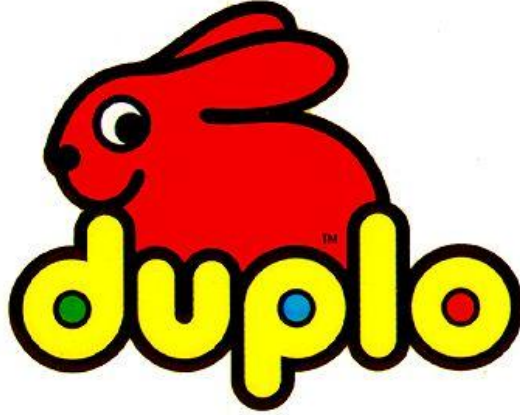My comments are in square brackets "[ ]"

My changes appear as edits.

There are multiple colors, because I edited it in stages

General comment: some of the text is written in third person ("The child does thus and such") and some in second person ("You click on a blank banner to sign in.) I think it would be better to make the entire document consistent—choose 2nd or 3rd — except for "fun" cases, some of which are used to express examples of how the characters might address the child.
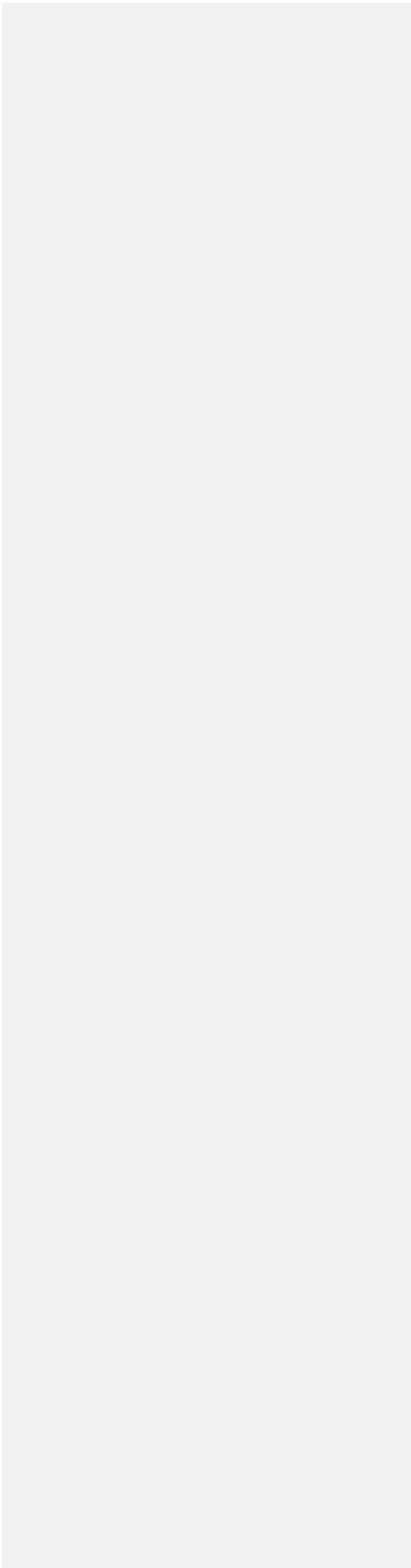
There is also quite a bit of shifting between the present tense and the future tense. This can be confusing…

MAB

DUPLO® *Inventures*
Constructopedia
ver. 1.0

Introduction

High Concept

DUPLO *Inventures* are multi-subject educational titles for young children that are unique because they address a variety of different learning styles, all within the tradition of "play to learn" LEGO fun.

Executive Summary

The two DUPLO *Inventures* titles (Preschool and Kindergarten) are entering a crowded market where they will face entrenched competitors in the *JumpStart* and Learning Co. product lines.

We can differentiate DUPLO *Inventures* from existing titles and provide superior quality for children by following these steps:

- Each title addresses several basic skills in the core academic areas for the target age range, not just one narrow topic.

