

Qwirkle Teaching and Learning Guide

Qwirkle is a favourite attribute game that contributes to developing spatial and logical reasoning. It is very quick to learn with just a few rules. The goal is to create and expand lines of matching colors or shapes to score the most points. Game play takes about 30 minutes.

Considerations for getting started

- Prepare games: Label and number your games. It is easier to keep track of the games and make sure that your students are taking care of the games.
- Plan Groups: Decide how you want to group students for game play.
- Create a supportive environment by providing some guidelines for good sportsmanship. Here are some suggestions.
 - a. How to win and lose graciously. If you win, don't boast. If you lose, try to be happy for the winner. Be kind to yourself. Learning a game takes time. Often the winners have more experience.
 - b. Don't give up in the middle of a game if you are feeling like you are not winning. Ask your team-mates for help to make a good play.
 - c. Be gentle when you see a team-mate make a mistake. Don't get defensive when someone reminds you of the rules.
 - d. Don't bully. Playing is no fun if you have no one to play with.
 - e. At the end of every game, thank your team-mates for playing with you.You may need a reminder of sportsmanship as time progresses.
- Cooperative play can help create a supportive environment and encourage communication. Below are a couple ideas for cooperative play
 - a. Team with highest score in class wins
 - b. Pair students. Eg in groups of 4 have two students support each other.
- Print out handouts: Quick 'how to play' guides, scoresheets, and reflection sheets.

Week 1 Introduction of the Game

Focus

Logical Reasoning: *Investigating* the attributes of shape and colour. *Exploring* how to place tiles of matching attributes to score points

Spatial Reasoning: *Comparing* attributes for *composing* rows and/or columns

Noticings: Are students making one continuous line of unique and *matching* attributes (color or shape)?

Suggestions for classroom game play:

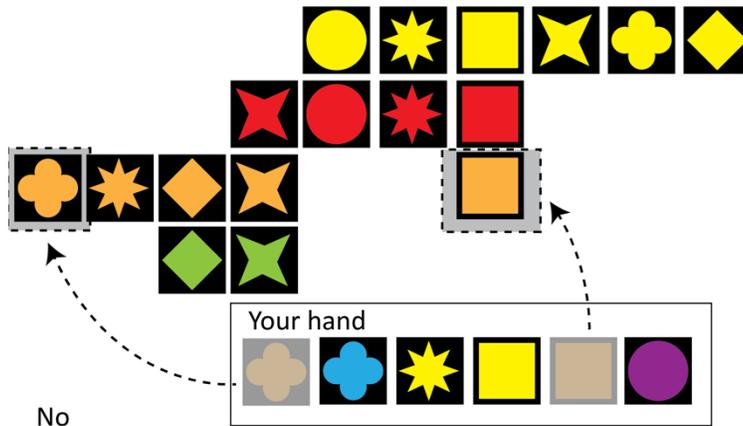
1. Introduce the game by watching this video in class
<https://www.youtube.com/watch?v=DGe3MSIYO6I>
2. Then, play a game against one student, with the rest of the class gathered around. Deliberately make a couple of mistakes to clarify rules.

Misconception 1: Placing tiles in a non-continuous line

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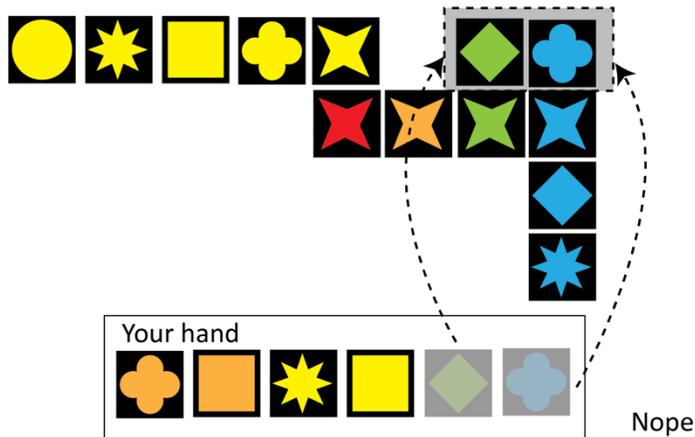
Sometimes students place tiles of matching attributes along a line, but with spaces in between. In the example below, the student placed the orange club in the orange row and placed the orange square in the square's column. Each of these moves is ok, but it would be 2 turns. You can only place one line at a time.

