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2019

The Game of Ur: An Exercise in Strategic Thinking and Problem Solving and A Fun Math Club Activity

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The Game of Ur

## An Exercise in Strategic Thinking and Problem Solving

and

A Fun Math Club Activity

by

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The Royal Game of Ur, the oldest known board game, was first excavated from the Royal Cemetery of Ur by Sir Leonard Woolley around 1926. The ancient Sumerian city-state of Ur, located in the lower right corner of the map of ancient Mesopotamia below, was a major urban center on the Euphrates River in what is now southern Iraq.
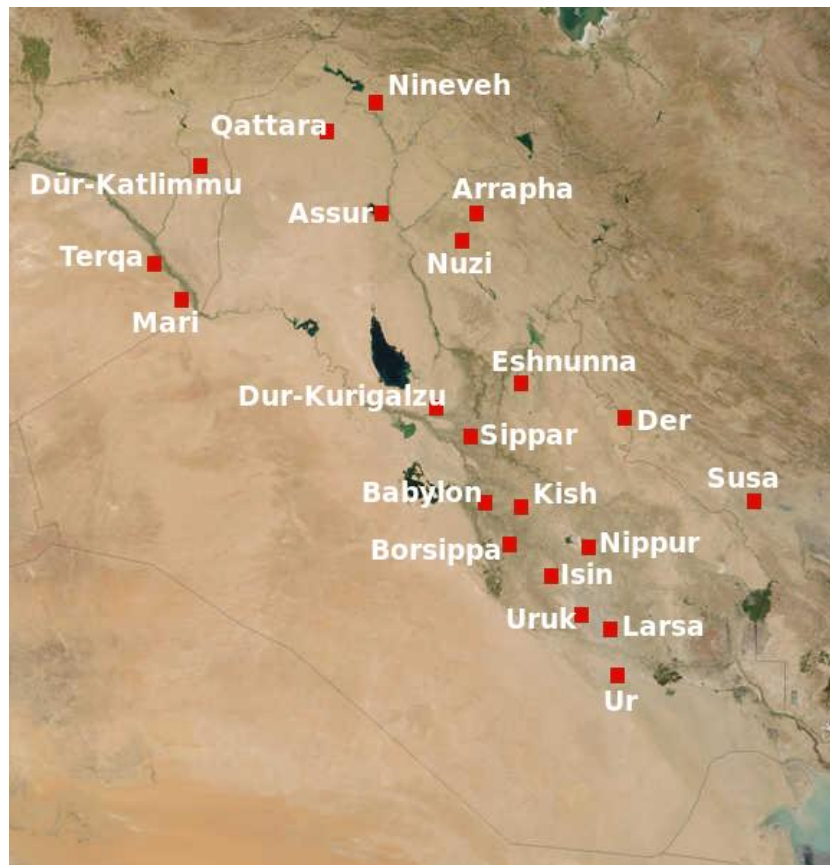
Mesopotamia in 2nd millennium BC
https://commons.wikimedia.org/wiki/File:Mesopotamia_in_2nd_millennium_BC.svg
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The first excavated game board for the Game of Ur is wooden, inlaid with shell and semi-precious stones, and consists of 20 squares. It was found together with four-sided throwing sticks. The game was also played by using tetrahedral die with 2 marked corners. In addition, there were 7 playing pieces for each of 2 players. The game board conveniently has a storage drawer to keep all the pieces together. Below is a picture, taken by the author at the British Museum, where this game board has been since 1928.

As the oldest known board game, the Game of Ur has a long history. Until backgammon came along, variations of it were played for over 4000 years, and in many countries. Other names the game has been known by include the "Game of Twenty Squares" and "Asha". Since playing the game involves problem solving and mathematical thinking, it is a great game to be used in a mathematics class or as a mathematics club activity.

Below is the picture of a cuneiform tablet from 177 B.C. which gives the oldest known set of rules for a board game. The tablet is roughly 4 inches by 4 inches. The picture was taken by the author at the British Museum in June 2018.

[Dr. Irving Finkel](#) of the British Museum deciphered this small cuneiform tablet, which contains the rules of a later variation of the Game of Ur. The tablet had been acquired by the British Museum in 1879, about 4 decades before the game board. From these more involved rules written by a Babylonian astronomer, Dr. Finkel was able to surmise rules of the basic game, which are presented below.

Basic Rules of the Game of Ur

- The game is played by 2 players, with each having 7 game pieces.
- Each player enters pieces from a different side of the board and the pieces are moved 0 to 4 number of squares, based on the number of colored corners showing after a roll of 4 tetrahedral die.
- The first player to get all 7 of his or her pieces along the correct path, and off the board, wins the game. (The path is given below.)
- New pieces can enter the board at any time.
- A player can have more than one piece on the board at a time, can jump one's own pieces, but cannot have two pieces on the same square.
- Pieces are "safe" on the outside squares on each player's side of the board and on the center rosette square, but can be taken by the opponent in the other middle squares.
- A piece in the center line of squares, except for the rosette square, is taken and must start again, if an opponent's piece lands on the same non-rosette square the piece is occupying.
- Landing on a rosette square, gives a player another roll of the die.
- To move a piece off the board, one must throw an exact match; e.g. if there are 2 squares left, one must throw a 3 to land off the board.
- If a player has a move, it must be taken; if no move is possible, the turn is lost.

A graphic of a game board is on a separate page below. It can be printed off and used by students to play the game. For a sturdier game board, print it on card stock paper. The next page has the corresponding game pieces for the two players and nets for constructing four tetrahedral die. The size of the tetrahedral die is small to approximate the size of the ones used in ancient

times. Two of the four corners should be colored. Card stock paper also works well for the game pieces and die.

To watch an entertaining video of Dr. Finkel playing the Game of Ur with British YouTuber Tom Scott, go to https://www.youtube.com/watch?v=WZskjLq040I . Another video that you may want to share with students, which has Dr. Finkel explaining a little bit about the game, is at https://youtu.be/wHjznvH54Cw and is called "Deciphering the world's oldest rule book | Irving Finkel | Curator's Corner pilot."

Enjoy playing the Royal Game of Ur!!!

References

- Irving Finkel, *Games: Discover and play 5 famous ancient games*, The British Museum, 3rd edition, 2005.

- Webpage of Royal Game of Ur gameboard at the British Museum https://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=8817&partId=1

- Webpage of Cuneiform tablet with Rules at the British Museum https://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?objectId=796973&partId=1&searchText=game+of+ur+tablet&page=1

- Wikipedia page on the Royal Game of Ur https://en.wikipedia.org/wiki/Royal_Game_of_Ur

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