- Educational research has established that children have different learning styles, and the degree to which each style is effective varies from child to child. DUPLO *Inventures* present basic skills to kids in each of these major learning styles, and let them practice those skills in a variety of learning style activities. This ensures that a wide variety of children – not just those to whom the activity comes naturally – can benefit from the software.

- The DUPLO *Inventures* products will incorporate a "Play to Learn to Teach" approach. Activities will be included that allow the child to teach one of the characters what they've learned. Research shows that we remember 85% of what we experience and then teach. This approach is unique and helps differentiate the *Inventures* line from the competitors.

- LEGO has a long, rich tradition of providing children with products where exploratory play leads to self-guided learning as well as fun. DUPLO *Inventures* build on this tradition by allowing free play in many areas of the product. Children can still have fun with the software even if they decide not to do the directed activities.

- Many children are discouraged in educational software by "drill and kill" programs that feature pretty pictures but quickly become monotonous to play. There are no boring, repetitive drills in the DUPLO *Inventures* products.

- LEGO and Stormfront are both known for a tradition of adhering to very high production values. DUPLO *Inventures* will feature high-quality art, sound and music. Particular focus will be placed on interface design to ensure that the target-age children find the products easy to learn and use.

- The efficient use of focus groups to give feedback to the producers and development team will ensure that the design stays on target for the intended audience.

Key Features

- Explore 8 DUPLO environments
- A Multi-Intelligence approach to Multi-Subject learning allows children to learn the way they want to. Based on the established research of Howard Gardner, Seymour Pappert and Piaget.
- Age appropriate curriculum. Kids play with Letters, Numbers, Shapes, Colors, Music and Sounds.
- Play-to-Learn-to-Teach methodology (no "drill & kill"). Research suggests that children retain much more of what they've learned if they teach it to someone else.
- Fun to play: Interact with engaging DUPLO characters and explore several DUPLO inspired worlds.
- Rich environments with numerous animations and high image quality. Characters and backgrounds with be pre-rendered using high resolution 3D models.
- Intuitive interface with clear audio and visual feedback, including voice. Early prototyping will be used to thoroughly focus test assumptions about interface and activity design.
- Runs on both PC and MAC using a single set of assets on a CD-ROM.   Works satisfactorily on a minimum system and perform wells on higher end target systems.
- More activities than the competition (*Reader Rabbit, JumpStart*)
- Re-usable core technology. Although each product will differ in art, audio, and design based on the activities and content required, one core engine will power both products. The engine will be developed with sequels in mind so that future products can easily fit into the look and feel of this core system.
- Supports LEGO values of Creativity, Discovery, Empowerment and Fun.

Contents

Product The **Design** ~~Document~~

<This is a first pass design document. Many sections are TBD at this time and will be added over the next several weeks. The Kindergarten and the rest of Preschool activities will be clarified during this period. In addition, it's probable that the results of early focus groups will affect the design in some way.>

We start our description of the product design with a summary of how we plan to approach the interface. A easy-to-learn interface is crucial for kids this young because any confusion may cause a child to give up and put the game away forever.

After the interface discussion, we summarize the game play and then provide detailed descriptions of the specific characters and activities.

Interface Design

The DUPLO *Inventures* products use a "no interface" or "natural interface" method of control. Concepts like menus, options, and load or save are all handled differently than they are in most games. The most common interface elements are described here with examples of how they are to be implemented.

Mouse

These products will use the standard mouse to move a cursor and activate objects on the screen. MOUSE-OVER causes one event; MOUSE-CLICK causes a different event. Pressing certain keys on the keyboard will be the same as pressing the mouse button.

Feedback

All active on-screen objects have MOUSE-OVER and MOUSE-CLICK animations. The animations will be augmented with sound effects to reinforce their behaviors. Most direction, help, and encouragement will come from character dialog.

Menus

The *Inventures* products do not have formal menus. Objects and speech replace buttons and readouts.

