

5: LESSON PLAN - Aqualin

LEARNING AIMS	<p>Students will:</p> <ul style="list-style-type: none"> ● Engage in cooperative play ● Reflect on their own logical and spatial reasoning ● Gain a basic understanding of game mechanics, rules, fundamental gameplay, scoring, strategies ● Logical reasoning: Investigate the game to learn how to create good, legal moves – getting to know the game (W1) ● Spatial reasoning: Tactilizing (touching, manipulating, moving around, testing out) with the tiles to figure out how to place tiles and move other tiles on the emerging board – getting to know the game (W1) ● Logical Reasoning: Adapting moves to an ever-evolving board (W2) ● Spatial Reasoning: Sliding tiles in order to create your own schools or break up your opponent’s (W2) ● Logical Reasoning: Analyzing the board and tiles to make strategic moves (W3) ● Spatial Reasoning: Arranging tiles in order to create or break up high scoring schools (W3) ● Logical Reasoning: Analyzing opponent’s moves and adapting strategies to compensate (W4) ● Spatial Reasoning: Sectioning the board in order to control gameplay (W4) ● Logical Reasoning: Convincing others of effective strategies for Aqualin (W5) ● Spatial Reasoning: Fitting final pieces on the board to secure maximum available points (W5)
MATERIALS	<ul style="list-style-type: none"> ● Enough copies of <i>Aqualin</i> for your class, can play in pairs ● Students need pencils ● Paper copy of scoring sheet ● Reflection sheet
SPECIAL CONSIDERATIONS	<ul style="list-style-type: none"> ● Organize groups according to student needs: Play in pairs, so two on two. Encourage discussion and strategy development. ● One round of Aqualin game play takes takes approximately 20 minutes.
LESSON ACTIVITIES	<ol style="list-style-type: none"> 1. Hand out reflections right at the beginning so students have them for the opening discussion. 2. This is our last lesson playing Aqualin! You suggested a lot of interesting modifications to the rules. In this final round of play, we want to see which rules you decide to use to modify your games and how you justify using them. Here is a great suggestion for a rule change, and why the change is a great idea: Starter image (see below). After looking at Student B’ justification – look at the other rule modifications on the reflection sheet and give a

	<p>justification to the class. [maybe take one justification for a few new rules in the list]</p> <ol style="list-style-type: none"> 3. Divide students into their groups. <ol style="list-style-type: none"> a. Explore pieces, read rules that come with the game. b. If students want, they could have open play, where all tiles are visible to all players. c. Play! 4. Teacher circulates and prompts student discussion of strategies. 5. At the end of the game time, encourage students to complete the reflection sheet (10 mins at the end of class). 6. Students clean up games and complete reflection sheet.
<p>QUESTIONS/ REFLECTION</p>	<p>Focus Prompts for Lesson 5:</p> <ul style="list-style-type: none"> ● When planning your turn, do you think about sliding first or placing first? ● Are there any parts of the board you try to avoid playing in? Why are these areas of the board harder to play in? ● Do you have a favorite part of the board to trap your opponents pieces in? Why do you like that spot? ● Do you always slide a tile as far as you can? Why or why not? ● Can you think of a time when you might not want to slide a tile? ● Did you look at the tiles first? Board first? ● How do you decide whether to move a tile or not first? ● What are you doing to find a spot to put your tile? ● What did you say to your partner to figure out your next move? ● If you have two good plays, how do you choose? <p>Other questions/prompts:</p> <ul style="list-style-type: none"> ● When your turn starts, how do you decide what piece to play? Use drawings and words. ● Look at the board below and the drafting pool. Let's say you're going to put your next piece in the spot where the arrow is pointing. Draw a picture of at least two different tiles that would be a good choice. Explain why both would fit. ● Tell me one interesting thing you learned about Aqualin. Use drawings

	<p>and words.</p> <ul style="list-style-type: none">● What strategy helps you get a high score in the game? Is there something you do during the game to get a high score?● How do you know you're an expert at Aqualin? How would you know if a friend you were playing Aqualin with was an expert at the game?● A strategy I'm testing today is _____. My reason for trying this strategy is _____.● A good move/strategy that my partner shared with me today was _____.● Here's what we did to find the best place to play (draw and explain).● If you have two good plays, how do you choose? Use drawings and words. Convince me your choice is the best move.● For your fourth turn, draw the tile you played. Explain why you picked that tile. Explain what you did to fit it on the board.● These are two different boards that came up in your class. Circle which game board you would rather play on. Convince me why it's a better board! Why is the other board not as good?
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Student B's Rule Suggestion and Justification

3) Adapting: If you could change a rule in Aqualin, what would it be? Why?

New Rule: Players can move 2 times. This would help because for me when building larger schools moving helps alot. So moving again could help you build your school.

Why is B's justification convincing?

Look at the list of other rule modifications on the reflection sheet. Justify to the class why it's a good new rule.

Reflection Sheet: Aqualin

Your Name: _____ Team Members: _____

1) Modifying the game and adapting your strategies

Check off which game rule modification you played with today (table group needs to agree):

- | | |
|--|--|
| _____ Move your piece diagonally | _____ You may place instead of must place |
| _____ Move twice, no placing tile | _____ No moving, place two tiles |
| _____ Move twice, then place | _____ Instead of moving, swap 2 adjacent tile |
| _____ Most groups of 2 tiles receives 10 point bonus | |

Explain how the new rule changed the game and affected your strategies for getting a high score.

2) Fitting Tiles on the Board at the End of the Game

Use the board on the right. You are making schools of **SPECIES**.
The drafting pool is below the board.

- a) **Circle** a piece you would move and show where you would move it.
Justify.

- b) **Circle** the tile in the drafting pool you would place.
Draw an X on the board where you would place it.
Justify the placement.



3) Convince others of your effective strategies!

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

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

Use **words & drawings**:

Tip 1:

Tip 2:

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