



Design Your Board Game!

Materials needed:

- Illustration board
- White cardboard 20x30 in
- Full-sheet label paper that will fit in a printer
- See through contact paper or laminating sheets
- Pair of scissors
- Ruler

- Duct tape
- Old playing cards
- Pencils, magic markers, post-its, glue
- Other game boards and pieces from thrift shop, odd interesting pieces of plastic and metal from the junk drawer, bingo chips, poker chips

Time needed: **3** Hours

This is a great family project. Your child could host an especial family board night with his/her new game!

Objective: To create a board game prototype - including developing a theme, rules and a useable design!

Activity:

Step 1: Brainstorm

Ask your child to spend some time brainstorming to come up with a list of potential ideas. They can brainstorm by playing games, listing their favorite games, or by writing down what they think is fun about the games. Ask them to make lists of their favorite shows, activities, books or stories. Ideas can also come from visual images, from a fleeting thought, from the wish to be in control or to change the way things work. Once they have the idea, they can move to the next stage.

Step 2: Come Up With A Theme

Board games need a theme so this is a big hurdle to overcome. Board games usually have a way to advance, sometimes on a path or in straight or circles from one part of the board to another.

Examples:

Sometimes like in *RISK*, the board game represents territories that must be acquired through skill or knowledge. A player needs to perform some feat and they gain spaces or progress toward the end.

In some board games like *SORRY*, there is a clear path to a player's home after going around the board.

CLUE is another classic game that involves guessing by elimination.

MONOPOLY is a great example of a strategy game to acquire board space in order to win.

Playing with these examples as will help the kids decide which kind of structure their game will have.

Step 3: Define Game Functions

Once they have their theme, they will need to work with their idea to come up with game functions. They need to develop the rules, the flow, what will happen, what the objective of play is and what happens in order to "win". Many great ideas are built on others by combining and making spin offs. Your child can use devices like dice and spinners that they can take from cannibalized game boards.

Step 4: Design Your Game

Have them sketch some of the characters or graphics. It can be quite primitive. They can also design on the computer and print and cut the game board base. This can be glued to the board.

During this phase a prototype model can be created. Your child can either make the board game from scratch on a heavy cardboard, or cover up an old game board or a thrift shop game board with a new cover.

Here's what they can use to make the game board:

Manila Folders: They can make the first draft prototypes with manila folders. Folders can also be cut into cards for the game boards.

Post-Its: Post-Its make great potential game board spaces and create a flexible flow on a game board that can be manipulated. They can continue to use Post-Its during the testing phase. These can be lifted and moved around.

Paper/ Label sheets: Measure the game board. Find paper that fits the size. Then sketch the board onto paper or use printed sheets. Your child can draw on the computer and print on full size label sheets. The advantage of these is that they are self adhesive. You can use the smaller size labels to make paths. Printing on them will make it look more professional and they can be laid out on top of the full sheet in a second layer.

Graph Paper: Another idea is to print graph paper that makes it easy to plan and draw directly on the surface with markers.

Illustration Board: Cut the Illustration Board or cardboard into 6-10"x10" sheets. Use drawing software to create the design to go on the paper that will be glued onto the board. Make sure to factor in margins. These sheets can be hinged together with duct tape before you glue the design. You can use spray glue.

Cards: If you need to have cards for the game, use real playing cards and paste the labels with the graphics or instructions on the cards. Or cut cards from manila folders.

Dice: Use dice or cover dice with labels cut to size and write on them with a sharpie or make graphic designs. Find interesting pieces for tokens or characters. Existing games can be cannibalized for their pieces or for dice. You can even use small plastic toys.

Step 5: Test Your Game

Once they have a prototype, they should try out the game. They can try it out themselves and then invite other family members or friends to take a test run. Make changes according to these dry runs. Take pictures!

Comments/Modifications/Extensions:

Develop a marketing plan for selling the game board. Name the game.



USE "SCAMPER" TO REFINE AN OLD GAME OR TOY

Fill in each box using this technique to make an existing game/toy better, change it, make it more unusual, or just to test different approaches. Page 2 of this document includes a sample of what it should look like.