Load/Save Progress

Each child will sign-in, establishing a session that will be recorded. Leaving the game ends that session with an automatic save-in-progress. Internally, the products will track the minutes of play in each activity and the results of each activity. For focus testing purposes, we will also track clicks and mouse moves to find where the majority of time is spent and where potential confusion may exist.

Interaction

Objects on the screen will act like fancy interface buttons. Each object will have a HOTSPOT zone that describes its perimeter.

There are three types of objects:
- Activate-able
- Movable
- Combinable

Every object will have a MOUSE-OVER animation to let children know it is active. Objects can be enabled or disabled to allow for both puzzles and story elements to occur as progress is made. Objects can also have idle animations which will occur at random.

Clicking on an activate-able object will cause a screen change, set a state, or begin a dialog or activity. Characters will be activate-able so that they can start dialogs and begin activities once they are clicked on. A door object can be selected to return to the previous screen. Sign post objects allow the child to quickly move to another location.

Movable objects can have deconstruct, move, and build animations. They allow the child to position and carry interactive elements on the screen. Once a moveable object is clicked on, it becomes linked to the mouse cursor. It has been "grabbed". While the mouse is moving, the moveable object is moving with it. If the child clicks the mouse again on another object, they may interact and combine in some way. If the child doesn't click on another object, the moveable object will return to its original location or drop wherever the child clicked.

Combinable objects act as receptacles for moveable objects. They analyze the objects placed in or on them to create new logic states or new objects. Toy boxes, counting bowls, and dump trucks are examples of combinable objects.

Game Play Summary

Intro

The main characters animate onto the screen and ~~can~~ introduce themselves. The characters consist of DUPLO animals for Preschool and mini-figs for Kindergarten. These characters represent the six learning styles contained in each product. Once the introductions are complete, the characters pull out banners with the names of all the kids who have played before. One banner is left blank for newcomers.

Preschool Characters:

- Kinesthetic - The Pony, Buck N. Tickles
- Music - The Singing Panda: Ray Mifasolatido
- Art/Spatial - The Monkey: Looky T. Munkles
- Social - The Leopard Cub: Scamper T. Giggles
- Linguistic - The Giraffe: G. Howdy Cheers
- Math and Logic - The Elephant: Digit Twotens

Kindergarten Characters (mini-figs):

- Kinesthetic – Jimmy Naseum
- Music – Mike Griphone
- Art/Spatial – Jiggy Ann Rembrandt
- Social – Fran Ship
- Linguistic – Wordy Wanda Wilson
- Math and Logic – Matty Matics

Sign-in

The child clicks the banner with his or her~~their~~ name on it, or selects a blank banner if they are new to the product so they can "sign in"~~create a new banner~~. Our assumption is that a parent or other adult will assist the child on his/her first attempt with the product.

At the sign-in screen, the child can type their name on the keyboard or click on the appropriate letters on the keyboard depicted on screen. Once the child or parent is finished, they can click on the door object to exit sign-in. Once the child has signed in, their name will appear on the list of banners when the game starts up.

Play Area

After the child signs in, the game transitions to the Play Area. The Play Area is a scrollable environment in the east-west directions and consists of eight unique environments (full screens) connected together. We use the word, "zone", to represent one of these environments. The child can move his/her mouse to the edge of the screen and the screen will scroll in that direction to the adjacent zone. Sign post objects allow the child to quickly move to another location.

There are three different kinds of zones: Free-Play, Curriculum and Teaching.

Free-Play zones: Of the eight zones, three are Free-Play. Here, the child can freely play with the objects on screen. They can move, combine and play with all the objects on screen in any manner they like. No "curriculum teaching" is intended in these areas. The child is simply exploring and having fun.

Curriculum zones: There are four curriculum zones. Each represents one the four subjects that the products cover: Math, Language, Art and Music.

At each curriculum zone, the main characters and several environment objects are assembled. If the child clicks on one of the characters, the game transitions to one of the Learning Activities (described below). The child can play with the other environment objects in a similar manner to the objects in the Free-Play zones.

