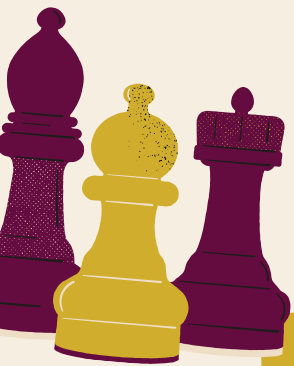


GO SHOW FLOW GLOW



FRAMEWORK

CURRICULAR GUIDE

Amy Mueller



CONTENTS

1. TEACHER OVERVIEW

Learn more about the Go Show Flow Glow (GSFG) Framework and the design principles behind it.

p. 3

2. UNIT PLAN

Complete sample lesson plan utilizing the GSFG Framework to design games involving the Dust Bowl for 3rd grade social studies.

p. 5

3. STUDENT GAME MANUAL

Student handouts to support thinking in daily design activities.

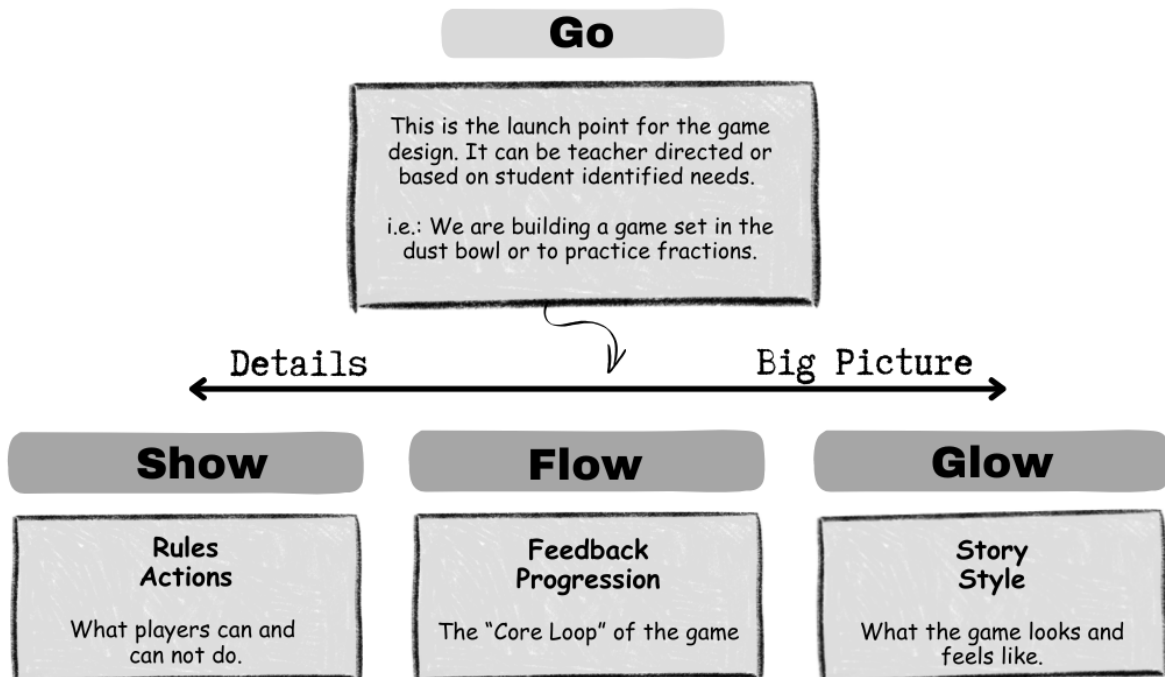
p. 20

The Go-Show-Flow-Glow Framework

The **Go-Show-Flow-Glow (GSFG) Project** is an initiative aimed at **integrating participatory game design** into classrooms. It adapts the **MDA Framework** (Mechanics, Dynamics, Aesthetics) with lessons learned from **GaCoCo** and **maker education**, to teach students real-world game design skills production of **games-based learning** materials for their own classroom.

The first section of the Show-Flow-Glow Framework, **Go**, is adaptable to student-led or teacher-led activities. Students may identify the issue addressed or learning target explored in the game or the teacher may have a learning target in mind for the game in which the students are tasked with teaching/practicing within the game they design. Many game designers create games to explore topics they are passionate about!

