

## 2: LESSON PLAN - QUARTEX

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| <b>LEARNING AIMS</b>          | <p>Students will:</p> <ul style="list-style-type: none"> <li>● Engage in cooperative play</li> <li>● Reflect on their own logical and spatial reasoning</li> <li>● Gain a basic understanding of game mechanics, rules, fundamental gameplay, scoring, strategies</li> <li>● Logical reasoning: <b>Investigate</b> the game to learn how to create good, legal moves (W1) – getting to know the game</li> <li>● Spatial reasoning: <b>Tactilizing</b> (touching, manipulating, moving around, testing out) with the tiles to figure out how to place tiles on the emerging board (W1) – getting to know the game</li> <li>● Logical reasoning: <b>Predicting</b> future tile placements to set up scoring points (W2)</li> <li>● Spatial reasoning: <b>Fitting</b> pieces onto the board in ways that complete corners to score points (W2)</li> </ul>   |
| <b>MATERIALS</b>              | <ul style="list-style-type: none"> <li>● Enough copies of <i>Quartex</i> for your class</li> <li>● Scoring sheet</li> <li>● Pencil for scorekeeping</li> <li>● Reflection sheet</li> </ul>   |
| <b>SPECIAL CONSIDERATIONS</b> | <ul style="list-style-type: none"> <li>● Organize groups according to student needs: <b>students can play in pairs or individually up to 4 players</b>. Encourage discussion and understanding of the game.</li> <li>● One round of Quartex game play takes takes approximately 30 minutes.</li> </ul>   |
| <b>LESSON ACTIVITIES</b>      | <ol style="list-style-type: none"> <li>1. <b>It was great to see how quickly you learned how to play Quartex! Remember that there are some transformation in Quartex? Student A and B had neat ways of showing these. What do you think they are? <i>Starter Image, page 1</i> (see below).</b> <p style="margin-left: 20px;">Today, you are encouraged to pay attention to how you <b>fit</b> tiles onto the board – and especially when you can <b>predict</b> in advance that you will finish a shape and get a token. Predicting and fitting will help you get higher scores! Let’s take a look at a board and tile from last week: <i>Starter Image, page 2</i> (see below).</p> <p style="margin-left: 20px;">Note answers to questions: can use transformation words to explain what to do with the tile; can collect a red, purple or yellow token; there are 11 places to put the tile; bes tile is purple-blue-blue-red (can get 2 blue tokens in one turn).</p> </li> <li>2. Divide students into their groups and hand out reflection sheets.             <ol style="list-style-type: none"> <li>a. Reinforce knowledge of game pieces and game rules as needed.</li> <li>b. If students want, they could have open play, where all tiles are visible to all players or they may begin to use the shields to hide</li> </ol> </li> </ol> |

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|   | <p>their pieces.</p> <p>c. Play!</p> <p>3. Reminder of rules:</p> <ol style="list-style-type: none"> <li>a. Each player takes 5 tiles. You can choose to show or hide tiles.</li> <li>b. Players alternate turns, adding one tile to the board each turn. First person “starts” the board.             <ol style="list-style-type: none"> <li>i. To place a tile, tile needs to line up along a whole side and match corner colour/shape.</li> <li>ii. Draw a new tile from the bag.</li> </ol> </li> <li>c. If your tile completes a shape, take a colour token/chip of matching colour. This is how you get points at the end of the game.</li> <li>d. If you can’t play on a turn, show tiles to all players to confirm. Then exchange for 5 new tiles.</li> <li>e. Near the end when tiles run out in the bag, continue playing. If you can’t play, you must pass and you’re out for the rest of the game. The game ends when no one can play.</li> <li>f. To score, the number of colour tokens left in each pile equals the point value for that colour token. Use the score sheet to figure out everyone’s scores.</li> </ol> <p>4. Teacher circulates and prompts student discussion of strategies.</p> <p>5. Students clean up games.</p> <p>6. Give students time to complete the reflection sheet.</p> |
| <p><b>QUESTIONS/<br/>REFLECTION</b></p> | <p>Focus Prompts for Week 2:</p> <ul style="list-style-type: none"> <li>● How many turns in advance do you start trying to plan your next move?</li> <li>● Is there a risk in trying to predict your next move too soon? Why?</li> <li>● Which piece in your hand would you trade in for another if you could, why?</li> <li>● Do you have any planned moves which include more than one of your tiles?</li> <li>● Did you look at the tiles first? Board first?</li> <li>● How is this game similar and different to Qwirkle? (if students have played Qwirkle)</li> <li>● What are you doing to find a spot to put your tile?</li> <li>● What did you say to your partner to figure out your next move?</li> <li>● Do you stop after finding one spot or do you keep looking?</li> <li>● If you have two good plays, how do you choose?</li> <li>● How did you know you’d get a colour token that turn? How did you</li> </ul>  |