Preschool Curriculum Zones:

- Math (Farm): Exposure to numbers, sequential ordering and meaning
- Language (Playground): Exposure to letters, sequential order and meaning
- Art (Tree Fort): Exposure to shapes, colors and patterns
- Music (Jungle): Exposure to sounds, rhythm, pitch, and music

Kindergarten Curriculum Zones:

- Math (City): Exposure to concepts and application of addition and subtraction, greater than, less than, and equal to. Exposure to numbers from 1 to 100
- Language (Old West): Expanding vocabulary, including nouns and verbs
- Art (Cave Man): DUPLO creativity with color, texture, complex shapes, patterns, and bricks
- Music (Haunted Castle): FUNdamentals of composition, including scale, notes, rhythm, pitch, and styles of music

Teaching zone: In the single Teaching zone, the child is introduced to Clicky and Bricky (age appropriate DUPLO mini-figs). Based on the child's progress in the Learning Activities, Clicky and Bricky will pose problems which reinforce the curriculum already presented in the child's prior play. These activities (Teaching Activities) allow the child to "teach" Clicky and Bricky how to do things they've learned during the Learning Activities. In Preschool, these activities occur inside Clicky and Bricky's house. In Kindergarten, they occur inside Clicky and Bricky's rocket ship.

Learning Activity
From a curriculum zone, the child selects a character to play with. The chosen character becomes the child's "buddy" during the activity. After being selected, the buddy character exits the curriculum zone and the game transitions to an activity environment. The~~The~~ buddy character introduces the activity ~~the~~ environment and the elements on screen ~~where the activity is done~~. The child can interact, explore, and manipulate the objects in the environment in free-style play. To start the formal activity, the child clicks on the buddy character a second time.

The curriculum zone defines the subject of an activity while the chosen buddy character defines the learning style. Combined, they set the parameters for the activity. There are a total of 24 Learning Activities (4 subjects with 6 characters each).

Once an activity is completed, the child earns a "toy" reward. These rewards are additional objects that the child can place in the Free-Play zones.

At any time, the child can click on the door object to return to the Play Area.

Teaching Activity
From the Teaching zone, the child can click on either Clicky or Bricky. If it's the first time the child has done so, Clicky or Bricky will explain that they need help building their train set (Preschool) or rocket ship (Kindergarten).

After the introduction, the game evaluates the child's current progress and randomly selects a training activity which reinforces those areas already covered. Clicky or Bricky introduces the activity and asks the child what to do. The child now has the opportunity to "teach" Clicky or Bricky by clicking on the correct objects and thereby "showing" Clicky or Bricky how it's done.

The activity continues until the child clicks on the door object to return to the Play Area.

Preschool Learning Intelligence characters

Characters in DUPLO~~the~~ *Inventures* ~~products~~ follow the Howard Gardner approach to learning intelligence. Th~~is~~e approach says that children learn a curriculum using a variety of techniques based on personality types. These types include kinesthetic, musical, artistic, social, linguistic, and mathematical. In the Preschool product these characters are DUPLO animals.

Kinesthetic
The Pony, Buck N. Tickles

Bodily Kinesthetic Intelligence is defined as the ability to unite body and mind to perfect a task. It's about being physical. For example, p~~(P~~erform fine and gross motor skills effectively, like touching and being touched while talking~~.)~~ ~~(Like to touch and be touched when talking to people.)~~.

Examples of kinesthetic personalities are Dancers, Athletes, Mechanics, The "Good-With-Their-Hands" Folks, Surgeons, and Craftspeople as in Sewing or Sculpting. Seeing, touching, and manipulating objects.