THE GSFG FRAMEWORK



Core Design Concepts:

Show (Mechanics), Flow (Dynamics), and Glow (Aesthetics) make up the three core design components when creating a game and are based directly on the commonly used MDA Frameworks own core concepts, just pared and adapted for even our youngest learners. You can start at Show, the details, or at Glow, the big picture, and work your way across in either direction.

In **Show** we focus on **what players can and cannot do**. These are comprised of the **rules** of the game and the **actions** a player can take. Rules define the structure, boundaries, and objectives in a game. It is important that rules stay consistent. **Actions** define the different choices a player can make and how it can impact the game. These include things like drawing cards, moving a piece, rolling a die, etc. The rules and actions combine to describe how the player(s) can win or finish the game.

In **Flow** we focus on **the “core loop” of the game**. Here, as designers, we consider **feedback** and **progression**. If your player takes an action what can happen? How do those actions combine to make a turn? How does a turn end? It can include things like rewards and challenges that players may encounter.

In **Glow**, we explore what the game **looks like and feels like** as the players play the game. This includes **Story** and **Style**. The story includes the narrative and theme of the game. Why is the player playing the game? What motivates their characters? Style includes what the game looks and feels like to the player. It includes not just the art in the game but how the player is supposed to feel playing your game.

Go-Show-Flow-Glow (GSFG) Framework Unit

Go: The Dust Bowl

Grade Level: 3rd Grade

Theme: The Dust Bowl

Total Time Needed: 5 class periods. Approximately 1:45 each period.

Oklahoma Academic Standards:

English Language Arts		
<i>As part of the design process students are asked to create multimodal materials to support their games. The design of educational games, particularly ones based on historical events, require outside research to maintain the desired level of historical accuracy.</i>		
3.2.W.2	Students will routinely use a recursive process to revise content for clarity, coherence, and organization (e.g., logical order and transitions).	Lessons 2-5
3.2.W.4	Students will routinely use a recursive process to publish final drafts for an authentic audience (e.g., reading aloud, posting on blog, displaying, entering contest).	Lessons 1-5
3.3.R.5	Students will answer inferential questions, using a text to support answers	Lesson 1
3.4.W.1	Students will use grade-level vocabulary in writing to clearly communicate ideas	Lessons 1-5
3.6.R.1	Students will conduct research to answer questions, including self-generated questions, and to build knowledge.	Lesson 1
3.7.W	Students will communicate their ideas, thoughts, and feelings by combining two or more kinds of content: ● writing/alphabetic ● sound, visual, and/or spatial ● movement	Lessons 2-4
Computer Science		
<i>Games are algorithms of play. Designing games is an iterative process where students collect and demonstrate data in multiple formats and generate and test algorithms throughout the design cycle.</i>		
3.DA.CVT.01	Collect and organize data in various visual formats.	Lesson 1
3.AP.A.01.	Model and compare multiple algorithms for the same task	Lesson 3
3.AP.M.01	Decompose (break down) the steps needed to solve a problem into a precise sequence of instructions.	Lesson 3-4
Math		
<i>From dice to cards and everything in between the vast majority of games require, at minimum, basic arithmetic.</i>		

3.N.2.5	Use addition and subtraction to solve problems involving whole numbers. Use various strategies, including the relationship between addition and subtraction and the context of the problem to assess the reasonableness of results.	Lessons 2-4
Social Studies		
<i>In this unit, the “Go” has been predetermined to be around the Dust Bowl. Students will be expected to review and research the topic using a variety of primary and other sources.</i>		
3.2.2.C	Examine the interaction of the environment and the peoples of Oklahoma. C. Summarize how the weather and the environment have impacted the economy of Oklahoma in events such as the Dust Bowl, floods, and tornadoes.	Lessons 1-5
3.3.2	Read and interpret primary sources related to key events in Oklahoma’s past.	Lesson 1
Media Arts		
<i>In the creation of a serious game for the classroom students will be asked to engage in a variety of creative pursuits within the design process.</i>		
E.MA.CR.2.1	Create, share, and test ideas, plans, and models to prepare for media arts productions	Lessons 2-4
E.MA.P.1.1	Combine varied academic media content into unified media art.	Lessons 2-4
E.MA.P.2.1	Exhibit developing ability in a variety of artistic roles, such as making compositional decisions, using competency tools and techniques, and collaborating with others to produce media art.	Lessons 2-4
E.MA.R.1.2	Recognize and share how meaning and style in media art affect audience experience.	Lessons 2-4
3.VA.CP.1.1	Discuss and explain an imaginative idea using elements of art and principles of design.	Lessons 2-5
3.VA.CP.2.2	Demonstrate an understanding of the safe and proficient use of materials, tools, and equipment in a manner preventing danger to oneself and others	Lessons 2-4
3.VA.CP.3.1	Elaborate and revise artwork on the basis of insights gained through reflection and/or discussion.	Lesson 5
3.VA.P.1.1	Investigate and discuss diverse resources in creating works of art using a variety of subject matter utilizing a concept or theme.	Lesson 2
3.VA.ARCM.1.3	Explore potential art related careers.	Lessons 1-5
Information Literacy		

