



Game Design Merit Badge

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Game Design Requirements

1. Do the following:
 - a. Analyze four games you have played, each from a different medium. Identify the medium, player format, objectives, rules, resources, and theme (if relevant). Discuss with your counselor the play experience, what you enjoy in each game, and what you dislike. Make a chart to compare and contrast the games.
 - b. Describe four types of play value and provide an example of a game built around each concept. Discuss other reasons people play games.



Game Design Requirements



2. Discuss with your counselor five of the following 17 game design terms. For each term that you pick, describe how it relates to a specific game.

a. Thematic game

elements:

1. story,
2. setting,
3. characters

b. Gameplay elements:

1. play sequence,
2. level design,
3. interface design

c. Game analysis:

1. difficulty,
2. balance,
3. depth,
4. pace,
5. replay value,

6. age

appropriateness

d. Related terms:

1. single-player vs. multiplayer,
2. cooperative vs. competitive,
3. turn-based vs. real-time,
4. strategy vs. reflex vs. chance,
5. abstract vs. thematic





Game Design Requirements

3. Define the term *intellectual property*. Describe the types of intellectual property associated with the game design industry. Describe how intellectual property is protected and why protection is necessary. Define and give an example of a licensed property.





Game Design Requirements

4. Do the following:
 - a. Pick a game where the players can change the rules or objectives (examples: basketball, hearts, chess, kickball). Briefly summarize the standard rules and objectives and play through the game normally.
 - b. Propose changes to several rules or objectives. Predict how each change will affect gameplay.
 - c. Play the game with one rule or objective change, observing how the players' actions and emotional experiences are affected by the rule change. Repeat this process with two other changes.
 - d. Explain to your counselor how the changes affected the actions and experience of the players. Discuss the accuracy of your predictions.





Game Design Requirements

5. Design a new game. Any game medium or combination of mediums is acceptable. Record your work in a game design notebook.
 - a. Write a vision statement for your game. Identify the medium, player format, objectives, and theme of the game. If suitable, describe the setting, story, and characters.
 - b. Describe the play value.
 - c. Make a preliminary list of the rules of the game. Define the resources.
 - d. Draw the game elements.





Game Design Requirements

6. Do the following:
 - a. Prototype your game from requirement 5. If applicable, demonstrate to your counselor that you have addressed player safety through the rules and equipment. Record your work in your game design notebook.
 - b. Test your prototype with as many other people as you need to meet the player format. Compare the play experience to your descriptions from requirement 5b. Correct unclear rules, holes in the rules, dead ends, and obvious rule exploits. Change at least one rule, mechanic, or objective from your first version of the game, and describe why you are making the change. Play the game again. Record in your game design notebook whether or not your change had the expected effect.
 - c. Repeat 6b at least two more times and record the results in your game design notebook.





Game Design Requirements

7. Blind test your game. Do the following:
 - a. Write an instruction sheet that includes all of the information needed to play the game. Clearly describe how to set up the game, play the game, and end the game. List the game objectives.
 - b. Share your prototype from requirement 6a with a group of players that has not played it or witnessed a previous playtest. Provide them with your instruction sheet(s) and any physical components. Watch them play the game, but do not provide them with instruction. Record their feedback in your game design notebook.
 - c. Share your game design notebook with your counselor. Discuss the player reactions to your project and what you learned about the game design process. Based on your testing, determine what you like most about your game and suggest one or more changes.





Game Design Requirements

8. Do ONE of the following:
 - a. With your parent's permission and your counselor's approval, visit with a professional in the game development industry and ask him or her about his or her job and how it fits into the overall development process. Alternately, meet with a professional in game development education and discuss the skills he or she emphasizes in the classroom.
 - b. List three career opportunities in game development. Pick one and find out about the education, training, and experience required for the profession. Discuss this with your counselor. Explain why this profession might interest you.



Requirement 1a



1. Do the following:
 - a. Analyze four games you have played, each from a different medium. Identify the medium, player format, objectives, rules, resources, and theme (if relevant). Discuss with your counselor the play experience, what you enjoy in each game, and what you dislike. Make a chart to compare and contrast the games.
 - b. Describe four types of play value and provide an example of a game built around each concept. Discuss other reasons people play games.

What is a Game?



1. Games are a form of play. Most games are played for recreation, others are played by amateurs and professionals alike, and some are even used as tools for training and education.
2. Games have objectives or goals that players work to achieve.
3. Games have rules. Rules govern the components of the game and the ways that players interact with those components and each other.
4. Games have feedback. As players work toward their goals, the game provides information about how they are doing. Scores are a form of feedback.

What is a Game?



5. Games have challenges. In the vast majority of games, the rules, other players, or other elements impede player progress toward the objectives.
6. Games employ a variety of skills. These include physical abilities, communication, strategic thinking, patience, observation and problem solving.
7. Games present choices. Players make meaningful decisions in order to affect game outcomes.
8. Games are participatory. Unlike many other forms of entertainment, games are not just about observing. They are about taking action.

Requirement 1a



Game Medium: Physical Games and Sports

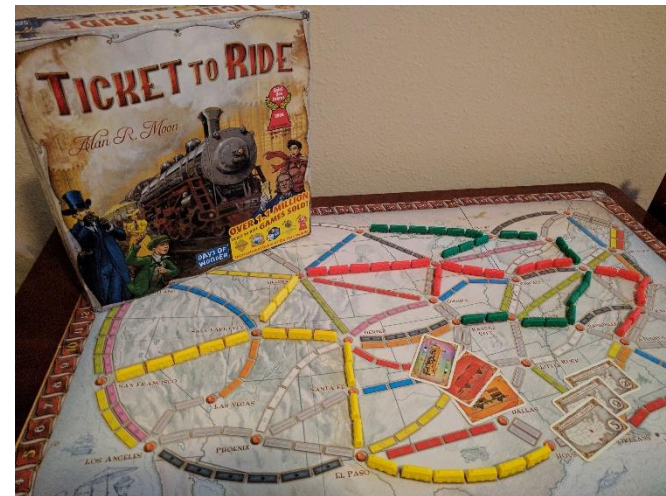
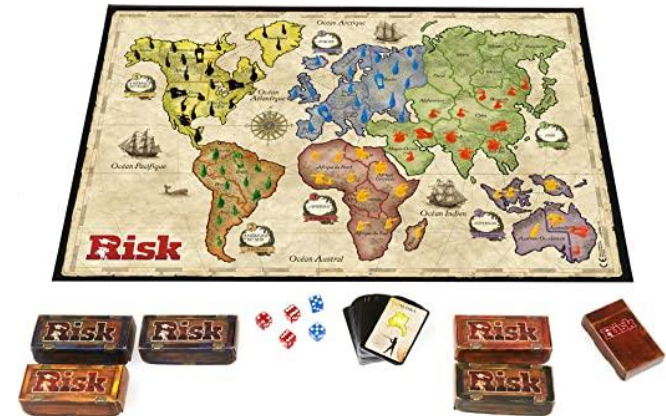
- Ball games and sports are physical as are other games like capture the flag.
- These games involve athletic activities and are played with special equipment like balls, nets, or sticks
- The gameplay usually revolves around one or more specific physical actions and the objectives reward players who most skillfully perform those actions.
 - Basketball is built around dribbling, passing, and shooting the ball.
- The shape and details of the field of play are an important part of the game design.
- Rules and objectives are often related to specific portions of the field.

