candidate?

If you have enough space ...

Rooftop: 80,000 sq. ft.
Carport: 60,000 sq. ft.
Ground-mount: 3 acres adjacent

The right building profile ...

Usage: 600,000 kWh annually
Ownership: owned or long-term lease

In a solar friendly state ...

East coast: CT, DC, MA, MD, NJ, NY
West coast: CA
Stay tuned ... new markets emerge rapidly



Solar glossary

Kilowatt (kW)

A measure of power produced at any point in time.
A solar farm has a capacity of 750 kW maximum.

Kilowatt-hour (kWh)

A measure of energy produced over time.
A solar farm produced 2,700 kWh in one day.

Power purchase agreement (PPA)

An opex contract ... GE sells kWh to end user.

Net metering

Solar production > onsite power need ... a credit given back by the utility for "extra" kWh produced. Value and regulations vary by location.

Interconnect

All solar facilities must be connected to the grid, per utility requirements. This process can take +6 mos.

GE Solar provides solar solutions for commercial and industrial companies.

We design, engineer, build, monitor and finance projects.

A solar project lifetime is 20+ years, and ranges in size from 300kW-5 MW.

GE manufactures no solar equipment, but provides a warranty wrap for all our projects.

Current Solutions

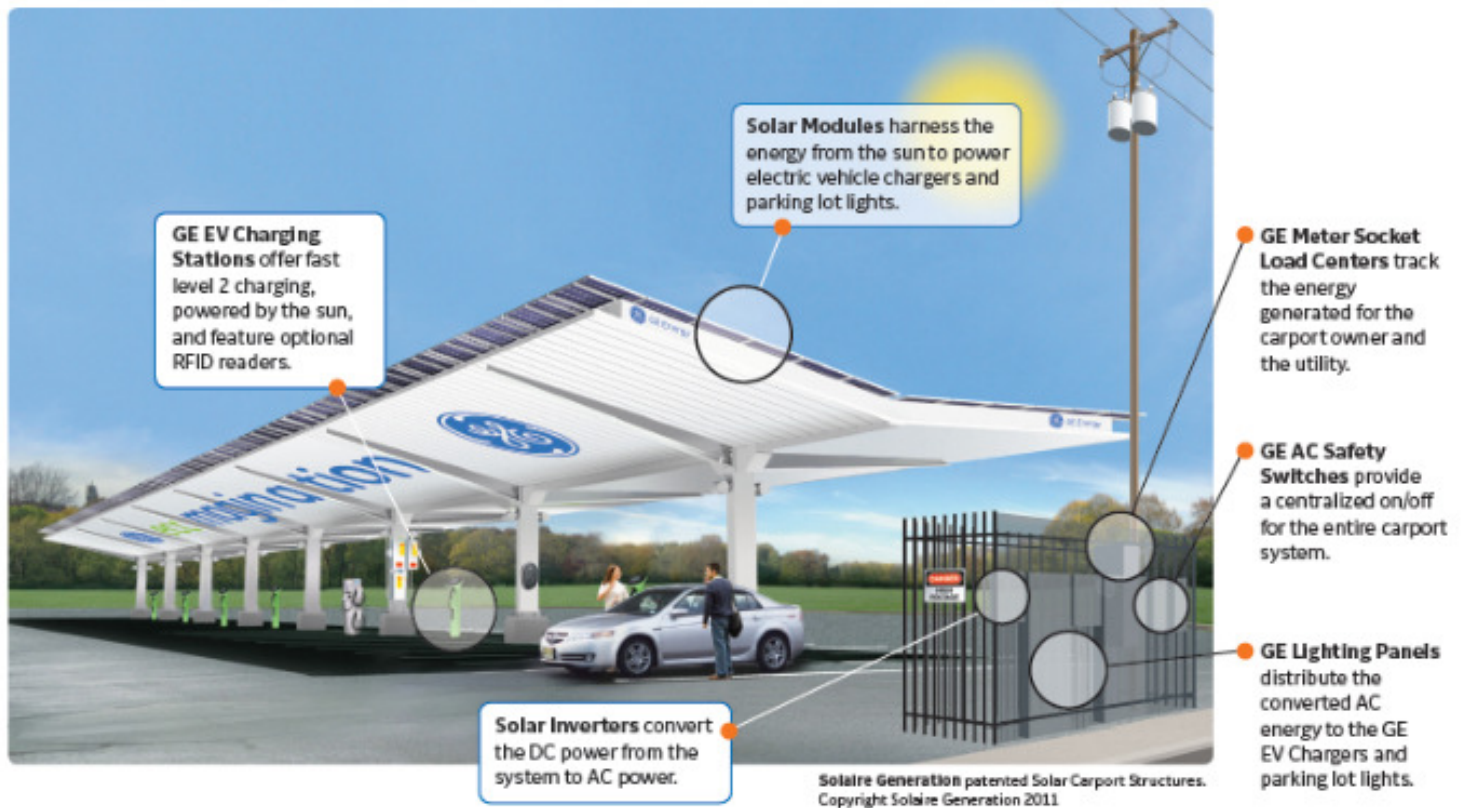
A win-win opportunity

Solar Carports with Electric Vehicle Chargers

Every day we are surrounded by a limitless energy source—the sun. GE's solar carport structures allow you to take full advantage of this free and abundant resource. Each solar carport is outfitted with GE EV Charging Stations, GE electrical distribution equipment and GE's lifetime solar system warranty protection.

Turn your ordinary parking lot into an opportunity to reduce your energy costs and generate electricity directly on site. From small, private lots to large commercial parking decks, GE can provide a quote for the best solution to fit your needs.