<p>SUBSTITUTE: What else can it do? How can I change it to do that? What other material can I use?</p>	S
<p>COMBINE: How can I combine this with another object or purpose?</p>	C
<p>ADAPT: What else is like this? What could I copy and add to it? How can I change it?</p>	A
<p>MINIFY/MAGNIFY: How can I make it smaller, bigger? How can I simplify it or instead, make it more challenging?</p>	M
<p>PUT TO OTHER USES: New ways to use it? Other places to use it?</p>	P
<p>ELIMINATE: What to subtract? Condense?</p>	E
<p>REARRANGE/REVERSE: interchange components? Turn it backward? Upside down?</p>	R

Now look over your changes and decide which one(s) you will incorporate. Explain in more detail here:

SAMPLE:

<p>SUBSTITUTE: What else can it do? How can I change it to do that? What other material can I use?</p>	<p>Find chocolate chip cookies that are low fat. Find some that use other chip types like peanut butter.</p> <p>S</p>
<p>COMBINE: How can I combine this with another object or purpose?</p>	<p>Make an ice cream sandwich from two chocolate cookies. Make a chocolate chip cookie sandwich with chocolate or peanut butter inside.</p> <p>C</p>
<p>ADAPT: What else is like this? What could I copy and add to it? How can I change it?</p>	<p>Get some chocolate chip granola bars.</p> <p>A</p>
<p>MINIFY/MAGNIFY: How can I make it smaller, bigger? How can I simplify it or instead, make it more challenging?</p>	<p>Get a bag of mini-chocolate chip cookies. Get a big chocolate chip cookie that is used as a cake. Find these cookies in different shapes like long bars.</p> <p>M</p>
<p>PUT TO OTHER USES: New ways to use it? Other places to use it?</p>	<p>Put chocolate chip cookie dough into ice cream. Add chocolate chip cookies to a slurry. Crumble them up to top a sundae or pudding.</p> <p>P</p>
<p>ELIMINATE: What to subtract? Condense?</p>	<p>Eliminate fat; take away the nuts, etc.</p> <p>E</p>
<p>REARRANGE/REVERSE: interchange components? Turn it backward? Upside down?</p>	<p>Make a chocolate chip cookie that is chocolate cookie with vanilla chips. Use chocolate chip cookies as a pie crust. Show chocolate covered-chocolate chip cookies - some could be made without the chips inside and with a layer of chocolate around them instead.</p> <p>R</p>



Materials needed:

- heavy duty scissors or kitchen shears
- screwdrivers
- pliers
- wire cutters
- shoe boxes
- permanent marker
- small boxes with lids
- disposed items like small toys, containers, packaging materials, small electronics and mechanical devices

Reverse Engineering

Right about now, you're probably cleaning out toy shelves to make room for incoming gifts. Instead of throwing out broken toys, why not use them to inspire inventive thinking?

Goal: Learn how things work by taking apart broken toys and putting them back together.



Note: cut electrical cords from items in order to prevent injury AND be aware that capacitors in electrical appliances still may have a charge and cause a shock

Ask your child to look for their old toys and games, or their siblings' broken or incomplete toys and games, or broken mechanical devices such as clocks and kitchen gadgets.

Provide scissors, shears and other tools.

Have your child cut the items into smaller parts, unscrew and take apart items into components. During this process they can sort into categories.

Ask your child what categories they chose: They could be plastic, metal, natural, wood, etc. They could sort by color. They can sort by size.

Label the boxes with categories. For example, if Styrofoam containers were cut into squares or shapes, they could go into a box marked: flat shapes

Have your child write the steps while taking a toy or gadget apart. Then have him/her try to put it back together again following the steps starting at the end and working backwards.



Make Simple Better!

This activity helps kids think of new possibilities using old items. *It can be done anywhere, too!*

Goal

Your child will invent something new by putting 2 simple things together.

Activity

Give your child a list of things (or work on one together) – you can find a sample list below. You can tell them that some wonderful inventions were made by putting 2 simple things together, such as:

- Windsurfer = Surfboard + Sail
- In-flight movies = TV + Airplane
- Rollerblades = Wheels + Skates

Materials needed:
 Sample List
 Paper
 Pens

Time needed:
1 Hour

Pen	Fork	Candy	Ruler	Comb	Sneaker
Scissors	Bell	Telephone	Bed	Paper	Pants
Watch	Diamond	Radio	Soap	Glove	Shirt
TV	Blanket	Shovel	Hammer	Car	Pillow
Chair	Bicycle	Cup	Suitcase	Paint	Key
Ball	Bag	Desk	Boat	Telescope	Bottle
Balloon	Trash can	Camera	Train	Plate	Plate
Parachute	Window	Piano	Doghouse	Wheel	Computer
Needle	Refrigerator	Lock	Treadmill	Book	

Extension

You could use a list of toys, food or animals. Work with your child to come up with different lists of things you could combine.