Resources for Games that Support Generalizing, Conjecturing, Strategy, and Proof-Like Reasoning

Brainstormed by the Math Twitter Blog-o-Sphere (#MTBoS)
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Math for Love: http://mathforlove.com/lessons/ A stellar list from Daniel Finkel (@MathforLove).

NRICH:
Great website with MANY games. For example:

- Odds and Evens: http://nrich.maths.org/4308
- Strike it Out: http://nrich.maths.org/6589
- Magic Vs: http://nrich.maths.org/6274
- A hint of what else they have: http://nrich.maths.org/public/search.php?search=player&filters%5Btype%5D=2&filters%5Bks4%5D=1

Investigations:
This curriculum has several excellent games of strategy. Close to 100, Close to 1000 are great. http://investigations.terc.edu/library/curric-math/close_to_100.pdf and ideas for deepening here: http://investigations.terc.edu/library/implementing/qa-1ed/close_to100.cfm
For younger kids, try Cover Up
https://investigations.terc.edu/library/curric-gl/2_sub_act_cover_up.pdf

Marilyn Burns
http://www.mathsolutions.com/wp-content/uploads/winwin_mathgames.pdf hints at some of the games she's created and taught. Four Strikes and You're Out is particularly fantastic. There are more games among these lessons:
http://mathsolutions.com/books-resources/classroom-lessons/

Thinking Mathematically by John Mason, Leone Burton, and Kaye Stacey (2010) is FULL of wonderful games and related questions.

Illustrative Mathematics: https://www.illustrativemathematics.org/practice-standards/8

Specific Games:

- **Mancala**
- **Tic Tac Toe**. Variations:
    - Ultimate Tic Tac Toe http://mathwithbaddrawings.com/2013/06/16/ultimate-tic-tac-toe/

    - More variations: http://mathwithbaddrawings.com/2013/11/18/tic-tac-toe-puzzles-and-the-difference-between-a-puzzle-and-a-game/
    - 4-D Tic Tac Toe http://www.adelaide.edu.au/mathslearning/play/4DOXRules.pdf
    - For older kids, play Tic Tac Toe on an infinite board, on a cylinder, on a Möbius Strip, etc. (h/t Amie Albrecht, @nomad_penguin)
- **Nim and Nim Games**. Variations:
    - Some of the more common variations: http://nrich.maths.org/1209
    - http://asiasociety.org/china-learning-initiatives/nim-game-played-all-over-world
    - Blog from Joe Schwartz (@Jschwartz10a) to get you started: http://exit10a.blogspot.com/2015_05_01_archive.html
    - Subtraction Nim: Player 1 chooses any positive integer. Players alternate subtracting 1, 2, or 3. The player who writes 0 loses.
    - Compilation of variations: https://riverbendmath.org/modules/Nim_Games/
    - New Year's Eve: Object is to say December 31 before your opponent. Can only change the month or the day going forward. First player must say January something (h/t @numerzgal)
- **Sprouts**: https://en.wikipedia.org/wiki/Sprouts_%28game%29
- **Eleusis**: https://en.m.wikipedia.org/wiki/Eleusis_(card_game)
- **Mastermind**: Avery Pickford (@woutgeo) blogged about it here: http://www.withoutgeometry.com/2013/11/using-mastermind-to-model-life-cycle-of.html
- **Jotto**: Matt Enlow (@CmonMattTHINK) discussed it here: https://www.bigmarker.com/GlobalMathDept/23June2015
- **2048:** Marilyn Burns blogged about it here: http://marilynburnsmathblog.com/wordpress/the-game-of-2048/

Web Collections:

- http://www.mathfair.com/level-1-puzzles.html
- http://www.k-5mathteachingresources.com/