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|  | <p>know you could complete a corner shape?</p> <ul style="list-style-type: none"><li>● What do you notice about the tiles?</li><li>● Did you know you can flip the tile over? How do the two sides compare?</li><li>● What are the most or least colours that could be on the corners of tiles?</li><li>● How are the colours on the corners of the tiles arranged?</li></ul> <p>Other questions/prompts:</p> <ul style="list-style-type: none"><li>● When your turn starts, how do you decide what piece to play? Use drawings and words.</li><li>● Look at the board below. 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 pieces that would fit there. Explain why both would fit.</li><li>● Tell me one interesting thing you learned about Quartex. Use drawings and words.</li><li>● What strategy helps you get a high score in the game? Is there something you do during the game to get a high score?</li><li>● How do you know you're an expert at Quartex? How would you know if a friend you were playing Quartex with was an expert at the game?</li><li>● A strategy I'm testing today is _____. My reason for trying this strategy is _____.</li><li>● Here's a strategy I use to set up to get a colour token (points).</li><li>● A good move/strategy that my partner shared with me today was _____.</li><li>● If you could start the game with any piece, which one would it be? Draw a picture and explain why with words.</li><li>● What are <b>ALL</b> the <b>DIFFERENT</b> ways you could place the piece pictured on the game board? Use the tiles below to show (draw). Explain how you know you have all. [Give a piece and then 12 boxes to draw in.]</li><li>● Here's what we did to find the best place to play (draw and explain).</li><li>● Here's what we did to try to finish a shape and get a colour token (points) today (draw and explain). Here is one thing I did in the game today to finish a shape and get a point chip (use drawings and words):</li><li>● Pick a piece and examine it. Draw it below. Tell me everything about the piece you can.</li><li>● If you have two good plays, how do you choose? Use drawings and words. Convince me your choice is the best move.</li><li>● Today you learned the rules for how to find your score at the end of the game. How did that affect how you played Quartex?</li><li>● For your fourth turn, draw the tile you played. Explain why you picked that tile. Explain what you did to put it fit it on the board.</li><li>● These are two different boards that came up in your class. Circle which</li></ul> |
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|  | <p>game board you would rather play on. Convince me <b>why</b> it's a better board! Why is the other board not as good?</p> <ul style="list-style-type: none"><li>● STOP when you get your first colour chip for finishing a shape! How did you first know you would finish a shape? Tell me what you did to finish the shape – use drawings and words.</li><li>● Can you tell me three things you noticed about the playing pieces? Be sure to draw pictures to help me understand! (give them three squares to draw in)</li><li>● When you're setting up, find a tile that has symmetry. Draw it: Make a dashed line - - - - - for any lines of symmetry.</li><li>● Find a second piece that has at least one more line of symmetry. Draw it: Make a dashed line - - - - - for any lines of symmetry.</li><li>● STOP when someone finishes a shape for the <b>first</b> time. Get a picture taken! How many of the four corners on a tile have to make a match on the board? Why?</li><li>● Explain a situation where you can finish three shapes at the same time (drawings and words). How many of the corners have to match?</li><li>● Do more lines of symmetry make a piece harder or easier play? Explain why (drawings and words).</li><li>● These are two different boards that came up in your class. (give 2 photos). How many spots can you complete a shape on this board? _____ . How do you know you found all the spots?</li></ul> |
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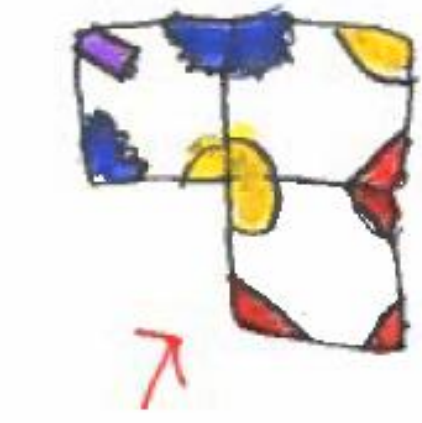
# What are these types of transformations?



(Student A)



(Student A)



(Student B)

**Student C is about to play.**

**Where are the 3 different places the tile FITS to score a token?**

- **What do you have to do with the tile to make it fit?**
- **What colour token would he get for each?**

**Bonus: Count ALL the places the tile fits. How do you know?**

**PREDICT what the best tile would be for Student C to draw out of the bag next.**



## Reflection Sheet: Quartex

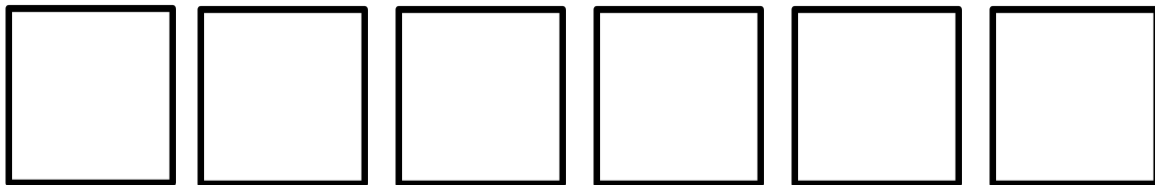
Your Name: \_\_\_\_\_ Team Members: \_\_\_\_\_

### 1) Predicting: Stop when you score your first colour token.

How did you know you were about to finish a shape? Describe what you did to finish the shape. Use drawings and words.

### 2) Fitting: Getting square tiles on the board.

Look at the board below. 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 pieces** that would fit there. Explain why both would fit.



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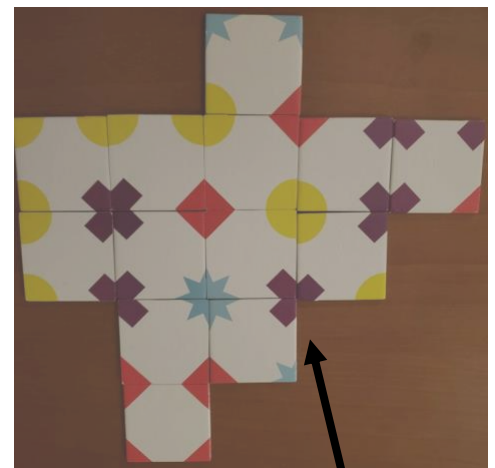
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How many different pieces do you think would fit in this spot? \_\_\_\_\_

How did you figure that out? Explain.