Can you place the orange club and square in the same row with spaces between?



Misconception 2: *Placing mismatched tiles (not matching attributes).* Sometimes students forget to match either colour or shape when they form a line. In the example below the blue club and green diamond cannot be side by side as they do not match in colour or in shape.

Can you place the green diamond and the blue club in the same line?



3. Organize the students to play the game. Give to:
 - Each Group: the same numbered game and quick Qwirkle guide,
 - Each Student: a scoresheet and a pen or pencil

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4. Organize the students to clean up their games.
5. Give each student Reflection sheet 1 <insert link>. Reflection sheet 1 enables assessment of students' strategies and understanding of the game. Are students placing tiles in 1 continuous line? Are students matching attributes?



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Week 2: Clarification of the rules and scoring

Focus

Logical Reasoning: Comparing the attributes of shape and colour to *evaluate* which tile(s) score the most points

Spatial Reasoning: Interpreting the variations in attributes for *situating* and *fitting* tiles into a continuous line to *compose* an expanding and connected grid.

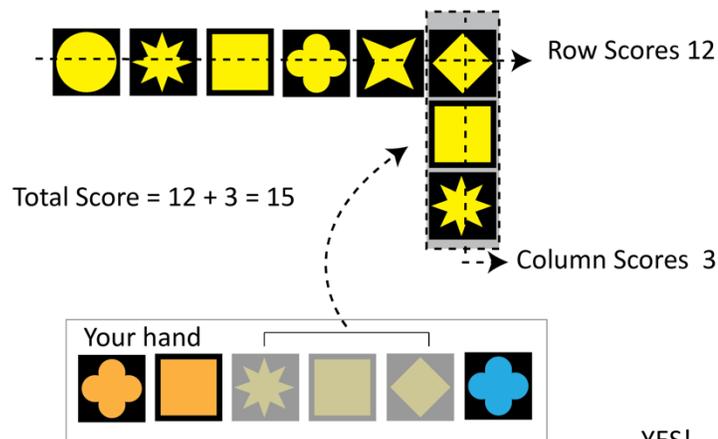
Noticings: Are students scoring a tile twice when *joining* two lines?

Suggestions for classroom game play

1. Start to play a game against one student. Readdress misconceptions from last week. As well, students often don't score the same tile when they place a tile to connect a row and column

Misconception 3: Not scoring tile twice when placed in both the row and column. When students place a tile that forms 2-lines, they often do not count the intersecting tile twice. In the example below, the row scores 12 and the column scores 3. The yellow diamond is counted in both the column and the row.

Do you score the yellow diamond in both the column and the row?



2. Organize the students to play the game. Give to:
 - Each Group: the same numbered game and quick Qwirkle guide,
 - Each Student: a scoresheet and a pen or pencil
3. Organize the students to clean up their games.
4. Give each student Reflection sheet 2 <insert link>. Reflection sheet 2 enables assessment of students' strategies and understanding of the game. Do students score tiles placed twice?

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Week 3: Recognizing multiple possibilities for scoring

Focus

Logical Reasoning: *Analysing* the attributes tiles for *testing* and *classifying* different strategic placements of tiles for maximizing scoring.

Spatial Reasoning: *Constructing* an ever expanding and connected grid by *comparing* attributes and *moving* tiles to *assemble* either 1-line, 2-line or grid *compositions*.

Noticings: Are students flexibly constructing 1-line, 2-line or grid *compositions*? Or are they still relying on 1-line strategies?

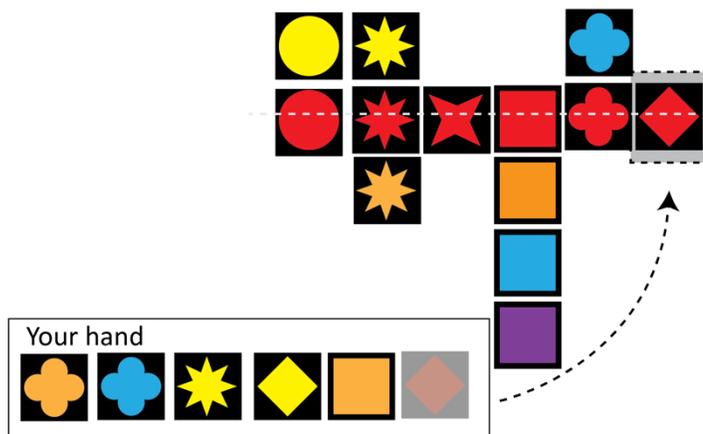
Suggestions for classroom game play

1. Start with a whole class discussion, to identify and classify the three different possibilities for placing tiles (1-line, 2-line, grid). As students gain more experience, they will gain more flexibility with using the best tile placements. Which scores the most points? Is the Grid always better?