Requirement 1a



Game Medium: Board Games

- Board games usually involve placing and moving pieces on a game board. They come in a variety of gameplay types:
 - Abstract games in which the board is divided into regular spaces and the players compete to claim pieces or spaces (checkers and chess).
 - Territorial strategy games like **Risk** where the board is a map with distributed resources and attributes.
 - Race-to-the-end games where players race along a linear track such as **Candy Land**.
 - Building games where players compete to reach construction objectives such as **Ticket to Ride**.

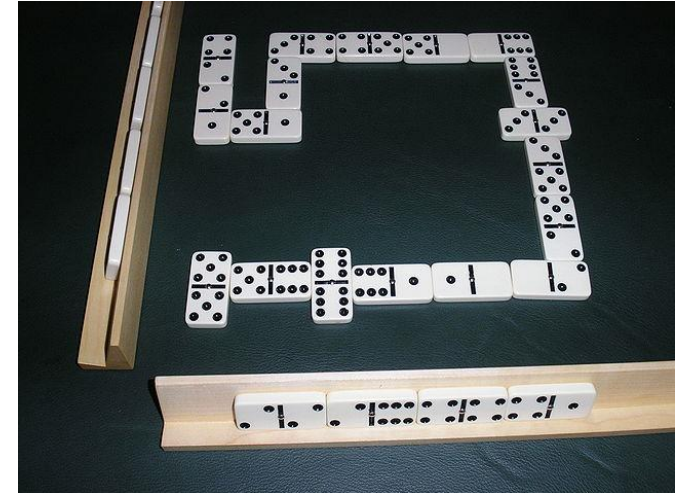


Requirement 1a



Game Medium: Tile Games

- Tile Games are played with a limited set of tiles that may contain dots, letters, or special symbols.
- Play consists of players placing one or more tiles from their hand adjacent to those already placed and then replenishing their hand with new tiles.
- Scoring is usually performed when tiles are played.
- Examples include dominoes and mahjong.

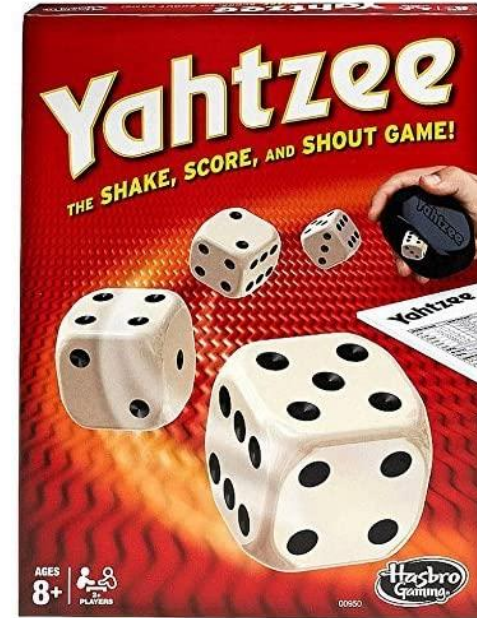


Requirement 1a



Game Medium: Dice Games

- Dice Games are often used to introduce chance into games.
- Some games, such as **Yahtzee**, use standard 6-sided dice.
- Others, such as **Boggle**, replace the dots with letters or special symbols.
- Dice games can usually be played by any number of players with the dice being passed from player to player.
- A turn calls for the player to roll the dice.
- Games are usually scored with the various combinations of dice having specific scoring.



Requirement 1a



Game Medium: Card Games

- Card Games are played with sets or “decks” of cards
- Generally, the order of the deck is unknown.
- Cards are mixed or shuffled at the beginning of the game.
- Many card games use a standard playing card deck
 - Hearts, rummy, and euchre are examples.
- Players build their own deck in collectible card games.
 - **Magic** or **Pokémon** are examples.

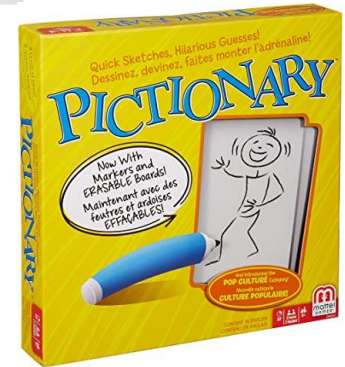
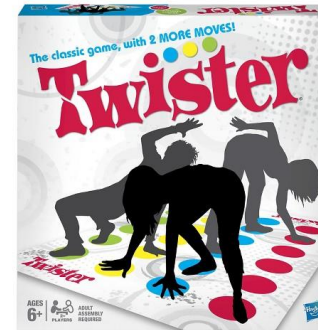


Requirement 1a



Game Medium: Party Games

- Party Games are generally for 4 to 12 or more players often arranged in teams.
- Gameplay emphasizes interactions between players and usually involves some form of creativity.
- Drawing, acting, singing, giving word clues.
- Trivia games also typically fall into this medium.
- Party games place special emphasis on making the game fun for players and observers.
- Examples include **Twister**, **Trivial Pursuit**, and **Pictionary**.



Requirement 1a



Game Medium: Miniatures

- Games with miniatures are played with small, detailed models of pieces and terrain.
- Settings include historical reenactments, fantasy, and science fiction.
- Most miniature games are turn-based.
- They are also commonly used in tabletop role-playing games to act out the action.