<i>Educational games require dedicated research, and it is no different for our student designers! Students will need to engage with a variety of research and then collaborate to best implement that research into their games.</i>		
2.5.3	Choose which parts of a topic or problem will be researched.	Lesson 1
3.5.3	Determine the relevance of the information gathered.	Lesson 1
3.5.5	Comprehend and summarize a variety of sources	Lessons 1-5
4.5.5	Brainstorm and discuss how to effectively use information from selected print and digital resources.	Lessons 1-5
5.5.1	Contribute to a group by answering questions or solving problems together.	Lessons 1-5
5.5.3	Create products based on research for an intended audience.	Lessons 1-5
5.5.4	Seek and provide constructive feedback, revising products as needed	Lesson 5

ISTE Standards:

Knowledge Constructor		
A	Students plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.	Lesson 1
Innovative Designer		
A	Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.	Lessons 1-5
C	Students develop, test and refine prototypes as part of a cyclical design process.	Lessons 2-5
D	Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems	Lessons 1-5
Global Collaborator		
C	Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.	Lessons 1-5

Lesson 1

Theme: Go – Introducing Game Design & Dust Bowl Refresher

Time Needed: 105 minutes

Materials Needed:

- Voices of the Dust Bowl (Picture Book)
- Research Folder
 - Include selection of primary sources from historical society
 - Blank sheets of paper to add research to
- Hand out students Go Sheet
 - Includes game decisions (Board Game/Card Game/ Propose Other)
 - Group KWL Chart for Research
- Hand Out Game Manual Folders
 - Students will put final versions of their work from the day to be bound in lesson 5 as their official game manuals

Prep:

- Have research folders with extra blank sheets ready. One for each group.
- Have read aloud nearby
- Have drafts of the Go sheet ready – multiples for each table to encourage revision
- Have paper/board/electronic whiteboard prepped with KWL chart

Lesson Objectives:

- Students will be able to research and determine important facts from the Dust bowl for their game design.
- Students will be able to engage in the design process of making an educational game.

Student Objectives (“I can” Statements):

- I can research a topic to help create an informative game.

Lesson Opening (15 minute):

- Over the next five days we will be working in groups as design teams to create a tabletop game to teach next year’s third graders about the Dust Bowl. We will be using a game design framework called “Show Flow Glow”
 - Show students the framework
- Tabletop games are games you would play sitting around at a kitchen table. Board games are a common example of this and you will work in groups to make one yourselves! Lots of game designers make games for classrooms and around historical topics they find interesting. No matter whether you are making an educational game or one just for fun, research is key! Today we will review what we know about the dust bowl and research any lingering questions we have so we can decide what kind of game we will make and what historical facts will be important for our games. Your game setting, characters, events, art, actions, and challenges should be related to the Dust bowl so having a solid understanding of what happened and what facts you want to focus on teaching in your game will be important.

- **KWL Chart – Fill in Know and Want to Know**

Read Aloud (15 min)

- To refresh our memories some more we will read the book “Voices of the Dust Bowl” together.
 - **Do we need to add anything to the KWL Chart?**

Lesson Procedural Steps (60 minutes)

- Now that we have refreshed our memories a little bit, we will need to decide what kind of game we want to play to help next year’s third graders learn about The Dust Bowl?
 - Hand out research folders
 - Includes game decisions, Group KWL Chart for researching, space for facts that stand out, space to think about how it will impact their game.
- When we think we know what kind of game we are going to make we can think about what facts we want to make sure students learn or explore while playing. Your group should ask questions and research those questions about the dust bowl. Each group will be given a research folder with primary sources, you may use classroom resources to research as well. You may want to write down or otherwise add important things you find in your research to your research folder. You may use these folders throughout the design process.
 - Educators should try to walk around and work with each group during the research process to guide and connect students to appropriate resources.

