

## 5: LESSON PLAN - Santorini

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| <b>LEARNING AIMS</b>          | <p>Students will:</p> <ul style="list-style-type: none"> <li>● Engage in cooperative play (W1-5)</li> <li>● Reflect on their own logical and spatial reasoning</li> <li>● Gain a basic understanding of game mechanics, rules, fundamental gameplay, scoring, strategies, cooperative principles, increase mental math skills, number sense skills</li> <li>● Logical Reasoning: <b>Investigating</b> game mechanics and winning strategies by noticing and determining the rules through observation (W1)</li> <li>● Spatial Reasoning: <b>Locating</b> placements for workers and possible moves in order to know where to move and build (W1)</li> <li>● Logical reasoning: <b>Analyzing</b> their moves/builds and the board to become strategic (W2)</li> <li>● Spatial reasoning: Coordinating building and moving up by <b>pathfinding</b> to improve opportunity to win (W2)</li> <li>● Logical reasoning: <b>Modifying</b> strategies based on the introduction of god cards (W3)</li> <li>● Spatial reasoning: <b>Locating</b> workers and builds based on the introduction of god cards (W3)</li> <li>● Logical Reasoning: <b>Convincing</b> others of effective strategies (W4)</li> <li>● Spatial Reasoning: <b>Dimension shifting</b> to exploring different perspectives of the game board (W4)</li> <li>● Logical Reasoning: <b>Convincing</b> others of effective strategies for Santorini (W5)</li> <li>● Spatial Reasoning: <b>Diagramming</b> the board to show how students are interpreting the board visually (W5)</li> </ul> |
| <b>MATERIALS</b>              | <ul style="list-style-type: none"> <li>● Enough copies of <i>Santorini</i> for your class</li> <li>● Each student has a pencil</li> <li>● Condensed rules sheet - How to Play Santorini</li> <li>● Teacher will hand out god cards for student to pick among</li> <li>● Have the god card sheets available with examples/non-examples</li> </ul>   |
| <b>SPECIAL CONSIDERATIONS</b> | <ul style="list-style-type: none"> <li>● One round of Santorini game play takes approximately 20 minutes.</li> <li>● <b>Organize groups according to student needs. Encourage discussion and understanding of the game.</b></li> </ul>   |
| <b>LESSON ACTIVITIES</b>      | <ol style="list-style-type: none"> <li>1. <b>This is our last class playing Santorini! Last class, you were asked to convince us of which god or goddess was the best. Today, you are encouraged to build on your ideas to convince us of which strategies are the best to win Santorini. What strategies can you refine today so that you have two excellent tips to share with new Santorini players? Keep working on them as you play today and be ready to share them on the reflection sheet.</b></li> </ol> <p style="text-align: center;"><b>One important approach to playing Santorini well is to see moves in</b></p>  |

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|  | <p>advance – <i>visualizing</i>. How have you been using visualizing as you played Santorini? Focus on what you see in your mind when you visualize. You are challenged to <b>diagram</b> a board near the end of a game: drawing in 3-dimensions on your paper. Use no words – okay, maybe a few words – and see if you can communicate ideas just through drawing!</p> <p>If students like, they could expand their use of god cards to use more different types of god cards.</p> <ol style="list-style-type: none"> <li>2. Students will play with god cards. They can use different ones in different rounds if they like.</li> <li>3. Hand out the reflection sheet so students know what questions to think about. Encourage them to choose one round of the game and answer the questions (could get through 2 rounds in one class).</li> <li>4. Teacher circulates and prompts student discussion of strategies.</li> <li>5. At the end of the game time, encourage students to complete the reflection sheet (10 mins at the end of class.)</li> </ol>  |
| <p><b>QUESTIONS/<br/>REFLECTIONS</b></p> | <p>Questions for students/prompts:<br/>Here's a quick overview of the six focus god cards:</p> <ul style="list-style-type: none"> <li>● Artemis: you can move a worker an extra time (but not back to its original spot).</li> <li>● Demeter: you can build an extra piece (but not two pieces on the same spot).</li> <li>● Apollo: your move can be to swap places with an opponent in a legal move (has to be adjacent to your worker).</li> <li>● Atlas: you can build a dome on any level.</li> <li>● Minotaur: you can move a worker into a spot with an opponent's worker, and push the opponent's worker one spot in the same direction.</li> <li>● Hephaestus: you can build an extra block on top of your first block (but not a dome).</li> </ul> <p>Some prompts:</p> <ul style="list-style-type: none"> <li>● Were you able to find and exploit a weakness in your opponent's god/goddess?</li> <li>● Did you notice any super powerful or less powerful god/goddess cards? If so, who?</li> <li>● Do you prefer powers which allow you to move or build? Why?</li> <li>● Which God or Goddess did you use today?</li> </ul> |