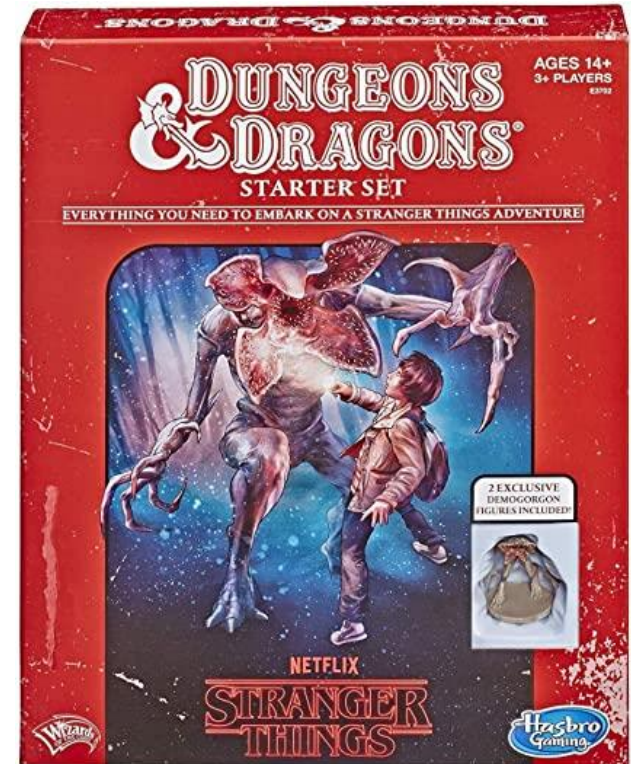


Requirement 1a



Game Medium: Role Playing Games

- Text-Based Role Playing Games is most easily described as interactive storytelling.
- A ruleset or system is used to define the gameplay, but the objectives may change during play.
- Players take on the roles of distinct characters within a fictional setting and then take actions based on the capabilities of those characters.
- These capabilities increase over time and allows players to take on progressively more challenging game scenarios.
- The most well-known example is **Dungeons and Dragons**.



Requirement 1a



Game Medium: Electronic Games

- Electronic Games are the largest growing game medium today.
- Almost every other game type can be implemented in an electronic form.
- Electronic games present information to players through video screens and audio signals.
- Players interact with the games through electronic sensors, control pads, and computer mice.
- Examples include **World of Warcraft** and **Super Mario Bros.**



Requirement 1a



Game Medium

- Gameplay is affected by medium, but is not completely constrained by medium.
- Many games can be replicated in several different mediums
 - i.e. Electronic and card versions of Pokémon.
- Mediums can be mixed together to utilize the advantages of each one.
 - **Monopoly** is a board game, but it also uses stacks of cards that can be mixed up and dice that add an element of chance to player movement.

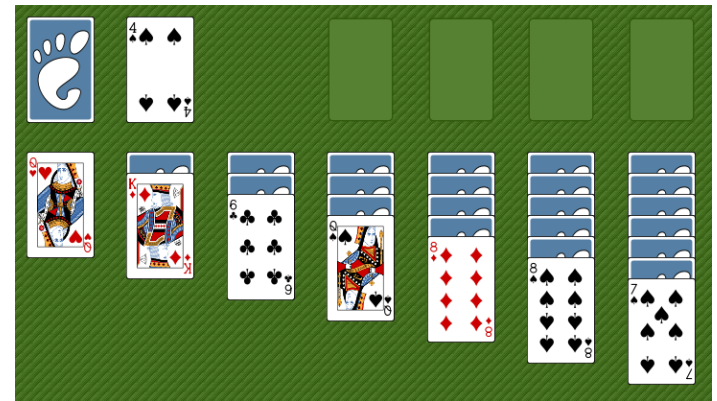


Requirement 1a



Player Format - The number, arrangement and alignment of players in a game.

- **Single Player:** One player vs. game system
 - Examples include any of the Solitaire card games and the electronic game **Minesweeper**.



Requirement 1a



Player Format - The number, arrangement and alignment of players in a game.

- **Head-to-Head** (one player vs. one player or PvP)
- Examples include:
 - Chess
 - Cribbage
 - Backgammon
 - Tennis



Requirement 1a



Player Format - The number, arrangement and alignment of players in a game.

- **Cooperative or Player vs. Environment (PvE)** (Many players vs. game system)
- This is common in online games like “**World of Warcraft**”.
- Some purely cooperative board games exist too, such as “**Pandemic**”.



Requirement 1a



Player Format - The number, arrangement and alignment of players in a game.

- **One Against Many:** One player vs. many players
- In the Nintendo Land game “**Luigi’s Ghost Mansion**”, one player takes the role of a ghost trying to scare the other players while they work together to trap the ghost with their flashlights.



Requirement 1a



Player Format - The number, arrangement and alignment of players in a game.

- **Free-For-All** (One player vs. one player vs. one player vs...)
- Perhaps the most common player structure for multiplayer games.
- This can be found everywhere, from board games like **Candy Land** to the basic mode in most shooter electronic games such as **Halo**.



Requirement 1a



Player Format - The number, arrangement and alignment of players in a game.

- **Team Competition:** Many players vs. many players.
- This is a common structure found in most team sports, card games like euchre, and outdoor games like capture the flag.

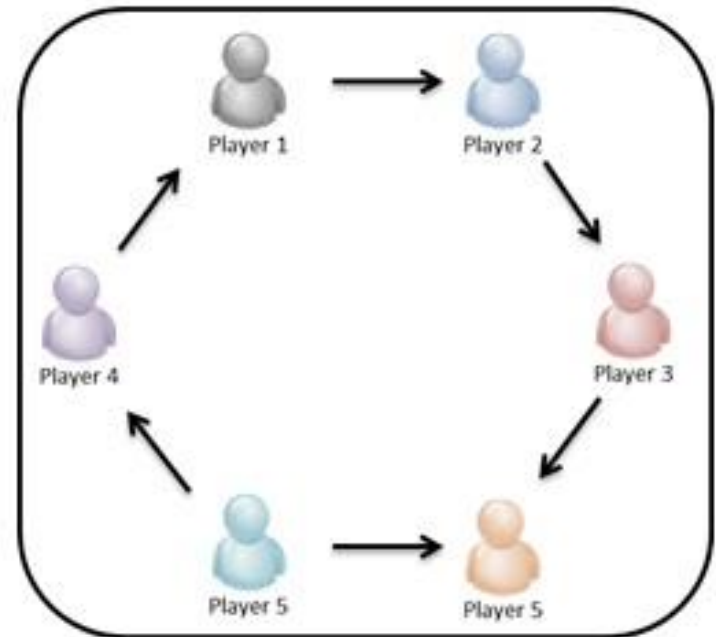


Requirement 1a



Player Format - The number, arrangement and alignment of players in a game.

- **Predator-Prey**
- Players form a real or virtual circle.
- Everyone's goal is to attack the player on their left and defend themselves from the player on their right.
- The live action game "Assassin" uses this structure.



Requirement 1a



Objectives determine whether a player has advanced or won a game.

- **Score**

- Get more points than your opponent.
- Be the first player to reach a particular number of points.
- The game ends after a certain amount of time and the best score wins.

- **Capture/Destroy**

- Eliminate all of your opponent's pieces from the game such as in chess and **Stratego**.