For building owners looking to achieve higher LEED status for their facilities, the combination of EV Charging Stations and built-in solar carports could make the difference in reaching this goal.





LED Lighting - Indoor

LEDs are an environmentally friendly lighting solution that deliver huge long-term energy savings—and can be integrated with an array of intelligent hardware.

Learn more about LEDs with [LED 101](#)





Intelligent Endpoints & Wireless Controls

Sensors, motion detectors, Wi-Fi-enabled monitoring, energy load controls and more can be installed into LED fixtures or other hardware to collect valuable data about businesses or cities.

Wireless Controls Platforms

Networked

GE-Lead Platform to empower through Data and Analytics



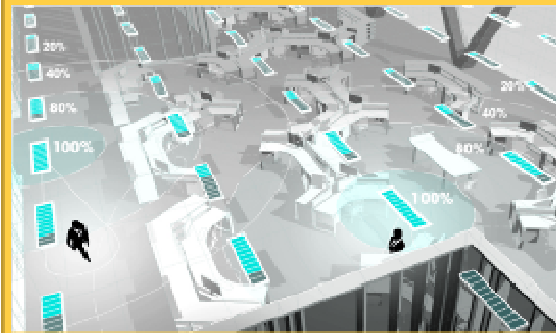
Single Solution for Multi-Application control
Monitor, control and manage multiple applications

daintree.net



Standalone

GE-Lead Platform to simplify with commissioning ease



organicresponse.com



Networked

- Ceiling/Wall Sensors
- Wireless Adapter in Luminaires
- On-site commissioning and design planning provided
- Data, Analytics, Dashboard, etc.



Standalone

- Fixture Integrated or Adjacent Sensors
- Self-forming IR-based beaconing communication
- Commission-free Occupancy detection with phone-based customization
- Standalone in each room, no connectivity beyond





Intelligent Cities

Little things make a big difference in peoples' everyday lives. Like public Wi-Fi on every street corner. Convenient electric vehicle charging stations with built-in solar panels. Mobile apps that instantly find the next bus or nearest parking spot. We connect cities with the digital infrastructure that makes better living a reality. Just imagine the possible...



Cities have extraordinary data...

So much data to capture and process...



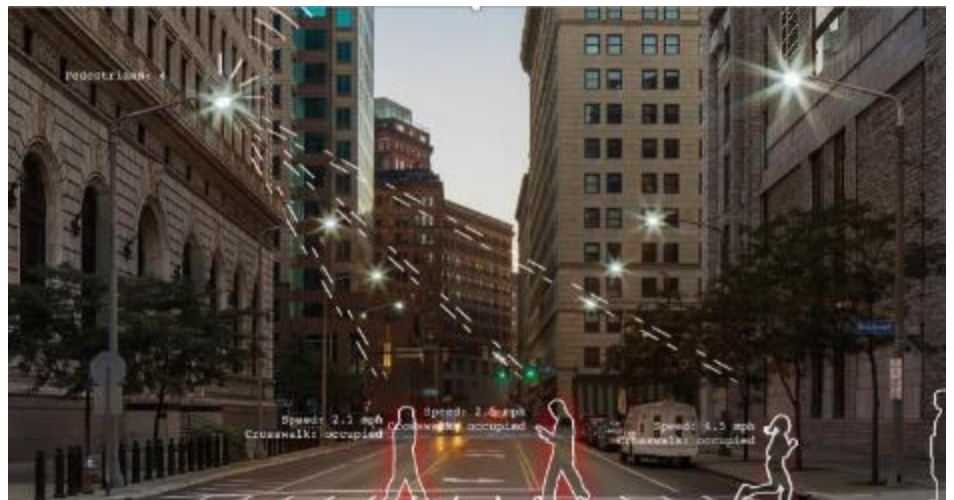


Intelligent Cities



Lights that are on every street can be connected!

