

3: LESSON PLAN - Santorini

LEARNING AIMS	<p>Students will:</p> <ul style="list-style-type: none"> ● Engage in cooperative play (W1-5) ● Reflect on their own logical and spatial reasoning ● Gain a basic understanding of game mechanics, rules, fundamental gameplay, scoring, strategies, cooperative principles, increase mental math skills, number sense skills ● Logical Reasoning: Investigating game mechanics and winning strategies by noticing and determining the rules through observation (W1) ● Spatial Reasoning: Locating placements for workers and possible moves in order to know where to move and build (W1) ● Logical reasoning: Analyzing their moves/builds and the board to become strategic (W2) ● Spatial reasoning: Coordinating building and moving up by pathfinding to improve opportunity to win (W2) ● Logical reasoning: Modifying strategies based on the introduction of god cards (W3) ● Spatial reasoning: Locating workers and builds based on the introduction of god cards (W3)
MATERIALS	<ul style="list-style-type: none"> ● Enough copies of <i>Santorini</i> for your class ● Each student has a pencil ● Condensed rules sheet - How to Play Santorini ● Teacher will hand out a god card to each pair from the six chosen gods ● Pick out the following god cards: Artemis, Demeter, Apollo, Atlas, Minotaur, Hephaestus ● Have the god card sheets available with examples/non-examples
SPECIAL CONSIDERATIONS	<ul style="list-style-type: none"> ● One round of Santorini game play takes approximately 20 minutes. ● Organize groups according to student needs. Encourage discussion and understanding of the game.
LESSON ACTIVITIES	<ol style="list-style-type: none"> 1. Today we're going to start by paying close attention to the strategies you've been developing. Please answer #1 on the reflection sheet. Then, we will play one-on-one SILENTLY. I want to see how you anticipate your opponent's turn and analyzing what's going on to make the best moves. 2. Students play one game: one-on-one. 3. Now, we'll be adding in the god/goddess cards! You'll get a chance to modify the strategies you've been using, based on the powers you receive from the god/goddess. <p>We will be playing with 6 different god/goddesses. Some allow you extra/interesting moves and some allow you extra/interesting builds!</p>

	<p>You can choose to do this every turn, but you don't have to! Use your god power strategically!</p> <p>We'll hand out the 6 god/goddess cards for you to pick from. You will pick a card to use, along with an <i>Information Sheet</i> (see below) that shows legal and illegal moves. Just ask if you have questions about your power!</p> <ol style="list-style-type: none"> 4. Students will play with god cards. They can use different ones in different rounds if they like. 5. 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). 6. Teacher circulates and prompts student discussion of strategies. Encourage students to ask each other the questions listed on the "How to Play" sheet. <ol style="list-style-type: none"> a. Why did you choose to move your worker there? How did you decide what piece to place? b. Could you have tried a different move? 7. At the end of the game time, encourage students to complete the reflection sheet (10 mins at the end of class.)
<p>QUESTIONS/ REFLECTIONS</p>	<p>Questions for students/prompts: Here's a quick overview:</p> <ul style="list-style-type: none"> ● Artemis: you can move a worker an extra time (but not back to its original spot). ● Demeter: you can build an extra piece (but not two pieces on the same spot). ● Apollo: your move can be to swap places with an opponent in a legal move (has to be adjacent to your worker). ● Atlas: you can build a dome on any level. ● 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. ● Hephaestus: you can build an extra block on top of your first block (but not a dome). <p>Focus for Week 3:</p> <ul style="list-style-type: none"> ● Which God or Goddess did you use today? ● Do you think the God/Goddess cards make the game better or worse? Why? ● Do you think the God/Goddess cards make the game easier or harder? Why?