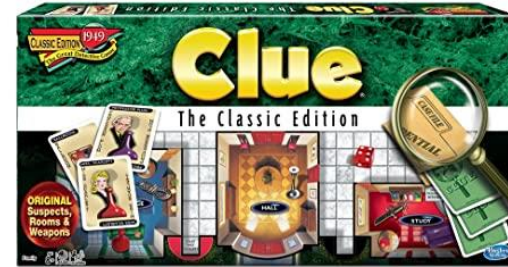
Requirement 1a



Objectives determine whether a player has advanced or won a game.

- **Collection**

- The card game rummy involves collecting sets of cards to win
- Many electronic games require the player to collect a certain number of objects scattered throughout the levels.



- **Solve**

- The board game **Clue** is an example of a game where the objective is to solve a puzzle.



Requirement 1a



Objectives determine whether a player has advanced or won a game.

- **Chase/Race/Escape**

- Any game where you are running toward or away from something.
- Candy land is a race to the finish.
- Playground tag is another example.

- **Spatial Alignment**

- Games involve the positioning of elements as an objective such as tic-tac-toe or **Tetris**.



Requirement 1a



Objectives determine whether a player has advanced or won a game.

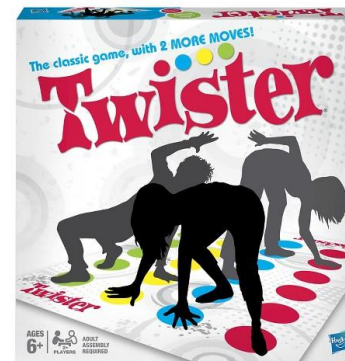
- **Build**

- Players use resources to build structures or assets such as **SimCity**.



- **Avoiding a Loss**

- Some games end when one player performs an act that is forbidden by the rules.
- Examples include **Twister** and **Jenga**.



Requirement 1a



Objectives determine whether a player has advanced or won a game.

- **Advance the Story**

- Sometimes the objective of a game is just to continue a storyline and see what happens next to the characters.
- This is common in role-playing games.



- **Explore**

- Game worlds like the **Legend of Zelda** series encourage players to travel around the world and discover new characters and places.



Requirement 1a



Rules

- There are three categories of rules in a game.
 1. Setup: Things you do once at the beginning of the game.
 2. Progression of Play: What happens during the game.
 3. Resolution: The conditions in which the game ends and how an outcome is determined.



Requirement 1a



Resources

- Resources are all the things directly under a player's control that can be used as the game advances.
- Examples include:
 1. Pieces in chess.
 2. Money in **Monopoly**.
 3. Territory in **Risk**.
 4. Known information (the suspects you have eliminated in **Clue**).
 5. Objects that can be picked up in electronic games (weapons, coins, power-ups).



Requirement 1a



Theme

- Themes include a game's setting, story and/or characters.
- They answer the question, "What is this game about?"
- Not every game has a theme, but a theme can:
 - Help players become more engaged.
 - Make a game easier to learn.
 - Tell a compelling story.



Requirement 1a



Now that you have learned about the different parts of games:

Analyze four games you have played, each from a different medium. Identify the medium, player format, objectives, rules, resources, and theme (if relevant). Discuss with your counselor the play experience, what you enjoy in each game, and what you dislike. Make a chart to compare and contrast the games.

Game Design Requirements



1. Do the following:
 - a. Analyze four games you have played, each from a different medium. Identify the medium, player format, objectives, rules, resources, and theme (if relevant). Discuss with your counselor the play experience, what you enjoy in each game, and what you dislike. Make a chart to compare and contrast the games.
 - b. **Describe four types of play value and provide an example of a game built around each concept. Discuss other reasons people play games.**



Requirement 1b



Play Value refers to the reasons that a player chooses to play a particular game.

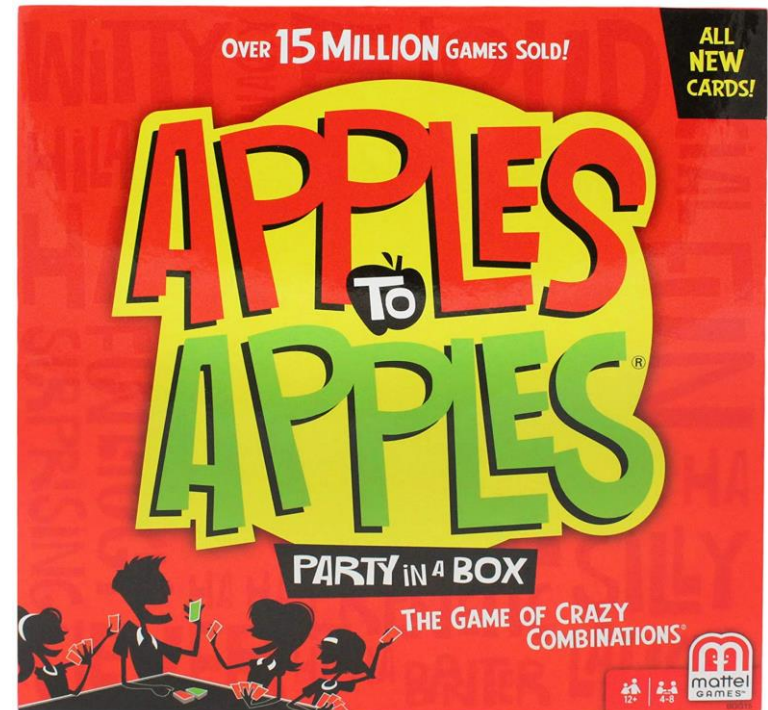
- Game experiences can be rated on 5 areas of play value:
 - Novelty: Imaginative, new or unexpected experiences.
 - Challenge: Tasks that must be practiced and mastered.
 - Stimulation: The emotional excitement of play.
 - Harmony: Player-to-player interaction.
 - Threat: Tension, danger, and humiliation.
- Most games incorporate multiple types of play value.
 - Basketball involves novelty (playing against different teams), challenge (mastering skills such as shooting and dribbling), stimulation (a fast pace), harmony (cooperating with your team), and threat (playing against a good team).

Requirement 1b



Other reasons people play games:

- Help build and strengthen social ties.
- Games can help start conversation.
- Competition helps motivate people to practice skills and think of different ways to succeed.