LOCATION	APPROACH
MATH	Motion as it relates to timing: ~~as in~~ 3 jumps ~~is less~~are fewer than 5 jumps
LANGUAGE	Motion as it relates to order: ~~as in~~ dance steps (A, B, C), and instructions which use ~~as in the use of~~the words: jump high, low, near, or ~~and~~ far
ART	Motion as it relates to art: Kinetic sculpting, action-painting like Jackson Pollack. Color coded steps and color coded sports plays
MUSIC	Motion to Music: jumping on notes, hitting keys, move things around for sound. Buck taps ~~(tapping~~, mov~~es~~ing with the beat, fidget~~ing~~ while the music plays.~~)~~

By the time ~~you~~ the child finish~~es~~ reading this first sentence, Buck may have already run around the block three times, juggled ~~7~~seven basketballs, wrestled an alligator, played "catch the leaves" with Scamper, and danced to a song sung by Ray Mifasolatido. Buck is unquestionably the strongest, the fastest, the bravest, and the smartest athlete around. Give Buck a problem and he can dance circles around it until it'~~is~~ solved -- and what a dance it is!

Music

The Singing Panda: Ray Mifasolatido

Musical Intelligence is defined as sensitivity to sound, pitch, melody, rhythm, and song.

Examples of musical personality~~ies~~ are Composers, Conductors, Musicians, and Singers. It's all about sound!

LOCATION	APPROACH
MATH	Numbers as a scale, from a low note (1) to a high one (10). ~~1 note (low) to high note (10)~~. Playing by the numbers (Ray knows when a note is off key; ~~and~~ the number is wrong.)
LANGUAGE	Rhythm, Rap, and Poetry. Making songs with words. Chords and playing music. Ray plays ~~(play~~ musical instruments, r)emembering ~~(remember~~ melodies) with letters
ART	Color-coded play or color themes: ~~B~~blue notes to red hot notes. Ray ~~(C~~collects~~s~~ instruments, songs, ~~or~~and recordings.)
MUSIC	Sound patterns. Compose music, sing-alongs, and remembering them~~memory~~. (Ray ~~K~~keeps~~s~~ time with the music.)

Ray Mifasolatido, the Panda, was born in the mountains of the far east of DUPLO Town. With ~~8~~eight brothers, ~~9~~nine sisters and ~~5~~five cousins, Ray grew up in a very musical family. Whistles and grunts of every known note could be heard most days and most nights. Ray would hum along. As he grew older, he would harmonize with the sounds and soon began to organize everyone, arranging ~~to time~~ their sounds, making songs ~~in such a way that songs were made~~. He soon conducted all the roars, oinks, moos and meows ~~around~~ into some ~~very~~ catchy tunes. Ray hears sounds in everything and songs in every sound. Even his name has a song in it. Ray, when hearing notes off key – goes a lil' bananas, ~~(~~wacky, bazoinkers.~~)~~

Art/Spatial

The Monkey: Looky T. Munkles

Art/Spatial Intelligence is defined as the ability to visualize and think in multi-dimensions, to modify images, and to decode graphic information.

Examples of artistic and ~~spacial~~spatial personalit~~y~~ies are Artists, Sculptors, Architects, Pilots, and Sailors. ~~(~~It's about being creative and visualizing ~~about~~ drawing, sculpting, coloring, painting and taking photos.~~)~~

LOCATION	APPROACH
MATH	Numbers as symbols, as art. Drawing numbers and pattern matching. ~~(Looky e~~Enjoy~~s~~s puzzles ~~or~~and mazes; he likes.~~)~~ ~~(Likes~~ simple maps charts and graphs.~~)~~
LANGUAGE	The shape and patterns of letters. Drawing and constructing. ~~(Looky s~~Sees so much in his "mind's eye" before doing ~~a~~the task.)
ART	Images, shapes, and colors, combining and recombining to create stuff
MUSIC	Color coded composition with notes and sounds.

Ever since Looky T. was a fine, young baby monkey, he was an artist. He liked to make and ~~he liked to~~ break things and then put them back together again in interesting ways. Give baby Looky a banana, and he makes a hat with the peel, lunch with the fruit, and a painting with the leftovers. As he grew, his projects grew as well.

Is an orange still an orange if you paint it blue? Looky T. would like to find out. What color is the letter "A"? If "2" is blue, w~~W~~hat color is~~is the color of~~ "3"~~ if "2" is blue~~? Can grass be plaid? Does everything have color? Does sound have color?

