

Using Inquiry and Active Learning in Mathematics

- and how COMMITs can help

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Projects/Resources:

<https://www.artofmathematics.org/>

<https://www.ne-iblm.org/>

<https://www.comathinquiry.org/>

(COMMIT= Communities for Mathematics Inquiry in Teaching Network)

Add yourself to our list of people interested in connecting to a COMMIT:

<https://docs.google.com/forms/d/e/1FAIpQLSc2IGYCW6zkzu6TjqkECCWqrfUlvuA97meGJcV2sTmXwAfYFA/viewform>

Video Clip:

<https://www.artofmathematics.org/blogs/cvonrenesse/lessons-learned-about-remote-synchronous-teaching>

Group 1:

Hex Game Rules:

Decide who is “yellow” (going up/ down) and who is “green” (going left/right).

Take turns playing one stone - anywhere on the board.

The first person to connect their sides with a connected chain of stones (not nec. Straight line) wins.

Link to Jamboard:

<https://jamboard.google.com/d/1B04W48kJit3Km0DuM6C1tGCOTONNKtheXFU8KEfuBdA/edit?usp=sharing>

Conjectures for Winning Strategy:



Group 2:

Hex Game Rules:

Decide who is “yellow” (going up/ down) and who is “green” (going left/right).

Take turns playing one stone - anywhere on the board.

The first person to connect their sides with a connected chain of stones (not nec. Straight line) wins.

Link to Jamboard:

<https://jamboard.google.com/d/1Jic8ScT0rhRwKn2nMamDMOCFPEfg3HoFImkmZgf99v0/edit?usp=sharing>

Conjectures for Winning Strategy:



Group 3:

Hex Game Rules:

Decide who is “yellow” (going up/ down) and who is “green” (going left/right).

Take turns playing one stone - anywhere on the board.

The first person to connect their sides with a connected chain of stones (not nec. Straight line) wins.

Link to Jamboard:

<https://jamboard.google.com/d/1v2cpRdHHjqoqWmaFBHdU-2-o5GbCdSL1XkAJJBQ258/edit?usp=sharing>

Conjectures for Winning Strategy:

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Group 4:

Hex Game Rules:

Decide who is “yellow” (going up/ down) and who is “green” (going left/right).

Take turns playing one stone - anywhere on the board.

The first person to connect their sides with a connected chain of stones (not nec. Straight line) wins.

Link to Jamboard:

https://jamboard.google.com/d/1Zaxvs0f18sxelr5lLpyLXzWjc9XbNy2cD_5iZi2hOwY/edit?usp=sharing

Conjectures for Winning Strategy:

First mover seems to have an advantage.

C3 is helpful but not necessary to win. The person who goes first has a slight advantage.

Group 5:

Hex Game Rules:

Decide who is “yellow” (going up/ down) and who is “green” (going left/right).

Take turns playing one stone - anywhere on the board.

The first person to connect their sides with a connected chain of stones (not nec. Straight line) wins.

Link to Jamboard:

https://jamboard.google.com/d/1SfYVaoBUI43_ZPbeayvy4HDpPoUxkLiYvQuCbEjWX28/edit?usp=sharing

Conjectures for Winning Strategy:



Group 6:

Hex Game Rules:

Decide who is “yellow” (going up/ down) and who is “green” (going left/right).

Take turns playing one stone - anywhere on the board.

The first person to connect their sides with a connected chain of stones (not nec. Straight line) wins.

Link to Jamboard:

<https://jamboard.google.com/d/12q-Y8jUo2FOK23cUfpm57zERKmGj7wLfd8qIWPZn7sU/edit?usp=sharing>

Conjectures for Winning Strategy:



Group 7:

Hex Game Rules:

Decide who is “yellow” (going up/ down) and who is “green” (going left/right).

Take turns playing one stone - anywhere on the board.

The first person to connect their sides with a connected chain of stones (not nec. Straight line) wins.

Link to Jamboard:

<https://jamboard.google.com/d/1pWWBDlipyxmCFVVnEplu607B0UFezt5IF4xEyOVrCws/edit?usp=sharing>

Conjectures for Winning Strategy:

The first move is pretty important - close to the center

Group 8:

Hex Game Rules:

Decide who is “yellow” (going up/ down) and who is “green” (going left/right).

Take turns playing one stone - anywhere on the board.

The first person to connect their sides with a connected chain of stones (not nec. Straight line) wins.

Link to Jamboard:

<https://jamboard.google.com/d/1r0cyiBQmDa26WBscssLKLxiNhyaNhzyv-kHSZw4wFrg/edit?usp=sharing>

Conjectures for Winning Strategy:



Group 9:

Hex Game Rules:

Decide who is “yellow” (going up/ down) and who is “green” (going left/right).

Take turns playing one stone - anywhere on the board.

The first person to connect their sides with a connected chain of stones (not nec. Straight line) wins.

Link to Jamboard:

<https://jamboard.google.com/d/1v4NnbYdFZ8IU7Sxb7bcgSz4yPwwWK8swOV4uC3X7xHI/edit?usp=sharing>

Conjectures for Winning Strategy:

When the first player takes C3, they can “go around” an adjacent hexagon. This is not true when they start at the outer or “next to edge” ring.

Group 10:

Hex Game Rules:

Decide who is “yellow” (going up/ down) and who is “green” (going left/right).

Take turns playing one stone - anywhere on the board.

The first person to connect their sides with a connected chain of stones (not nec. Straight line) wins.

Link to Jamboard:

<https://jamboard.google.com/d/1Ool4UfH-0LEm4ee6IKDI8FepY1DvZfmAyhzaclu8Zbk/edit?usp=sharing>

Conjectures for Winning Strategy:

Starting in the corner is not a good strategy. Better to start in the middle, to dominate the board.

With a 3x3 board, the first player has a clear winning strategy: place pebble in the middle.

Group 11:

Hex Game Rules:

Decide who is “yellow” (going up/ down) and who is “green” (going left/right).

Take turns playing one stone - anywhere on the board.

The first person to connect their sides with a connected chain of stones (not nec. Straight line) wins.

Link to Jamboard:

<https://jamboard.google.com/d/1cCpAedMA5SjlpmsqCFpjNUkfByZktXzixQyrBsPT0/edit?usp=sharing>

Conjectures for Winning Strategy:



Group 12:

Hex Game Rules:

Decide who is “yellow” (going up/ down) and who is “green” (going left/right).

Take turns playing one stone - anywhere on the board.

The first person to connect their sides with a connected chain of stones (not nec. Straight line) wins.

Link to Jamboard:

https://jamboard.google.com/d/1R6KlwvZApbP8r6345JbfCcPjSQP2G_DXdr-PDHwXhEY/edit?usp=sharing

Conjectures for Winning Strategy:



Too many participants?

Use the link below to get your own game board (only you have access):

<https://jamboard.google.com/d/1B04W48kJit3Km0DuM6C1tGCOTONNKtheXFU8KEfuBdA/copy>