Requirement 2



2. Discuss with your counselor five of the following 17 game design terms. For each term that you pick, describe how it relates to a specific game.
 - a. Thematic game elements:
 1. story
 2. setting
 3. characters
 - b. Gameplay elements:
 1. play sequence
 2. level design
 3. interface design
 - c. Game analysis:
 1. difficulty
 2. balance
 3. depth
 4. pace
 - d. Related terms:
 1. single-player vs. multiplayer
 2. cooperative vs. competitive
 3. turn-based vs. real-time
 4. strategy vs. reflex vs. chance
 5. abstract vs. thematic
 - e. replay value
 - f. age appropriateness

Requirement 2



Thematic Game Elements

1. Story:

- a. Narrative story or plot is created by the game designer.
- b. Player created stories tell what the player did during the game.

2. **Setting:** The fictional environment in which the game takes place.

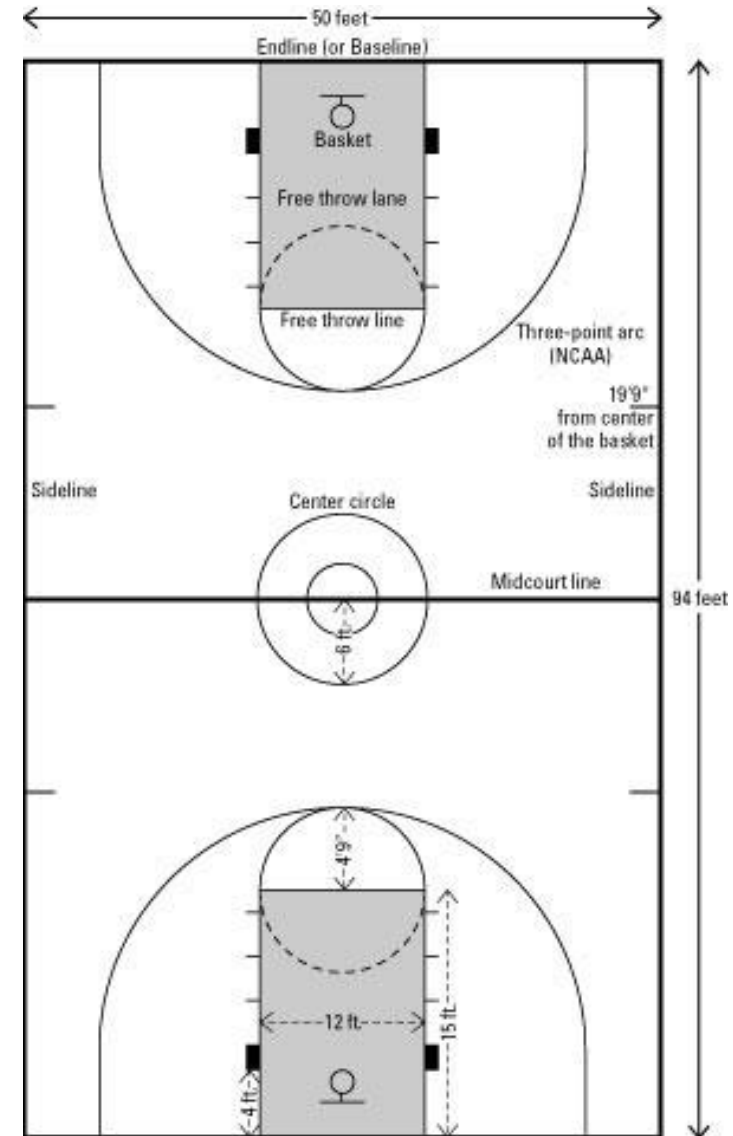
3. **Characters:** The people or creatures that appear in a game.

Requirement 2



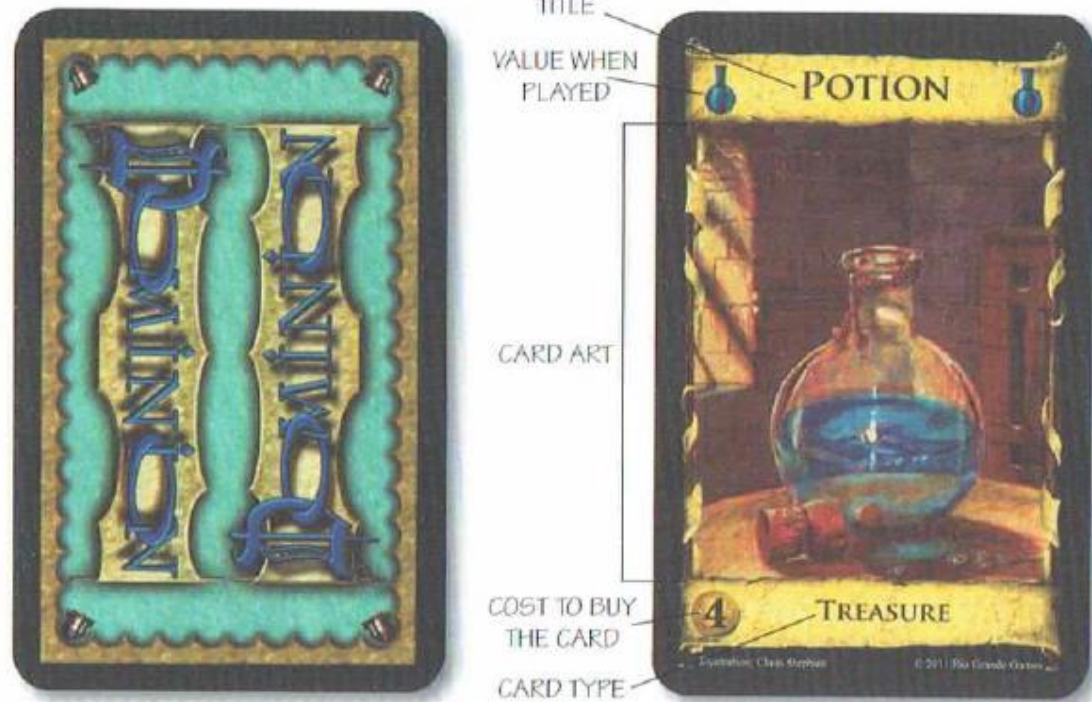
Gameplay Elements

- 1. Play Sequence:** The order in which players (or the game system) take action
- 2. Level Design:** Creation of the game environment
 - a. The design of play space determines how and where the action occurs.
 1. Example: 3-point line in basketball. If it is too close, players want to take every shot from behind the line. If it is too far, no one attempts 3-point shots.
 - b. The play space should also help players identify objectives and judge their progress toward the objectives.