You can capture pedestrian traffic...



Weather and traffic data...



Intelligent Cities

Identify vehicle movement...



Determine if parking is available...

Opportunities are open to what you can imagine...





Intelligent Cities - Partnerships



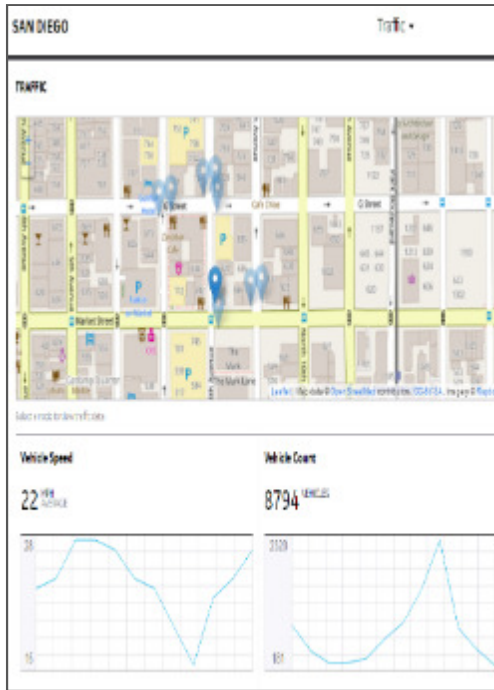
 **ShotSpotter**



Genetec



Intelligent Cities



Traffic Study Buddy

Key features:

- Near real-time traffic info from a node of choice
- Choose between 4, 8, 12 or 24hr view
- Graphs show insightful trends

Brings sensor data: vehicle speed, count, direction of travel, and lane.



CitySight

Key features:

- Near real-time image and video
- 15 second video clips with video player
- Save videos of interest for future viewing
- Delete or rename previously saved videos
- Does NOT do video streaming



ParkNow

Key features

- Enter destination of interest
- Display potential parking regions
- Overlays "car icon" near real-time

current
powered by GE

 **KEEPER**

 **KEEPER**

 **KEEPER**

 **NEW RULE**

 **GOAL**

 **GOAL**

 **CREEPER**

 **ACTION**

TAKE THE CHALLENGE: LOCAL STORIES & IMMIGRANT VOICES

Since the 17th century immigrants and migrants have created and shaped communities across the United States. The first Europeans came to the U.S. in search of religious or political freedom or they arrived under labor contracts, while Africans were forcibly caught in the Atlantic slave trade. Later, immigrants and migrants arrived here, fleeing famine, poverty, civil unrest, and war, or they were attracted by the opportunity to improve their work or living conditions.

There has never been a time when immigration or migration stopped. And each succeeding group of newcomers changed the communities they settled in. Your city is home to thousands of immigrants, all of whom, like people in the past, have stories to share. Maybe your neighbors or family members arrived in the United States. Think about what the experience as an immigrant must have been like now or in any period in history. Was it hard to find your way around the city streets? What was it like attending school or making friends? This theme invites you to create a game about the immigrant experiences in your city.

Choose one of the below prompts for your game, or develop your own game concept:

- **Code-switching:** When people move to the United States to live, they assume a new identity as an immigrant but bring a lifetime of cultural and familial references and experiences; ultimately they develop cross-cultural fluency. This act of changing one's language and self-presentation depending on the situation is called "code-switching." Create a game that imagines a world in which code-switching is a positive and empowering tool (maybe it's even a superpower).
- **Community story:** Interview someone in your community or family who immigrated to the United States. What resources in the community did they use? Who helped them out? What has gotten in their way? What have they learned? Make a game that tells this unique story from their point of view, and incorporates primary sources from your research, such as voice recordings, old photographs, and maps.
- **Borderless lands:** Today, 97% of people live in the country they were born in. Would a world without political borders inspire more immigration? Create an adventure game about a borderless world. How do people communicate and navigate? How do the cultures mix and mingle? How would schools prepare truly "global" citizens?
- **Compare:** Create a game that compares the lives of two immigrants from different cultures living in your city during the same or, oppositely, distant historical periods. Through your game's narrative, explore how these experiences were similar or different, allowing for the possibility that one day, their lives intersect.