- How often did you use your God/Goddess power in play today?
- Was it difficult to predict your opponent's moves when you also had to think about how they could use their power?
- Were you able to get a surprise win by using your God/Goddess power?
- Did using the powers make the game quicker or slower? Why do you think that might be?
- What is your favourite strategy you have used to win Santorini?
- Have you figured out a strategy that lets you win without getting to lvl 3 of a tower?
- Does your strategy rely more on one worker, or use them both equally?
- How many of your strategies are offensive, how many are defensive?
- What tools do you have in Santorini to help you use a strategy?
- When you are thinking of a strategy, which do you pay attention to more: Game board, my own or my opponents' workers, buildings?
- Does your strategy help you get a 'quick win' or is it for more of a medium or long game?
- Does your strategy help you predict how long a game will last?
- Are you using workers together (coordinated) or separate?
- Is that an offensive or defensive move with your workers?
- Is that an offensive or defensive build with you building piece?
- How many levels are you aiming for?
- How are you arranging the towers?
- Where are the board are you trying to build the most?
- Are you spreading out towers or are you building them together?
- Why did you choose those starting positions for your workers?
- Where could you move each of your workers? [adjacent spot]
- How did you decide where to move that worker?
- Which pieces can you use to build? Where can you build? [adjacent to worker just moved]
- How did you decide what to build?
- What do you think your opponents will do next?
- What are you going to do to win?
- How did you win? OR How did your opponent win?
- Does this game remind you of any other board games you have played before?
- Have you found any tricks yet?
- What do you want to try next time?
- What is the best way you have found to win so far?
- Does having two workers compared to only having one make the game easier or harder?

Reflection Sheet: Santorini

Your Name: _____ Team Members: _____

1) Identifying and Analyzing Strategies to Win

Check off the three most important ideas you used as part of your winning strategy today:

- | | |
|---------------------------------------------------------------------|------------------------------------------------------------------|
| <input type="checkbox"/> Dome or cap a tower | <input type="checkbox"/> Block my opponents' moves by building |
| <input type="checkbox"/> Create stairs using buildings | <input type="checkbox"/> Build rival towers |
| <input type="checkbox"/> Control a section of the board by building | <input type="checkbox"/> Build towers in middle of board |
| <input type="checkbox"/> Use my workers to block my opponent | <input type="checkbox"/> Build towers on edges/sides of board |
| <input type="checkbox"/> Follow opponents' workers with my own | <input type="checkbox"/> Pick key starting places |
| <input type="checkbox"/> Build lots of level 2 towers | <input type="checkbox"/> Play workers on opposite sides of board |
| <input type="checkbox"/> Build lots of level 3 towers | <input type="checkbox"/> Play workers close together |
| <input type="checkbox"/> Stay away from my opponents workers | <input type="checkbox"/> Looking for diagonal moves or builds |
| <input type="checkbox"/> Trap my opponents' workers | _____ |

Explain why the three you chose were the most important:

2) Which god/goddess card did you use? (circle one)

- | | | |
|---------|------------|----------|
| Atlas | Apollo | Artemis |
| Demeter | Hephaestus | Minotaur |

3) Modifying Strategies with God/Goddess Cards

How did your god/goddess power modify (change up) the strategies you've been using?

4) Locating Workers and Builds on a Turn

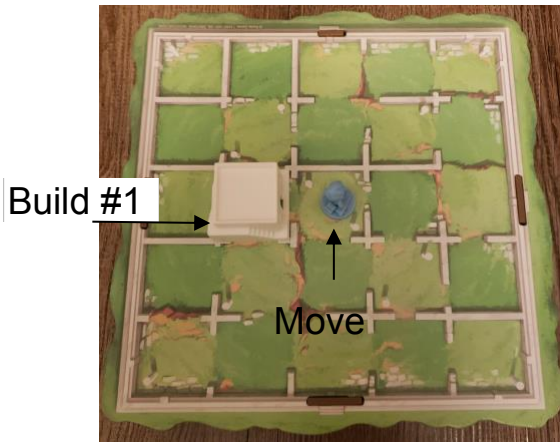
Use the game in the picture below. Grey goes next. Use your god/goddess card power from today to locate the **best move and then build** for Grey to make next.

Explain how your power helps you make the move. Also, draw on the picture!

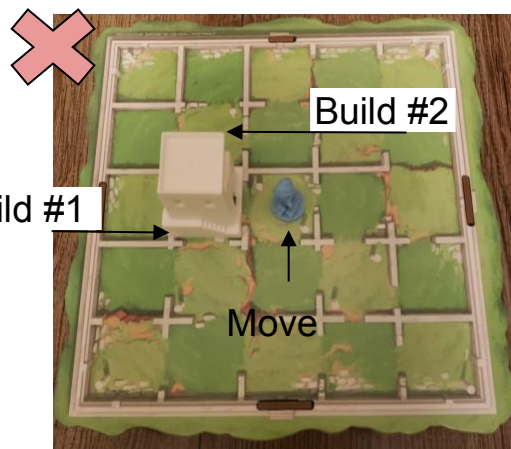
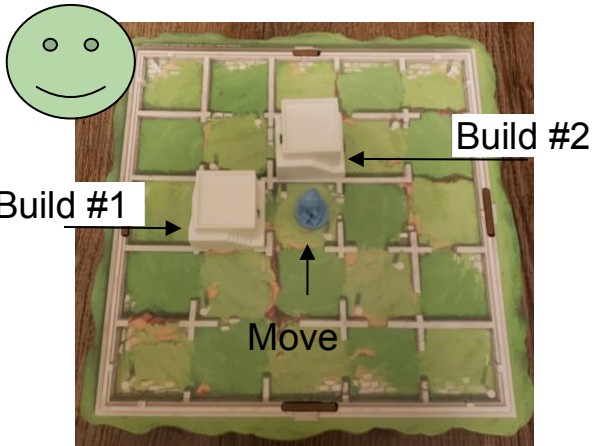