To this day, Looky T. ~~Munkles, the monkey~~ is working on ~~so~~ many, many art projects, some of which I can't even begin to describe!~~.~~ You just have to see them. Looky is a monkey always hard at play.

Social

The Leopard Cub: Scamper T. Giggles

This is defined as t~~T~~he ability to understand and interact effectively with others: ~~.~~ perception of self and others, ability to identify and~~,~~ classify objects to a~~s part of a~~ system, and ~~ab~~ability~~e~~ to read social situations and feelings of others.

Examples of social personalit~~y~~ies are Teachers, Social Workers, Psychologists, Politicians, Actors, Philosophers, and Theologians

LOCATION	APPROACH
MATH	Numbers as units. Match 10 items to the number 10
LANGUAGE	Arrange letters in groups. A,B, C objects
ART	Create groups: patterns using shapes and colors
MUSIC	Groups of notes, sound patterns, famil~~y~~ies of instruments

What can you say about Scamper that everyone doesn't know already? He knows everybody and everybody knows Scamper. He knows that different people ~~everyone has~~have ~~a~~ different way~~s~~ of seeing and doing things, and that no way is~~may be~~ right for ~~that~~ "every~~-~~body". There is no one right way or one wrong way to solve a problem, ~~as far as~~ Scamp will tell say~~can tell~~; there are only right turns and left turns. Everybody has ~~a~~ unique skill~~s~~, and Scamper T. Giggles believes if everyone can work together, the result is ~~so much~~ more complete and ~~so much~~ more fun than ~~just~~ if one is working alone. One idea is great but two is even better. Scamper's always pretty happy, wagging his tail ~~about~~, because he knows that if he's happy, you're happy too. Every place ~~that~~ Scamper goes is Scamper's home ~~to Scamper T. Giggles~~. What's for dinner?

Linguistic

The Giraffe: G. Howdy Cheers

This is t~~T~~he ability to think in words, language and letters, in written and oral ways.

Examples of linguistic personality are Jokesters, Authors, Poets, Speakers, and News ~~-~~Casters.

LOCATION	APPROACH
MATH	Numbers and math in language with meaning through stories and words. "Two houses past my house are three trees"
LANGUAGE	Letters to words for meaning – simple crossword puzzles, ~~games~~ where the content being learned completes a word or an idea.
ART	Names of colours and shapes
MUSIC	Letters and words to music. Rap and poetry

From the valley of verbs, in the meadow of words, comes Cheers, the Giraffe. Cheers loves words and thoughts. The bigger the word, the loftier the thought, the better.
It wasn't always like that, though. A long time ago, Cheers couldn't get a word in edge-wise. In order to be heard over the noise of the jungle, he'd have to~~Cheers would~~ stand on his toes, ~~and~~ stretch his head ~~high~~ up high, and yell:~~.~~ " ME! Look at Me!". He's ~~would~~ say this louder and louder, hoping that somebody would listen to him. Unfortunately, the louder he got, the less attention anybody paid to him, so he tried standing taller and taller and stretching higher and higher. Now~~So~~ everybody could see him, and he'd ~~and he would~~ yell: "Look at me!"

~~-~~Soon ~~his~~ Cheers's neck grew and grew, and although his height~~he~~ did get everybody's attention ~~by how tall he had become~~, no one knew what he wanted to say, so~~p~~ they all ~~so they would~~ walked away. Cheers soon learned that it's *what* you say and not *how loud* you say it --
or even how high you can jump ~~up and down~~ or ~~even~~ how long~~high~~ you can stretch your neck~~for anyone to want to listen to you~~. He learned that words are what everyone listens to, and if you have something to say, words are what you use.

The next time he stood~~tried standing~~ tall and said: "Please, I have something to tell you." Everyone stopped and listened. Cheers had learned~~now knows~~ that words are really important. Everything can be described with words, and some cause people to sit up and pay attention a lot better than others.~~Everything has a word and some are better than others to make friends want to listen to what you have to say~~.

