## Chess Lesson Plans for Teachers

## Rationale:

The belief that chess promotes critical thinking and problem solving has led to its growing popularity in schools nationally. Currently, half of the US Chess Federation's members are children under 19. The US Chess Federation clearly states that "We know chess makes kids smarter." Chess is becoming more popular in schools due to the fact that it is a board game of skill and strategy. The children learn how to evaluate which move is best and then they must live with the consequences of their decisions. This is a skill that can be applied in their day-to-day living. Chess also teaches children about good sportsmanship as well as how to lose with grace.
Metacognative skills are important in chess. Children can review their games to see what mistakes have been made. In this way, students can improve their strategy and fine-tune their critical thinking skills.

## Instructional Objectives for Chess:

Increase and improve analytical thinking skills
Improve problem solving techniques
Increase self-confidence and improved organizational habits
Improve logic and reasoning skills
Increase patience and persistence
Improve decision making skills
How to Play Chess:
Chess is played with 32 men. Each player having sixteen men of opposite colors including one King, one Queen, two Bishops, two Knights, tow Rooks, and eight Pawns.

## Day 1: Set up the board

The eight up and down columns called files and the eight side-to-side rows called ranks make up the 64 squares of the checkered chess board. The 8 files have letter names: a, b, c, d, e, f, g, and h. The 8 ranks have number names: 1, 2, 3, 4, 5, 6, 7, and 8 . Place the chess board between players so that each player has a white square at the right hand corner of the board.
White always moves first. The letters of the 8 files begin from white's left-hand side--a-h.
The square in the upper left hand corner of the board would then be named a8 while the square in the bottom right hand corner would be named h1. Using this algebraic notation, you can easily follow the chess pieces around the board.

For a full game, set up the pieces in the positions as follows. The white pieces are placed on rank 1 with the white pawns in front of them on rank 2.

## WHITE:

a1 rook b1 knight c1 bishop d1 queen e1 king f1 bishop g1 knight h1 rook
pawns on a2 through h2
BLACK
The black pieces are placed on rank 8 with the black pawns in front of them on rank 7
a8 rook b8 knight c8 bishop d8 queen e8 king f8 bishop g8 knight h8 rook
pawns on a7 through h7
Activity:
Students practice placing the pieces on the correct spaces on the board while naming the corresponding space in algebraic notation.

## Day 2: The Pawn

The Pawn moves forwards only, never backwards. On its first move only, it may move one or two squares. After that, it can move only one square at a time, capturing only on the diagonal.

## Promoting of Pawns:

When a pawn arrives at its eighth rank on the other side of the board, it must be exchanged for one of the following: a Queen, Rook, Bishop, or Knight of the same color without regard to the number of such pieces already on the board.. As the game nears the ending, the Pawns become increasingly valuable.

Activity: The Pawn Game
Set up pawns only up on each side of the board in their starting positions. White begins. Object is to break through the opponent's rank and get to the other side of the board.

When a player's pawn reaches the other side of the board, the player removes the pawn and replaces it with a queen, rook, knight, or bishop. (Hint: Many players replace the pawn with a Queen even if this means they might have two Queens on the board.)
(This game is recommended by the grandmasters.)

## Day 3: The Queen

Each side gets only one Queen in which she moves along the diagonals, and the ranks, and the files. The Queen can move as far as she wants in any direction until she encounters another chess piece or the edge of the game! The Queen is quite powerful!

## Activity: The Lady Has Power

The queen always starts on the square of her own color on either d8 or d1. Line up the opposing pawns on the opposite side of the board. White moves first. The students will soon discover how powerful the queen is against the poorly protected pawns.

## Day 4: The Bishop

Bishops move straight along diagonals and do not jump.

Activity: The Bishop's Challenge
Place the bishop on his home square of a1 or a8. Place a total of ten opposing pieces anywhere on the board. The Bishop has ten moves to take the pieces off the board. Encourage the students to plan their strategy before they begin.

## Day 5: The Rook

The Rook is next in power to the Queen . The Rook moves in straight lines, never on diagonals. Most often the power of the Rooks is evident in the Endgame.

## Activity: The Rook's Turn

Place the Rook on his home square of c2 or c7. Choose eight opposing pieces to be placed in a fixed position anywhere on the board. The Rook has eight moves to take an enemy piece with each move. Encourage the students to plan their strategy before they begin.

## Day 6: The Knight

The Knight is the only piece that can jump over other pieces. The Knight moves in an L-shape but he can capture only on the square where he finishes his jump. Always the Knight moves first two squares forward or backwards or sideways, and then finishes the L-shape by moving right or left one more square.
Activity: The Knight Rules of the Road
The white knight begins on his home square of g1. To pass the test, the white knight has to take all the black pawns, which are fixed and do not move. It can be done in as few as eighteen moves.

## Day 7: The King

In chess, you have one King that can move one square in any
direction. The King is the most important piece in a game of chess, but it is very limited. The King can go in any direction, forward, backwards, to the sides, or diagonally, but only one square at a time. The King can capture any enemy piece or pawn that is undefended and must always stay at least one square away from the opposing King.

King and Pawn Game
Set up king and pawns on each side of the board. The King's home position is e1 or e8. White begins. To win, advance your king quickly and get him to capture the enemy pawns. Be sure to not allow the king to move into check.

