First Steps in Board Game Design

Once you've completed (at least tentatively) the analysis of your subject, it's time to begin to design your board game.

Step 1: Content Analysis

Immerse yourself in the content and generate as large a list as possible of elements of the topic. This should be a free flowing process and is best done with a group of people. As with brainstorming, this is a time to defer judgment and focus on quantity over quality. Weeding them down comes later.
With large sheets of paper or a whiteboard in front of you, write down words that are associated with the topic of your game. Build on words already posted. Reinforce with positive comments anything that anyone suggests. There are no wrong answers at this point.

Step 2: Incubation

One of the magic things about creativity is that your mind works on problems without your knowing it. After you've generated a list of possible aspects of your topic, take a break. Walk away from the place where you generated your list and do something entirely different. Some time later, come back and look at your list. New ideas will suddenly occur to you. Connections and alternatives that you didn't notice will become apparent. Add them to your list and then you're ready for the next step.

Step 3: Chunking

Now it's time to take the list of content elements and put them into categories related to board games. Take a large sheet of paper and divide it into six sections labeled **Pieces**, **Patterns**, **Paths**, **Probabilities, Prizes** and **Principles**. Recopy the items that you've listed by putting them into the proper category. If something seems to fit in more than one place, don't hesitate to put it in multiple spots.

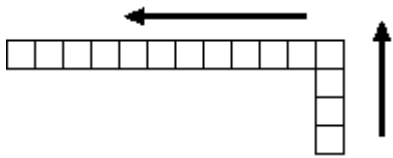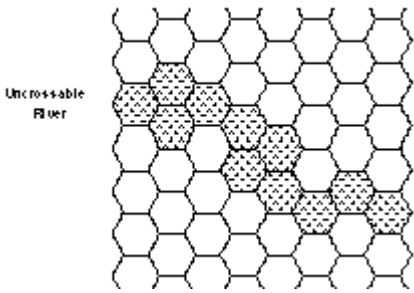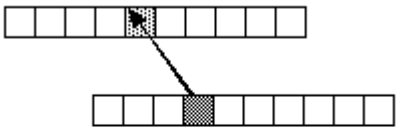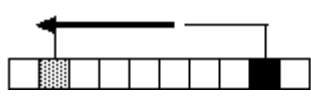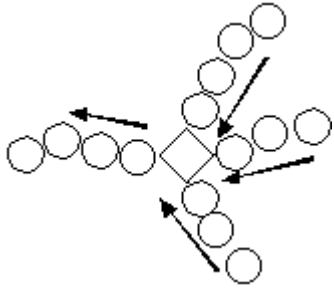|	
Pieces	Elements that seem as though they might make sense as markers to be moved around on the board or as score keeping devices.
Patterns	Are there combinations of things in the content that seem to go together? Are there combinations of things that when put together become something else or take on some additional meaning?
Paths	Are there progressions of events in the content that could be thought of as paths? Is there a physical place in the content that one can move around in?
Probabilities	Do some things in the content happen by chance or happen outside the control of someone dealing with that content?
Prizes	What's valuable in this content area? What do people strive for or try to acquire?
Principles	What general statements can you make about how the world of this content works? What IF-THEN statements can you make that relate one content element to another?

Step 4: Aligning

The next step is to look for specific patterns, elements and structures within the content that you wish to teach, and match them with possible analogies in the structure of a game. Look over the list of content elements that you just chunked out and see how you might align them with typical structures found in a board game.

In doing this, remember the two rules of congruence:

1. Whenever possible, the structures of the game should *mirror* the structures of the content.
2. The structures of the game should never *contradict* the structures of the content.

As you examine the content elements that you've listed and chunked and match them with game structures, jot down ideas that seem as though they should be a part of your game.