Requirement 2

Gameplay Elements



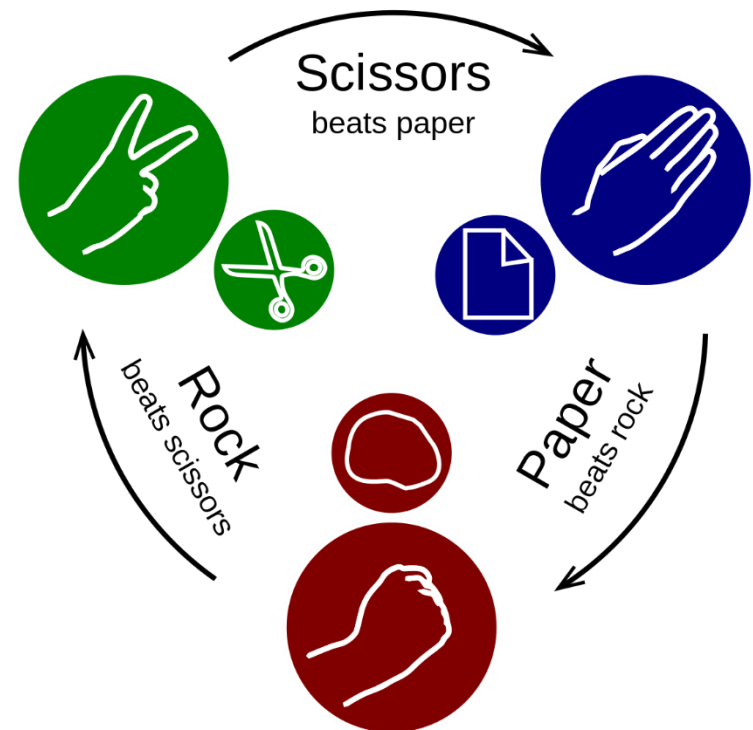
3. **Interface Design:** Creating effective methods for communicating information between players and games
 - a. Consider a deck of playing cards.
 - b. One side has some sort of design that is the same for all cards so they can be randomly mixed and their values hidden.
 - c. The other side has symbols, colors, and numbers to communicate information to players.
 - d. Electronic games use screens and button layouts.
 - e. Rule sheets, glossaries, tutorials, and help sections are also parts of the interface.

Requirement 2



Game Analysis

- 1. Difficulty:** How easy or hard it is for a player to complete the game objectives.
- 2. Balance:** The relative strength of the different resources, mechanics, objectives, or starting states.
 - a. A balanced game does not give an unequal advantage or disadvantage to any player (rock-paper-scissors game)
 - b. If a player can choose between two different paths, but one is always better, then the choice is not balanced.

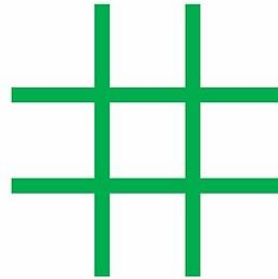


Requirement 2

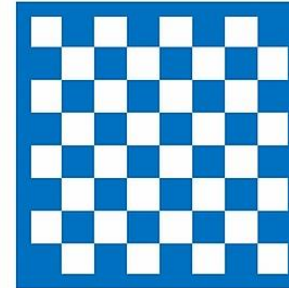


Game Analysis

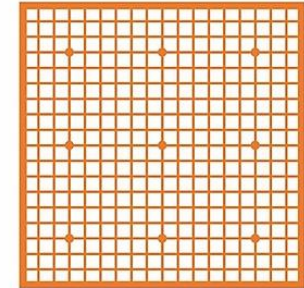
TIC-TAC-TOE



CHESS



GO



3. **Complexity:** The number of rules or elements with which a player interacts.
 - a. The greater the complexity, the harder it is to learn how to play the game.
4. **Depth:** The ability to find enjoyment in a game as one's skill improves.
 - a. Chess is a game that gets great depth from modest complexity

Requirement 2



Game Analysis

5. **Pace:** The speed of the game (chess vs. basketball).
6. **Play Value:** The reason someone plays a game.
 - a. **Replay Value:** The reason someone plays a game over and over again.
7. **Age Appropriateness:** The age or maturity level of the game's intended audience.



Requirement 2



Related Terms

1. **Single-player vs. multiplayer:** One player vs. more than one player.
2. **Cooperative vs. competitive:**
 - a. Cooperative games require players to work together to achieve objectives while competitive games have winners and losers.
 - b. Many team games are both cooperative and competitive.

Requirement 2



Related Terms

3. Turn-based vs. real-time:

- a. Turn-based allows one player or team to control the play and then switching control to the next player or team.
- b. Simultaneous play means that more than one player or team can act at the same time.
- c. In a real-time game, all players act at the same time throughout the game.

Turn-Based vs. Real Time

Chess	Baseball	Capture the Flag
Players alternate turns	Teams switch between offense and defense	Players are always on both offense and defense
While one player plays, the other waits	After each pitch, play finishes before the next pitch begins	Flags are reset only when a point is scored
	During a play, players from both teams participate	Action happens continuously

Requirement 2



Related Terms

4. Strategy vs. reflex vs. chance

- a. Strategic (mental) and reflex (physical) gameplay are different expressions of player skill.
- b. In both cases, the player has control over the outcome through decisions and actions.
- c. Chance-based mechanics have a randomized outcome.
 - a. Chance adds uncertainty to make a game more exciting.
 - b. Decisions lose meaning if the outcomes are decided solely by dice rolls or card shuffles such as in the War card game.

War



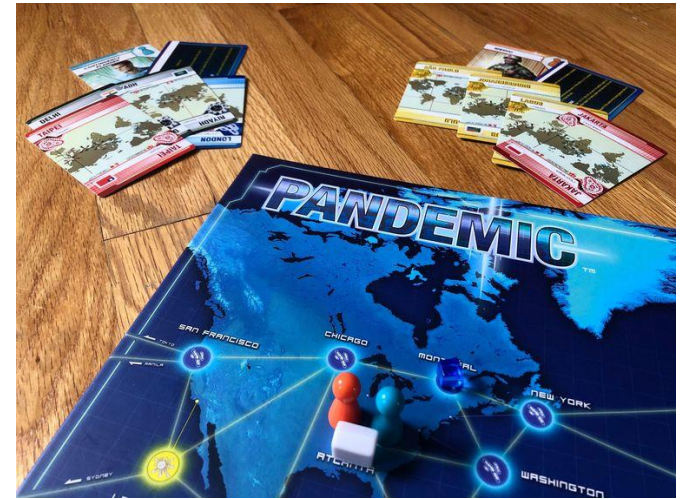
Requirement 2



Related Terms

5. Abstract vs. thematic

- a. While many games are thematic (as discussed earlier), some are abstract, meaning that they don't incorporate nongame information into the game.
- b. Examples of abstract games are: checkers, most playing card games, dominoes, golf, and Tetris.



Requirement 3



3. Define the term *intellectual property*. Describe the types of intellectual property associated with the game design industry. Describe how intellectual property is protected and why protection is necessary. Define and give an example of a licensed property.