Lesson Closure (15 minutes):

- Share out
 - Each group will share out what kind of game they will make and what it will teach the player about the Dust Bowl while playing.
- Exit Ticket
 - Group Go Page in Game Manual

Assessment Strategies:

Informal:

- Educators may use the KWL as a gauge for student understanding
- Educators may use student discussions as gauges for relevant standards

Formal:

- Assessment ticket can be checked against related standards

Lesson 2

Theme: Glow – Story & Style in Game Design

Time Needed: 105 minutes

Materials Needed:

- Focus on Glow
- Student Game Kits
 - Tupperware storage bin
 - Game Manual Folder
 - Suggested: Have finished but blank final version ready for student to see
- Game Maker Materials
 - Blank playing cards
 - Card stock
 - Duct tape
 - Large paper
 - Glue
 - Miniatures/Things to use for board pieces
 - Assorted Dice
 - Assorted Paper
- Glow Pages
 - Includes Introduction to the game
 - Story
 - Art space
 - Driving Fact about the Dust Bowl
 - What students will learn playing this game

Prep:

- Have game maker materials easily accessible to students
- Print extra draft versions of the glow page from their rule books for workshopping
- Have Glow Mini-Lesson Prepped
- Have example game manual prepped and nearby

Lesson Objectives:

- Students will be able to collaborate to engage in the design process to create a story and style for their games.
- Students will be able to describe the story and style of their game using grade level language.

Student Objectives (“I can” Statements):

- I can work in a group to design a game about the Dust Bowl.
- I can describe the story and style of my game design.

Lesson Context:

This lesson allows students to begin to focus on Glow where we explore what the game **looks like** and **feels like** as the players play the game; it’s overall aesthetics. This portion of the design process concentrates on **Story** and **Style**. The story includes the narrative and theme of the

game, and often will tie directly into the research into the topic for educational games. Why is the player playing the game? What motivates their characters? Style also includes what the game looks and feels like to the player. It includes not just the art in the game but how the player is supposed to feel playing your game.

Lesson Opening (10 minute):

- Mini lesson on Glow
 - See Canva Slides
- Story & Style
 - Today we focus on the Glow portion of the design framework. As you may guess, glow is all about style! This includes not only the kind of game you're going to make but the art and story. It should have a cohesive theme. Don't forget, we are making games to teach next year's third graders about the Dust Bowl so our art and story should connect back to our research and interesting facts from yesterday!

Lesson Procedural Steps (80 min)

- From students into groups from yesterday.
- Give them the Game Manual Folder
 - Give multiple copies of the Glow page in the game manual to encourage students to revise and engage in iterative design.
- Once a rough draft of flow is completed, discuss it with a teacher to get a Game Kit
 - Students may start prototyping and testing as soon as they have a rough draft for flow- make the pieces they think they will need, begin to make a board for the game, design cards, etc. These can all be test pieces for now.
 - Students should be encouraged to test as they go like designers do!
- Students should be reminded in the last 15 minutes of work time to ensure they have a finalized version of their Glow Pages added to their Rule Book

Lesson Closure (15 min):

- Share Out:
 - Best thing about their design work today and the hardest challenge to overcome.
- Student groups should put any materials that they are working on/may use in their final products into their game kit and otherwise clean up the space.

Assessment Strategies:

Informal:

- Educators may use student discussions as gauges for relevant standards

Formal:

- Educators may use the drafts and final version of the glow page

Lesson 3

Theme: Flow – “Core Loop” the Algorithm of Game Play

Time Needed: 105 minutes

Materials Needed:

- Focus on Flow
- Student Game Kits
 - Tupperware storage bin
 - Game Manual (for SFG Framework)
- Game Maker Materials
 - Blank playing cards
 - Card stock
 - Duct tape
 - Large paper
 - Glue
 - Miniatures/Things to use for board pieces
 - Assorted Dice
 - Assorted Paper
- Flow Draft Pages
 - Core Loop
 - Progression
 - What makes the game end?
 - Feedback
 - After the core loop happens, what are the possible outcomes?

Prep:

- Have game maker materials easily accessible to students
- Print extra draft versions of the glow page from their rule books for workshopping
- Have Flow Mini-Lesson Prepped

Lesson Objectives:

- Students will be able to describe the algorithm of their core loop

Student Objectives (“I can” Statements):

- I can collaborate and use algorithmic thinking to design a core loop in a game.