Content Structure	Game Structure
Movement Through Space or Time	**Movement Along a Path**
Journeys, Quests Finding something lost Making a discovery **Procedures** getting a degree **Processes** digestion, making laws, designing a course, photosynthesis	
Obstacles	**Blocks on the Path**
Physical mountains, rivers **Bureaucratic** getting a visa, filling out applications (You can make getting past the obstacle contingent on a specific dice throw or possession of a particular card)	Uncrossable River

Shortcuts & Setbacks	Jumping Several Squares
Jumping ahead Marrying into money. Hiring someone instead of doing it yourself. Getting an early promotion. **Moving backward** Stock market crash Getting fired Getting divorced	Jumping from one path to another path or jumping ahead on the same path
Decisions, Choices	**Branching Paths**
Go to college or start to work? Get married or stay single? Launch a new product line, buy a company that already makes the product, or focus on your other products? Go to the peace conference or continue to wage war?	
Varying Risk	**Risky Paths**
Some choices lead to a chain of events that are more risky than others. For example, deciding to invest in stocks versus putting your money in CD's.	If one path is meant to be riskier than another, put more squares on it that require turning over a card that describes an undesirable event. Or more squares that might send the player back to square 1. To compensate for this enhanced risk, make the path shorter, or let it also contain more squares that lead to the opportunity for desirable things to happen.

Elements with Differing Power	Pieces with Differing Power
People with differing political clout Countries with differing military or economic power	Chess: some pieces can move in more directions or over a greater distance. Backgammon: two pieces together cannot be captured, but one piece alone can be hit by an opposing piece.
Goals, Prizes	**Valuable Pieces, End Squares**
Interim goals and prizes: Money, quality of life improvements, votes, popularity. End goals: Treasures, a corner office, a peaceful prosperous life. Balanced meals Balanced life	Interim or gradually acquired prizes can be represented as play money or tokens that look like valuable things. End goals translate to the final stop in a race game. Acquisition of cards or tokens in particular combinations.
Changing Conditions	**Changing Board**
Pre- and post-revolution. Suddenly the rules change. Stock market shifts from bull market to bear. Your ally becomes your adversary. The climate shifts and suddenly it's difficult to be a carnivorous, 50 ton lizard.	Build a two-layer board with a number of holes in both layers. To simulate changing conditions, rotate the upper layer so that some former holes are now covered up and new holes are uncovered. Othello: pieces are white on one side and black on the other. When a row of white pieces has a black piece on each end of the row, they are flipped over and become black, which affects other pieces nearby.
Mathematical Relationships	**Lookup Tables**
If you raise the price of your product from $40 to $50, your sales will decline by 10% to 25%.	Rule book, telling what to do based on a given roll of the dice or other conditions.
Random or Uncontrolled Events	**Randomizers**
Things that are out of the player's control or which are practically unpredictable such as.... weather daily stock price changes the behaviour of other people	Use a spinner as part of the board or as a separate piece. Chance cards that are read when you land on a chance square. Dice (can be 6, 10, 12, or 20 sided) Lottery results from the newspaper or TV. (used in a Mario Seabra simulation played at several sites simultaneously... the lottery numbers were used to set up the initial conditions of the game so that all players were operating under the same conditions.)

Step 5: Drafting

Now you have a list of possible game elements in hand. It's time to take a large sheet of paper and begin to sketch out a game board. Grab some small tokens, coins, or whatever's handy and put them to work as game pieces. Play with possibilities until the design of your game begins to gel.
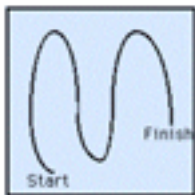At this point in the process, keep asking yourself what kinds of thinking the players will be doing as they play. Are they focused on game stuff or will your game engage them in processing what they know and don't quite fully know about the content? ***Does winning the game require learning the content better than the other players?*** If not... you've got more work to do.

Step 6: Incubating

It's time to let your subconscious work on this some more. Put your rough draft aside for awhile and resume normal life. When you come back to your work, you'll have new ideas and insights to apply to it.
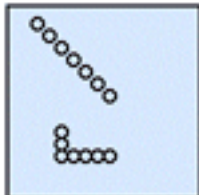
That brings the early design steps to a close. The rest of the process is a cycle of testing and refinement with as many people as you can draw into the process.

Types of board games:

Linear Movement or Race Games
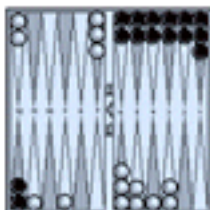
Pieces move along a path (e.g. Monopoly, Candy Land)

2-D Pattern Games

Object is to build patterns of pieces (e.g. Go, Othello, Scrabble)

Battlefield

Pieces attack other pieces, removing them from the board (e.g., Chess, Risk)

Combination

Games which combine elements of the other 3 categories (e.g. Backgammon)