MiddieMakers Activity Guide

Book Games

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<thead>
<tr>
<th>Middie Designer:</th>
<th>Attribute to Creator:</th>
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<tbody>
<tr>
<td>Terri Kempthorne</td>
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<tr>
<th>Subjects:</th>
<th>Topic or Unit of Study:</th>
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<tr>
<td>Engineering, Math, Language Arts, Arts</td>
<td>Engineering, Knowledge Transfer</td>
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| Grade/Level: 1-3 | Time Allotment: 1 week |

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Activity Description

Students will work in groups to design a game based on a book they have read. Student will be responsible for creating all aspects of the game including the game board, methods of keeping score, question or challenge cards (if needed), spinners or dice, and the written directions for the game.

Activity Goals

Students will gain a better understanding of working collaboratively to generate ideas, choose an idea from those generated, and then developing all the necessary components for their idea. Students will
need to identify key components of a story (main characters, major events, plot, etc.), think creatively, and problem solve as they work through the process of creating their game.

Challenge questions:
- Did the game work? Can another group successfully do it?
- Did you understand how to play the game without asking for clarification?
- Does your game have strict rules, or is there room for “House Rules”? (think, Monopoly)
- What are some changes that the designers made to the game?
- What are some changes you (the game players) would make to the game?

Standards

ISTE 1a - Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.

ISTE 1c - Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.

ISTE 3d - Students build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.

ISTE 4a - Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.

ISTE 4c - Students develop, test and refine prototypes as part of a cyclical design process.

ISTE 4d - Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.

ISTE 5c - Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.

ISTE 6a - Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.

ISTE 6b - Students create original works or responsibly repurpose or remix digital resources into new creations.

ISTE 6c - Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.

ISTE 6d - Students publish or present content that customizes the message and medium for their intended audiences.

ISTE 7c - Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.
Materials & Resources

<table>
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<tr>
<th>Materials</th>
<th>Resources</th>
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<tbody>
<tr>
<td>Available for each group:</td>
<td>A physical copy of each book being used - for reference purposes.</td>
</tr>
<tr>
<td>Markers / Crayons</td>
<td>Sample/Example Games</td>
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<tr>
<td>Pencils</td>
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<tr>
<td>Notebook Paper</td>
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<tr>
<td>Copy Paper</td>
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<tr>
<td>LOTS of Index/Note Cards</td>
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<tr>
<td>Copy of Game Guidelines Paper</td>
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<tr>
<td>Sample/Example Games</td>
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<tr>
<td>Ziploc Baggies for each team’s game pieces</td>
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<tr>
<td>Masking or Clear Tape</td>
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<tr>
<td>Possibly:</td>
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<tr>
<td>Cardboard</td>
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<td>Straws or skewer sticks</td>
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**Setup**

Arrange students into groups based on books they have read in common. You may even want, in advance, to assign a book to the group to read, or read the books to the class over a period of time so that all students are familiar with all the books.

Have games set-up around the room for students to observe.

**Implementation**

**Learning Context**

Discuss with the students various games they may have played. This discussion should focus non-board games such as Memory, Guess Who, Go Fish, Old Maid, Uno, Flux, etc. Try to avoid games such as Pie Face, where the game is simply a matter of luck; no knowledge or skill is involved.

**Procedure**

1. **Anticipatory Set:** Allow the students to observe the components of the example games around the room.
2. Discuss, as a class, some of the components that the games have in common. (game pieces, spinner or die/dice, directions, cards, etc.)
3. Write a list of the common components on the whiteboard.
4. Direct Instruction:
   a. Provide each team with a Game Guideline paper.
   b. Have them take a moment to review the expectations and ask/answer any questions.
   c. Talk about some of the special aspects of some games (like a draw 4 card in Uno), how it functions, and allow them to discuss whether or not they want to incorporate similar aspects in their games.
   d. Explain that they will be able to use any of the STEAM materials they need to create their game
      i. Explain that there are notecards that they can use to create cards (like for Memory), but that the need to determine what cards they want to make before they start designing them.
      ii. Encourage them to think creatively and to not just copy another game.
5. Guided Practice: Encourage students to work collaboratively to discuss some of the following questions:
   a. Does your game need a spinner? How could you make one?
   b. Does your game need dice? Are you going to try to make paper dice or use real ones?
   c. How many people can play your game at one time? (minimum 2)
6. Check for Understanding: Answer any questions.
   a. Write on the whiteboard the following outline for all groups to follow:
      i. How will the game will work
      ii. Decide on the important points (main ideas /locations from the story) to be included on the cards
      iii. Brainstorm game card ideas - what happens with the various cards?
      iv. Design the cards
      v. Write instructions
      vi. Try it!
      vii. Adjust as necessary
7. Independent Practice: Allow the groups to work independently to develop their own game, including mechanics, pieces, instructions, etc.
   a. If a team seems stuck, have them look at (or think about) how some of the real games function (the differences between Uno and Memory, etc.)
   b. If they cannot determine what to include in the game, have them talk through the story, encouraging them to write down important events or locations (cards for their game).
   c. As needed, have groups store their game components in ziploc baggies.
   d. Written directions need to be included with the game. Can be handwritten or typed/printed.
   e. Have the group try playing their game to see if the mechanics work as anticipated.
   f. Encourage students to adjust any aspect of their game as needed
8. Closing: Have students present their games to the class, discussing the book they read, and how they incorporated major components of it into the game. Allow groups to try playing each other’s games and providing feedback.
Differentiated Instruction & Coaching Tips

**Visual Learners** - Encourage students to draw their ideas or map out their thoughts on paper. Computer drawing programs could be utilized for visualization of ideas.

**Auditory Learners** - Read any directions/challenges out loud, and encourage the students to talk together to solve the problems.

**Kinesthetic Learners** - Encourage students to physically manipulate pieces to help them think through the processes and game functions. A physical game could be designed (think, four-square), rather than a card game.

**ELS Students** - Encourage students to collaborate with their teammates to work out their ideas. Provide guidance and demonstrations only as needed.

**At-risk Students** - Encourage participation with the group. Encourage each student to come up with an idea for how to solve the proposed challenge. There are many tasks with this lesson; ensure that they are being delegated and inclusive, appropriately. Allow students to create a different style of game rather than a card game. Allow them to be creative.

**Advanced Learners** - Encourage students to consider adding an additional component to their game (such as the button push on Uno Attack).