Requirement 3



Intellectual Property is the creations of the mind for which the creator has exclusive rights.

For a game, this would be:

- Computer Code
- Visual Displays
- Story
- Characters
- Music
- Voice Recordings
- Game Board
- Game Pieces
- Instruction Manual
- Game Title
- Packaging
- Company Logo

Requirement 3



Intellectual Property is protected by:

- **Copyright:** The right to make copies of creative, literary or artistic works noted by a ©.
- **Trademark:** Ownership of a word, phrase or symbol representing the goods or services of a company noted by a TM.
- **Patent:** Ownership of an invention or method of doing something.
- **Licensing:** A contract between you and a rights owner to use those rights for a fee.
 - An example would be using a movie such as Star Wars for a game theme.

The purpose of intellectual property rights is to allow the owner to commercialize or develop for sale their invention without others stealing their ideas and profiting off of them.

Requirement 3



Intellectual Properties

How might copyrights, trademarks, patents and licensing be used in this game of Boy Scouts of America Monopoly?



Requirement 4



4. Do the following:
 - a. Pick a game where the players can change the rules or objectives (examples: basketball, hearts, chess, kickball). Briefly summarize the standard rules and objectives and play through the game normally.
 - b. Propose changes to several rules or objectives. Predict how each change will affect gameplay.
 - c. Play the game with one rule or objective change, observing how the players' actions and emotional experiences are affected by the rule change. Repeat this process with two other changes.
 - d. Explain to your counselor how the changes affected the actions and experience of the players. Discuss the accuracy of your predictions.

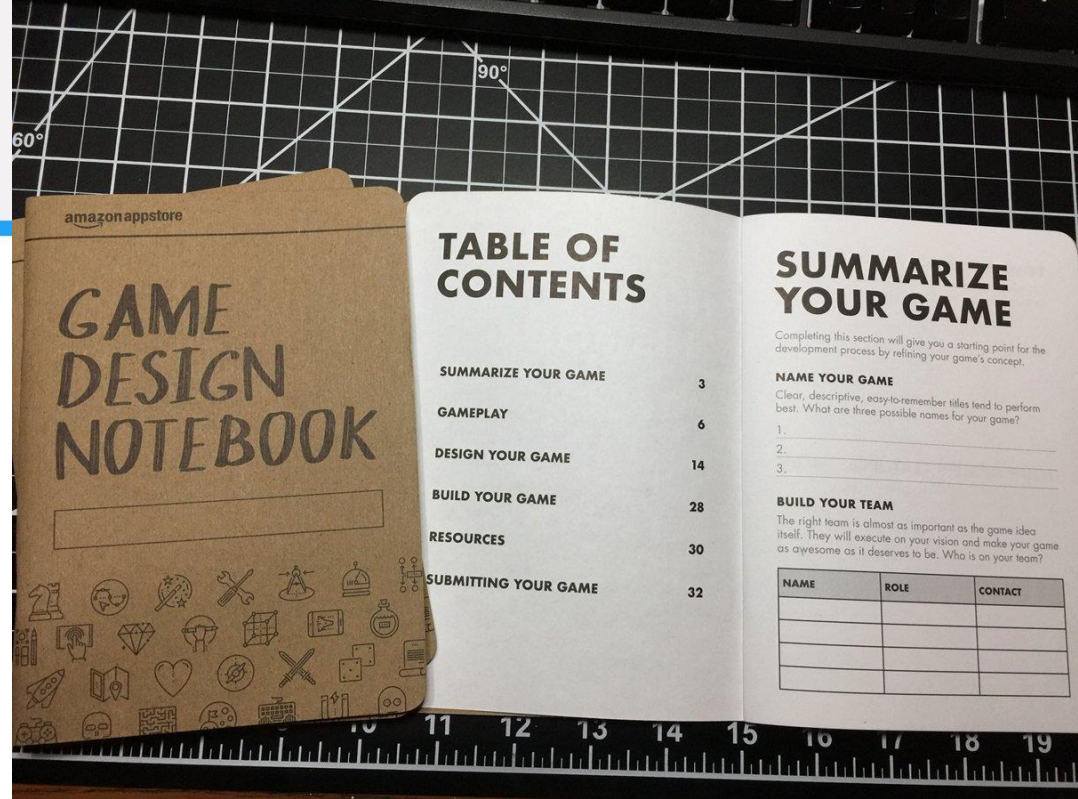
Requirement 5



5. Design a new game. Any game medium or combination of mediums is acceptable. Record your work in a game design notebook.
 - a. Write a vision statement for your game. Identify the medium, player format, objectives, and theme of the game. If suitable, describe the setting, story, and characters.
 - b. Describe the play value.
 - c. Make a preliminary list of the rules of the game. Define the resources.
 - d. Draw the game elements.

Requirement 5a

Starting Your Game Design Notebook



- **Introduction:** Describes what you are aiming for in your game in 3 brief sections.
 1. **Vision statement:** Describe your game in a sentence or two.
 2. **Limitations:** The game will have limitations, depending on the medium and the equipment needed to play the game.
 3. **Timeline:** Set progress goals with specific time milestones so that the project can be completed in a reasonable time.

Requirement 5a



Game Design Notebook

Main Text - Brainstorming

1. Brainstorming is the process of coming up with as many ideas as possible to solve a problem or accomplish a task.
2. Think about what your game could be.
3. Write down every idea in your notebook.
4. Do not worry about the details at this time.
 - a. Take the player on an adventure.
 - b. Teach a skill.
 - c. Simulate another activity, like ruling an empire or flying a plane.
 - d. Explore themes or settings, like space travel or pizza delivery.

Requirement 5a



Game Design Notebook

Main Text - Organize Your Ideas

1. Read through your ideas and put a star next to all of the ones that catch your attention.
2. Ask yourself and then write your answers in your notebook:
 - a. What makes those ideas fascinating?
 - b. What would the game look like?
3. Pick out the which one seems most interesting.
4. Add details to your idea so you can begin to see your game more clearly.
5. Use game elements to guide this process.

Requirement 5a



Game Design Notebook

Main Text - Players vs. Designers

1. Game designers and game players look at games very differently.
2. Designers are focused on how the game works.
3. Game players want the enjoyment and challenge of playing a game as well as the fun of spending time with friends.
4. While developing and testing your game, you will switch back and forth between designer and player.
 - a. As a designer, you will think of something to add to your game.
 - b. As a player, you will give the idea a try to see what you think about it.
5. Record everything in your notebook.

Requirement 5a, 5b, 5c, 5d



Game Design Notebook

Main Text – Game Format

1. Identify and record the game medium, player format, objectives, and theme of the game.
2. If appropriate, describe the setting, story, and characters.
3. Describe the play value.
4. List the rules of the game.
5. Define the resources needed for the game.
6. Draw the game elements.