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|  | <ul style="list-style-type: none"><li>● Do you think the God/Goddess cards make the game better or worse? Why?</li><li>● Do you think the God/Goddess cards make the game easier or harder? Why?</li><li>● How often did you use your God/Goddess power in play today?</li><li>● Was it difficult to predict your opponent's moves when you also had to think about how they could use their power?</li><li>● Were you able to get a surprise win by using your God/Goddess power?</li><li>● Did using the powers make the game quicker or slower? Why do you think that might be?</li><li>● What is your favorite strategy you have used to win Santorini?</li><li>● Have you figured out a strategy that lets you win without getting to lvl 3 of a tower?</li><li>● Does your strategy rely more on one worker, or use them both equally?</li><li>● How many of your strategies are offensive, how many are defensive?</li><li>● What tools do you have in Santorini to help you use a strategy?</li><li>● When you are thinking of a strategy, which do you pay attention to more: Game board, my own or my opponents workers, buildings?</li><li>● Does your strategy help you get a 'quick win' or is it for more of a medium or long game?</li><li>● Does your strategy help you predict how long a game will last?</li><li>● Are you using workers together (coordinated) or separate?</li><li>● Is that an offensive or defensive move with your workers?</li><li>● Is that an offensive or defensive build with you building piece?</li><li>● How many levels are you aiming for?</li><li>● How are you arranging the towers?</li><li>● Where are the board are you trying to build the most?</li><li>● Are you spreading out towers or are you building them together?</li><li>● Why did you choose those starting positions for your workers?</li><li>● Where could you move each of your workers? [adjacent spot]</li><li>● How did you decide where to move that worker?</li><li>● Which pieces can you use to build? Where can you build? [adjacent to worker just moved]</li><li>● How did you decide what to build?</li><li>● What do you think your opponents will do next?</li><li>● What are you going to do to win?</li><li>● How did you win? OR How did your opponent win?</li><li>● Does this game remind you of any other board games you have played before?</li><li>● Have you found any tricks yet?</li></ul> |
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|  | <ul style="list-style-type: none"><li>● What do you want to try next time?</li><li>● What is the best way you have found to win so far?</li><li>● Does having two workers compared to only having one make the game easier or harder?</li></ul> |
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## Reflection Sheet: Santorini

Your Name: \_\_\_\_\_

Team Members: \_\_\_\_\_

### 1) Diagramming the Final Move(s)

**STOP** when you know that one of the players is about to win.

**Draw** out the board in 3 dimensions below. You get to pick how you diagram the board – lots of empty space for you to use!

**Diagram** the final move and build to secure the win!

Use as **few** words as possible to help us understand what your drawing means.

## 2) Convince us of your effective strategies!

What two tips would you give someone who was **just learning to play** Santorini?

**Justify why** they are good strategies to use – how will it help a player win?

Remember: you didn't use god/goddess powers at first ... what other strategies do you have?

Use **words & drawings**:

Tip 1:

Tip 2:

OPTIONAL: Why is Santorini a good game? Why play it in math class?