Lesson Context:

This lesson allows students to begin to focus on the “dynamics” and “core loop” of the game. Here, as designers, we consider **feedback** and **progression**. If your player takes an action what can happen? How do those actions combine to make a turn? How does a turn end? It can include things like rewards and challenges that players may encounter. These processes serve as an algorithm in the game and need to be carefully designed to be logical and engaging.

Lesson Opening (10 minute):

- Mini lesson on Flow
 - See Canva Slides
- Core Loop
 - Today your group will be asked to define the Core Loop of your game. The Core Loop is an algorithm. Does anyone know what that means? An algorithm is a series of steps, and in your game a turn is an algorithm. Maybe they can draw a card and play a card. Maybe they can roll dice and move forward on the board. Maybe they have to choose between different actions they can take. What makes up a turn is an important part of any game.
- Also important to game play is Feedback & Progression
 - Feedback
 - After your player takes a turn in your “core loop” what happens? Do they get points? Move forward? Backward? Get more cards, get rid of cards? All these determine your games progression.
 - Progression
 - All good games have endings. They can be competitive or cooperative but there needs to be an end goal. Common examples of this include reaching a certain number of points, getting rid of cards, or collecting a predetermined number of items.

Lesson Procedural Steps (80 min)

- Form students into groups from yesterday.
- Give students the Game Manual Folder & Research Folder
 - Remind students they can use there research folders any time they need to refresh or more ideas!
- Give each group multiple drafts sheets for their flow page.
 - Once groups have decided on a rough draft for their flow page they should start prototyping and testing - make the pieces they think they will need, begin to make a board for the game, design cards, etc. These can all be testing pieces for now.
- Students should submit their rough drafts to the teacher for approval. Upon approval the teacher will give them their game kits so they can begin adding pieces to their games and testing their core loop mechanics as well as appropriate feedback and progression.
 - Students should be encouraged to test as they go like designers do!
- Students should be reminded in the last 15 minutes of work time to ensure they have a finalized version of their Flow Pages added to their Rule Book
- Whenever students believe they are done they should be asked to play through what they have so far to see if it needs any changes. This is what designers do!

Lesson Closure (15 min):

- Share Out:
 - Each group will be invited to share their core loop designs
- Student groups should put any materials that they are working on/may use in their final products into their game kit and manual and otherwise clean up the space.

Assessment Strategies:

Informal:

- Educators may use student discussions as gauges for relevant standards

Formal:

- Educators may use the drafts and final version of the glow page

Lesson 4

Theme: Show – The Finer Details

Time Needed: 105 minutes

Materials Needed:

- Student Game Kits
 - Tupperware storage bin
 - Game Manual folders
 - Research folders
- Game Maker Materials
 - Blank playing cards
 - Card stock
 - Duct tape
 - Large paper
 - Glue
 - Miniatures/Things to use for board pieces
 - Assorted Dice
 - Assorted Paper
- Show It Draft Pages
 - Rules
 - What can the player do and not do? Be specific!
 - Actions
 - What are all possible actions a player can take?

Prep:

- Have game maker materials easily accessible to students
- Print extra draft versions of the Show page from their game manuals for workshopping
- Have Show Mini-Lesson Prepped

Lesson Objectives:

- Students will be able to collaboratively engage in an iterative design process
- Students will be able to describe their game designs and its learning goals using multiple modes of communication.

Student Objectives (“I can” Statements):

- I can make a complete game prototype for play in my classroom.
- I can create a completed game manual with clear instructions for my game.

Lesson Context:

This lesson allows students to finish defining the smallest details of their games. In Show we focus on what players can and cannot do. These are comprised of the rules of the game and the actions a player can take. Rules define the structure, boundaries, and objectives in a game. It is important that rules stay consistent. Actions define the different choices a player can make and how it can impact the game. These include things like drawing cards, moving a piece, rolling a die, etc. The Show connects directly to the Flow and the Glow, so the best way to figure out if

you need to add, remove, or otherwise change any rules or actions is to begin playing and testing your ideas and noticing issues as they arise!