Below is an example of the three possibilities with the same hand. As part of the discussion, you could have the students in their groups create each arrangement.

1-Line. In the example below, the red diamond is added to form a Qwirkle for 12 points.

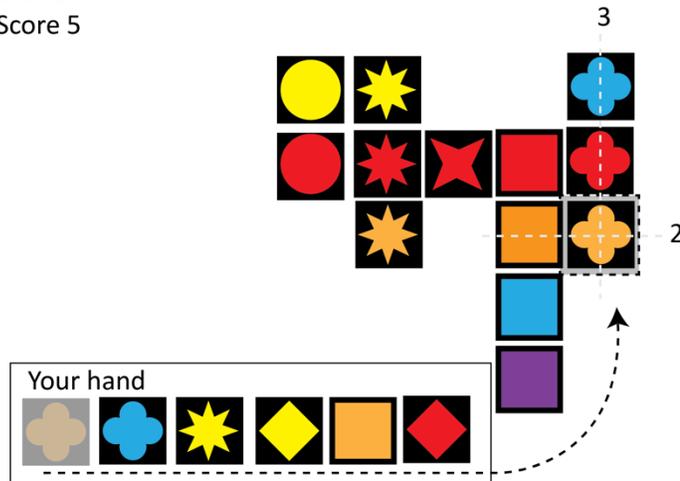
1-Line
Score 12



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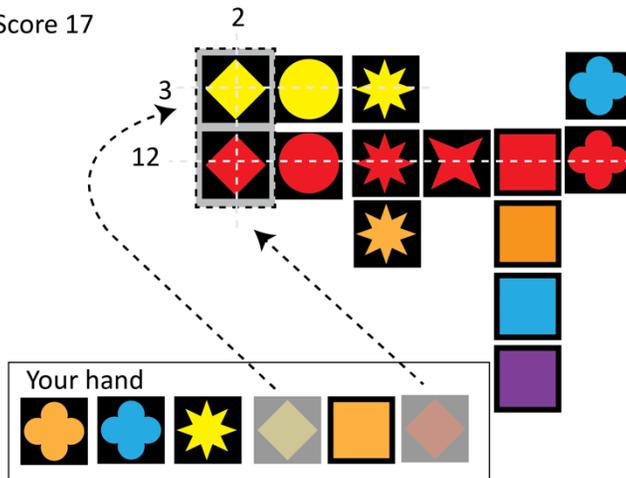
2-Line. In the example below the orange club is added to both the column of clubs and the row of orange. This forms 2 intersecting lines or what the Westmount students called the '2-line'. This one doesn't score as much as the Qwirkle above.

2-Line
Score 5



Grid

Grid
Score 17



2. Organize the students to play the game. Give to:
 - a. Each Group: the same numbered game and quick Qwirkle guide,
 - b. Each Student: a scoresheet and a pen or pencil
3. Organize the students to clean up their games.
4. Give each student Reflection sheet 3 <insert link>. Reflection sheet 3 enables assessment of students' use of each of the three possibilities for placing tiles. Are they able to use place their tiles to form a grid? Are they able to score a grid accurately?

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Week 4: More game experiences

Focus

Logical Reasoning: *Analysing* the attributes of the tiles and the *adapting* game board by *classifying* and *integrating* the different strategic placements of tiles for maximizing scoring.

Spatial Reasoning: *Fitting* and *arranging* tiles on an ever expanding and connected grid by *interpreting* attributes to *compose* a continuous line that *intersects* on an ever expanding and connected grid.

Noticings: Are students flexibly constructing 1-line, 2-line or grid *compositions*? Or are they still relying on 1-line strategies?

1. Organize the students to play the game. Give to:
 - a. Each Group: the same numbered game and quick Qwirkle guide,
 - b. Each Student: a scoresheet and a pen or pencil
2. Organize the students to clean up their games.
3. Give each student Reflection Sheet 4 <insert link>. Reflection Sheet 4 enables assessment of students' strategies and understanding of the game. Can they *justify* why their game move scores the highest points Do students score tiles placed twice?

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