## CHECK

The King is in check when he is attacked by the opponent's piece or pawn. His capture is not allowed. The Player making check must say "check" when he is attacking the opponent's King. If your King is in check, you must stop this on the next move. There are three ways for you to do this:
*Move the King to a safe square.
*Move one of your pieces in the way of the check by blocking.
*Capture the attacking piece

## CHECKMATE

Since the object of the game if to capture the opponent's King, the game is lost if you cannot stop the check by blocking, capturing the attacking piece or moving the King to a safe square. The "check" then turns into a checkmate. This means the King is dead. When the King is checked and cannot move out of check, then he is checkmate and the game is over.

## Day 8: Know what the Chess Pieces are worth.

It's important to know how powerful each piece is in relation to the other pieces.
Here is the standard scale that the kids should commit to memory:
Pawn= 1
Knight= 3
Bishop=3(plus a tiny bit more)
Rook= 5
Queen= 9
It is common for chessplayers to talk about capturing the pieces through trades or exchanges. Important for the students' decision making, chessplayers use this information to their advantage. Strong chessplayers use their chess pieces as a team.
Activity:
Students start with the pawn and go through each piece in the same fashion.
Students set up what pieces the pawn is equal to and keep their discovered answers in an organized chart. Be sure that this activity is done by manipulating the chess pieces as well as in written format.
Encourage the children to come up with reasons why this information is so important to a skilled chessplayer.

## Day 9: Opening, Middlegame, and Endgame goals

Opening game goals:
*Castle early. Castling is the moving of the King two squares to his right or left toward the Rook on the square on the other side of the King. Each player has the privilege of castling once in the game.
*Aim to control the middle of the board by putting pawns on d4/e4or d5/e5.
*Avoid moving the pawns in front of your King too early.
*Keep away from the edge of the board. Move your Knights and Bishops into the middle of the board.
Middlegame goals:
*Try to capture enemy pieces in order to weaken the opponent's position.
*Attack by using the Pin: A pin is an attack on an enemy piece which is covering a more valuable piece.
*Try the Fork: A fork is an attack by one piece on two enemy pieces at the same time. Practice using the Knight employing the Fork.
Endgame goals:
*Try to keep all pieces on open lines in the middle of the board, where they would be most powerful.
*Bring out the King and use it as an attacking piece.
*Concentrate on getting the pawns to the other side of the board, in order to promote the pawn to a Queen.

Activity:
Practice castling. Have the children discover how many moves it takes to be able to castle. Stop the game at that point. Start again and see if they can improve their path to castling.
Revisit this section and focus on one aspect of the goals as needed.
Day 10: Let's Play Chess!
Pair the children and have them play as partners against an opposing team. Children will share ideas, tactics, and strategies while learning from each other. Often there is not enough time to play a full game within a classroom situation. Give the students 20-30 minutes to play and have them count the point totals of their captured pieces to determine the winner.

## Extensions:

## Academic skills taught through chess:

Math:
Math specific vocabulary: Teach horizontal, vertical, diagonal, parallel, perpendicular using the chess board and chess pieces.
Algebraic notation for writing down and coding chess moves.
Area and Perimeter: Place each piece one at a time on his home square. Determine the area that a pawn could travel without obstructions. Continue with each piece. Excellent lesson on determining the power of each piece.

Just a note: Chess is being taught as an integral part of the regular math curriculum to over 130,000 students this year in Canadian schools. For more information, contact Chess'n Math Association located at http://www.chess-math.org/ .
Scholastic Recommendations:
*Think of chess as a way to teach thinking.
*After completing a game, ALWAYS have the children set up the chess pieces before putting the pieces away.. This will cut down on the number of pieces that are lost. *ALWAYS play touch-move and touch-capture in all games. This is a critical factor in developing cause-and-effect thinking that leads to an improved game as well as a great enjoyment for a more challenging game.
*The US Chess Federation has numerous scholastic events around the US. They publish a bi-monthly chess newsletter just for kids called SCHOOL MATES. Cost for student membership which includes the magazine is $\$ 12$ per year.
*Canada's Chess and Math
*The website Chess Club located at www.chessclub.com is a great way to practice and polish those chess skills. After a free week of playing, students can play online for about $\$ 25$ per year.
*PI: Team Chess Game located at www.kidslovechess.com is a multiple player chess game variant designed specifically for a classroom situation.
*The Nintendo version of CHESS MASTER is suitable for younger children who already have these play stations.
*Play puzzle chess games. Usborne books publishes a few chess puzzle books. Or set up simple problems on the chess board to build self confidence.
*Students should learn the algebraic notation from the beginning. In this way, they
can analyze patterns or their coach can help to guide them through a problem area. *Practice. Practice. Constant Practice. Students become better chessplayers after playing the game. Encourage them to play at home. Encourage an ambitious parent or teacher to start a chess club.
Research:
Extensive Scholastic Chess Research is available by mail for a small fee from the US Chess Federation.
Visit www.kidslovechess.com/chess_research_summary.htm for a printable version of the "Chess in Education Research Summary" by Robert Ferguson.
"Chess is one of the best activities to develop the kind of thinking needed for the 21st century. Chess has been shown to be of great benefit in developing creative thinking, deductive reasoning, decision making, problem solving, and long-term strategy making. Massachusetts Math Dept. chairman

If you develop lesson plans involving chess in your curriculum, please send the lesson plan by email tolhudson@flash.net or by mail to
KIDS Love Chess
PMB 177
9101 W Sahara Ave \#105
Las Vegas, NV 89117
We will publish your lesson plan online at www.kidslovechess.com and give you full credit. By gathering our efforts and chess lessons together, it will make it easier for the next teacher to teach thinking via chess. We can make a difference one lesson at a time.

## Excellent Resources:

The Complete Idiot's Guide to Chess by Patrick Wolff Chess for Children by Nottingham, Wade, and Lawrence