Lesson Opening (10 minute):

- Mini lesson on Show
 - See Canva Slides
- Today your group will focus on finishing details for your game. These are small details that control what a player can and cannot do while playing your game. By the end of our work time today you should have a functioning prototype for play tomorrow. Remember it's alpha testing!
 - Rules
 - What are the rules of your game? These rules should support your Glow and your Flow. These are the specifics of what players can and cannot do.
 - They may include things like: Determining who goes first, should clearly define all possible things a player can and cannot do during the core loop as well as different options for game feedback
 - You may have already begun to write some rules yesterday while creating your core loop; this is normal!
 - Actions
 - These are the different actions that your player can take. They may include the core loop, extra or special actions like a bonus card or special space on a board. These may be positive or negative but should be clearly laid out to the player in advance.
- **TIP:**

Today you may want to try playing through your game as is, you may figure out where you need to add or be more specific about rules and actions through playing together!

Lesson Procedural Steps (80 min)

- Form students into groups from yesterday.
- Give them the Game Manual Folder
 - Tomorrow we will be alpha testing our games with members of the other groups! Make sure your group has selected your final draft of each section of your game manual before the end of the session.
- Give each group multiple drafts sheets for their show page.
- Give students their game kits so they can begin playing and designing rules
 - Students should be encouraged to test as they go like designers do!
- Students should be reminded in the last 15 minutes of work time to ensure they have collected and finalized their final complete draft of their game manuals.

Lesson Closure (15 min):

- Share Out:
 - Each group will be invited to share out their favorite rule they added to their rule book today.
- Student groups should put any materials that they are working on/may use in their final products into their game kit and otherwise clean up the space.
- Remind students about tomorrow's activity

Assessment Strategies:

Informal:

- Educators may use student discussions as gauges for relevant standards

Formal:

- Educators may use the drafts and final version of the glow page

Lesson 5

Theme: Alpha Testing

Time Needed: 105 minutes

Materials Needed:

- Student Game Kits
 - Tupperware storage bin
 - Game Manual (for SFG Framework)
- Game Maker Materials
 - Blank playing cards
 - Card stock
 - Duct tape
 - Large paper
 - Glue
 - Miniatures/Things to use for board pieces
 - Assorted Dice
 - Assorted Paper
- Design Notes Sheets
 - For note taking during alpha testing

Prep:

- Have game maker materials easily accessible to students
- Print extra draft versions of all game manual pages and have available for edits to the final draft

Lesson Objectives:

- Students will be able to collaborate, test, and engage with an iterative design project in the creation of educational games.

Student Objectives (“I can” Statements):

- I can critique games for final publishing.
- I can use constructive feedback to collaboratively make edits in a design project.
- I can work collaboratively to design an educational game.

Lesson Context:

This lesson encourages students to engage fully in the design process including alpha testing. The students switch groups and rotate through the games with each student on the game making team responsible for being the “game master” when playing their game. Groups are given 10-15 minutes to play each game before rotating (varies based on number of groups for times sake).

Lesson Opening (5 minute):

- In game design, the first round of testing is all done by game testers, employees who work inside the company. These game testers provide valuable feedback to designers.
- Today you will be switching up your groups and becoming an expert designer presenting your game to testers for feedback.
 - Hand out a note taking sheet for feedback students get while playing their games.

Alpha Testing (50 min)

- Split students so that, ideally, each group has one member from each group in it. They will serve as the master designers when playing their games.
- Have the student groups cycle through the games giving feedback to the master designers.

Redesign (30 min):

- Each group can return together and discuss the feedback using the design notes they took during alpha testing.
- Students may take 20 minutes making any changes to their games before the final presentation

Unit Wrap (20 min):

- Student groups will be invited to share their game, the design process, changes they made, and what else they would do with more time.
- Student games will be left with the classroom for future implementation, if desired.
- Teacher will bind the final versions of their completed and revised game manuals to include in the game kits for each game.

Assessment Strategies:***Informal:***

- Educators may use student discussions as gauges for relevant standards

Formal:

- Educators may use the drafts and final version of the glow page

GAME MANUAL

INTRODUCTION

Important Facts: The Dust Bowl

- 1.
- 2.
- 3.

Daily Design Tasks

- Research The Dust Bowl
- Choose 3 facts
- Decide what your game will teach.



This Game Teaches Players...



Backstory



Daily Design Tasks

- Write your backstory.
- Decide what style of game you will make.
- Create your game board!



STYLE OF GAME



GAME FLOW

On your turn players..

Daily Design Tasks

- Design a turn and how to win.
- Add any needed materials
- Test your game by playing it.
- Make changes as needed!

How to win the game



GAME FLOW

How to win the game

Daily Design Tasks

- Design a turn and how to win.
- Add any needed materials
- Test your game by playing it.
- Make changes as needed!

On your turn players may choose _____