Demeter: Your worker can build one additional time, but not on the same space.

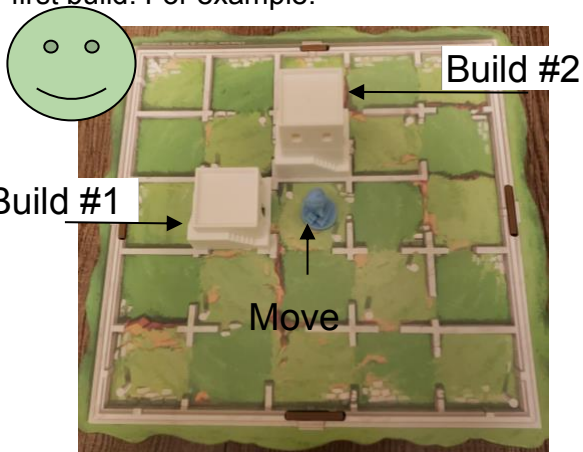
Position after moving worker and first build:



Legal use of second build:

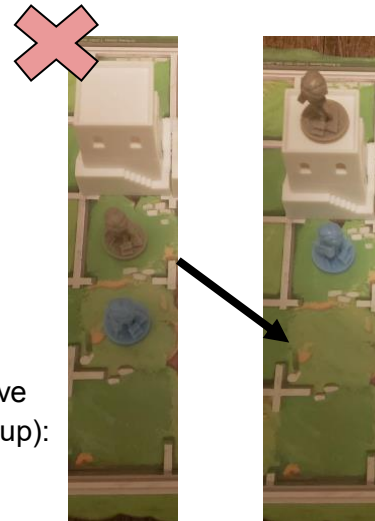
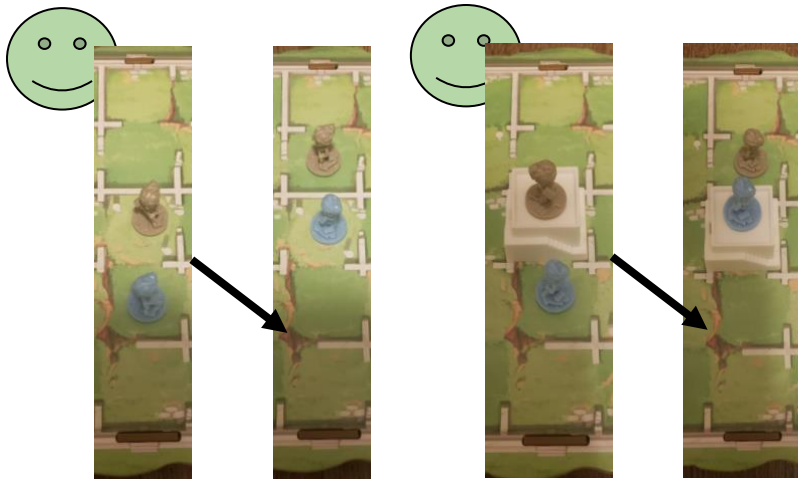


You can also build on a higher level, but the second build can't be on the same space as your first build. For example:



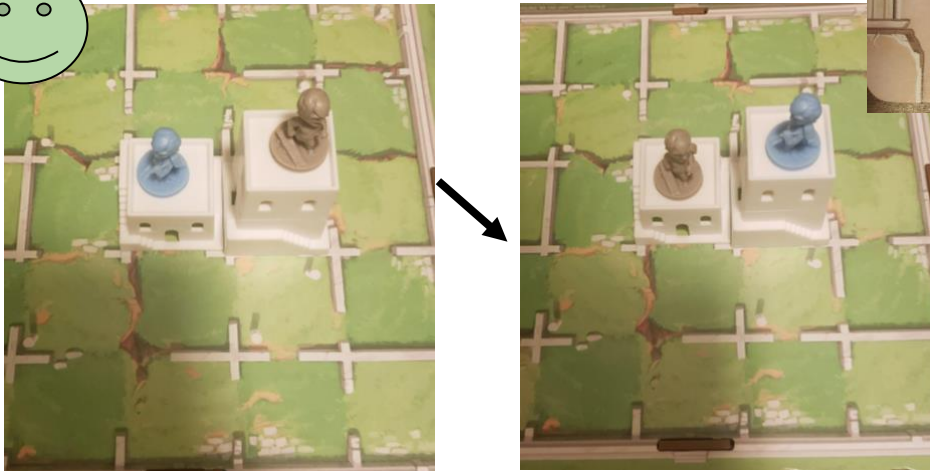
Minotaur: Your worker can move into the space with an opponent's worker. The opponent's worker is **pushed** one spot in the same direction (must be a legal move). The level of the space does not matter, but must be legal.

All of these moves are legal: blue is making a legal move and pushing grey in the same direction with a legal move. Legal move: adjacent spot; same level, up one level, down any levels.

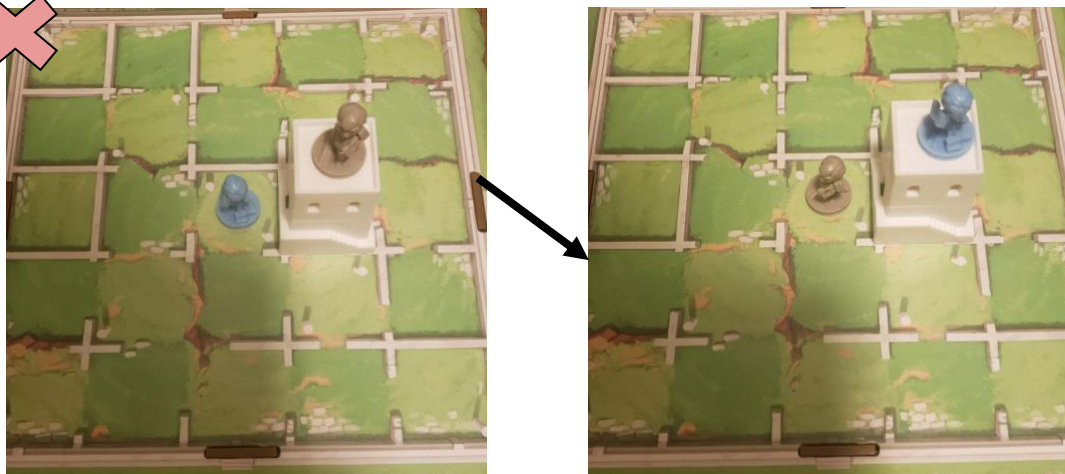


Apollo: Your worker can swap places with any adjacent opponent's worker, but must be a legal move.

Legal use of blue swapping places with grey. Legal move: adjacent spot; same level, up one level, down any levels.



Illegal use of blue swapping places with grey. Blue can't jump up two levels.



Artemis: Your worker can move one additional time, but not back onto the space it just moved from (must be legal moves).



Legal use of moving an extra time. Legal move: adjacent spot; same level, up one level, down any levels.



Illegal use of moving an extra time because blue moved back to its original spot.



Atlas: Your worker can build a dome on any level, including the ground level.

These are legal dome builds, as long as there is no worker on the spot where the dome is built.

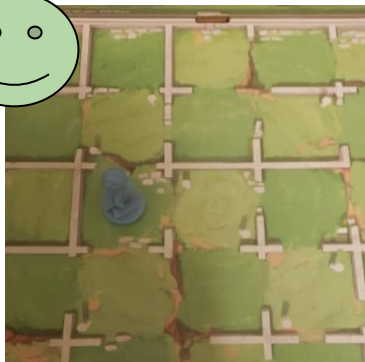


Hephaestus: You can build an extra block on top of the first block you built this turn, but not a dome.

Level 1 + Level 2

Level 2 + Level 3

You move, then build Level 1 and Level 2 on the same spot.



You move, then build Level 2 and Level 3 on the same spot.



This is not a legal build. You cannot build level 3 and a dome.