Requirement 6



6. Do the following:
 - a. Prototype your game from requirement 5. If applicable, demonstrate to your counselor that you have addressed player safety through the rules and equipment. Record your work in your game design notebook.
 - b. Test your prototype with as many other people as you need to meet the player format. Compare the play experience to your descriptions from requirement 5b. Correct unclear rules, holes in the rules, dead ends, and obvious rule exploits. Change at least one rule, mechanic, or objective from your first version of the game, and describe why you are making the change. Play the game again. Record in your game design notebook whether or not your change had the expected effect.
 - c. Repeat 6b at least two more times and record the results in your game design notebook.

Requirement 6



Prototype Your Game

You must have your merit badge counselor's approval of your concept before you begin creating your prototype!

1. Build a version of your game.
2. Test it.
3. Adjust it.
4. Repeat the process until your game is engaging and satisfying.
5. When designing a physical game or sport it is essential to consider safety.
 - a. The rules and mechanics should enforce safe play.
 - b. Protective equipment should be used to reduce risk.



Requirement 6



Prototype Your Game

- Test your prototype with as many other people as you need to meet the player format.
- Compare the player experience to your descriptions.
- Correct unclear rules, holes in the rules, dead ends, and obvious rule exploits.
- Change at least one rule, mechanic, or objective from your first version of the game, and describe why you are making the change.
- Play the game again.
- Record whether or not your change had the expected effect.
- Repeat at least two more times and record your results.

Requirement 7



7. Blind test your game. Do the following:
 - a. Write an instruction sheet that includes all of the information needed to play the game. Clearly describe how to set up the game, play the game, and end the game. List the game objectives.
 - b. Share your prototype from requirement 6a with a group of players that has not played it or witnessed a previous playtest. Provide them with your instruction sheet(s) and any physical components. Watch them play the game, but do not provide them with instruction. Record their feedback in your game design notebook.
 - c. Share your game design notebook with your counselor. Discuss the player reactions to your project and what you learned about the game design process. Based on your testing, determine what you like most about your game and suggest one or more changes.

Requirement 7a



Writing Rules for Your Game

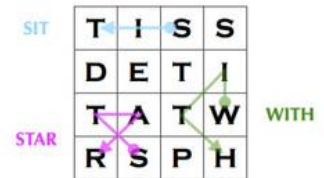
- Write the rules for your game.
- Test your ruleset by having someone unfamiliar with your game explain your game to you after reading your rules.
- Give examples for special or complicated situations.

HOW TO PLAY BOGGLE®

In Boggle®, 16 dice are shaken to produce a random 4X4 "lay". The goal is to find words in the lay. There are just a few simple rules.

Rule #1:

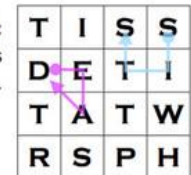
Words are made by letters that touch each other. They can touch in any direction, even at the corners. But they must touch in the correct order. Here are some examples:



Rule #2: Words must be at least 3 letters long. SAT is okay. AT is too short.

Rule #3: No letter may be used in the same word twice.

DEAD:
No good, because it uses the same D twice.



SITS:
Okay, because one S is used at the beginning, and a different S is used at the end.

Rule #4: No capital letters. Although the letters you see in the lay are all capitals, proper nouns such as "Japan", "David", and "July" are not allowed.

Rule #5: This really is part of rule number one: No jumping!



WHAT:

No good, because H and A are not touching. We had to 'jump' from H to A.

Requirement 7



7. Blind test your game. Do the following:

- a. Write an instruction sheet that includes all of the information needed to play the game. Clearly describe how to set up the game, play the game, and end the game. List the game objectives.
- b. Share your prototype from requirement 6a with a group of players that has not played it or witnessed a previous playtest. Provide them with your instruction sheet(s) and any physical components. Watch them play the game, but do not provide them with instruction. Record their feedback in your game design notebook.
- c. Share your game design notebook with your counselor. Discuss the player reactions to your project and what you learned about the game design process. Based on your testing, determine what you like most about your game and suggest one or more changes.

Requirement 7b



Blind Test Your Game

- In a blind test the players have no experience with the game and do not interact with the designer during the test.
- They use the rules and components provided by the designer and play the game as well as they are able.
- The game designer observes and takes notes to identify problems for correction.
- After the game is over, ask the players about the game experience.
- Find out what aspects of the game were confusing, boring, or too difficult.
- Modify your game if necessary based upon player feedback.

Requirement 7



7. Blind test your game. Do the following:

- a. Write an instruction sheet that includes all of the information needed to play the game. Clearly describe how to set up the game, play the game, and end the game. List the game objectives.
- b. Share your prototype from requirement 6a with a group of players that has not played it or witnessed a previous playtest. Provide them with your instruction sheet(s) and any physical components. Watch them play the game, but do not provide them with instruction. Record their feedback in your game design notebook.
- c. Share your game design notebook with your counselor. Discuss the player reactions to your project and what you learned about the game design process. Based on your testing, determine what you like most about your game and suggest one or more changes.

Requirement 8



8. Do ONE of the following:
 - a. With your parent's permission and your counselor's approval, visit with a professional in the game development industry and ask him or her about his or her job and how it fits into the overall development process. Alternately, meet with a professional in game development education and discuss the skills he or she emphasizes in the classroom.
 - b. List three career opportunities in game development. Pick one and find out about the education, training, and experience required for the profession. Discuss this with your counselor. Explain why this profession might interest you.

Requirement 7b



Careers in Game Development

- Video Game Designer and related occupations are among the fastest growing careers in America.
- Video Game Designer
 - A college degree or certificate in game design or creative writing will help you get hired as a video game designer. Skills to look for in a video game designer education program include game theory, storytelling and storyboarding, game planning and strategy, creative content writing, brainstorming and creative thinking, and game design project management.
- Video Game Programmer
 - For game design programming jobs, the education requirement is typically a bachelor's degree in video game development, computer science, software engineering, mobile application development, game and simulation programming, or a similar programming-focused area of study.

Requirement 7b



Careers in Game Development

- Video Game Artist
 - Education requirements for game art jobs ideally include a specialized 2- or 4-year game art degree, however a traditional art school degree is acceptable in many cases. Video game artists must first master traditional art techniques and principles, such as form, perspective and color theory, before they can apply these skills to game elements like characters and environments. A prospective video game artist's most crucial asset is his or her design portfolio; the stronger and more relevant your portfolio, the less you will have to rely on your formal education to land the job. The ability to effectively use modern graphic design and computer animation software, such as Adobe Flash, will also help you get hired as a video game artist.