Math and Logic

The Elephant: Digit Twotens

The section teaches t~~T~~he ability to calculate, quantify, and carry out mathematical operations and logical thought. Logical ~~thought~~ people reason things out, ~~and~~ then act upon them. Examples of mathematical personalit~~y~~ies are Scientists, Engineers, Programmers, Bankers, Game players, and Card players.

LOCATION	APPROACH
MATH	Sequential numbering with volume, value, and placement, perhaps a ~~understanding this can be~~ on a chess board or a checkers type game
LANGUAGE	The order of letters. Counting letters
ART	Paint and build by numbers. Saturation of color: 1 is the lightest, ~~to~~ 10 the brightest
MUSIC	Play by the numbers. The higher the note, the higher it's value

A very sensible, logical elephant, Digit plays in a land of numbers. He sees numbers in everything. He knows that his home is 5~~five~~ trees past Scamper's house and two rocks to the left. He knows that one is fun, but ~~and that~~ *two* are friends,~~is a friend~~ like you and me. "It's fun to be two, but ~~there's more to being~~ three's a breeze, and four's even more."
You can always count on Digit.

He's really good with numbers because he likes them all, each and every one. It all started 1 day when he was 2, and he met a 3 -- or at least he said he did. He saw a tree that was shaped like a 3 and before too long he found a 4; 4~~four~~ bananas hanging on the tree. Reaching way up high, he~~He reached way high up and~~ counted all 4~~four~~. Over and over, he counted, until it was 5 – 5 o'clock, time for dinner~~He counted them again until it was 5 o'clock and time for dinner~~. A 6-course meal he shouted! So he gobbled it up. He ~~and~~ went to bed right at 7, fluffing ~~and fluffed~~ up his pillow to look like a number 8. The next morning, he ~~He~~ woke up at 9 ~~the next morn~~ and was out the door by 10 to start counting all over again.

Kindergarten Learning Intelligence characters

Kinesthetic

Bodily Kinesthetic Intelligence is defined as the ability to unite body and mind to perfect a task. It's about being physical and performing fine and gross motor skills effectively. Kinesthetic people~~They~~ like to touch and be touched ~~when talking to people~~. Examples of kinesthetic personalit~~y~~ies are dancers, athletes, mechanics, the "Good-With-Their-Hands" folks, surgeons, sewers, sculptors, and craftspeople. It is all about seeing, touching, and manipulating objects.

Working Name: **Jimmy Nasium**
Height: Approx. 2 inches
Weight: less than an ounce
Race: Yellow DUPLO
Place of Birth: City of Jumpupan Downz, DUPLO

If you've ever been in DUPLO Town and something or someone zooms by so fast it makes your head spin, chances are you just met Jimmy Nasium on one of his daily jogs around the block. My guess is that what you saw was Jimmy's double somersault, hand-spring, bounce-skip-run. Usually, if you wait a minute or two, he'll come back, give you a big hug, ask you to dance, and then challenge you to a game of brick toss ~~game~~.

He's eager, to say the least. He wants ~~,~~ to do and to learn just about anything new as long as he can move around when he does it, because, as Jimmy Nasium says: " The more you know, the more you grow and the more you grow, the more you need to know." And there he goes…

Confidential – Trade Secrets.

Music

Musical Intelligence is defined as sensitivity to sound, pitch, melody, rhythm, and song.
Examples of musical personalit~~y~~ies are composers, conductors, musicians, and singers. It's all about sound!

Working Name: **Mike Griphone**
Height: Approx. 2 inches
Weight: less than an ounce
Race: Yellow DUPLO
Place of Birth: Town of Melody, DUPLO

If you ever find yourself humming a catchy tune and you have no idea where it came from~~you heard it before~~, my guess is ~~that~~ you heard it from Mike Griphone. Mike loves the sound of everything, including his own voice. He sings, hums, and plays along with everything he hears, from a fire engine to a piece of toast. He knows how to create music with just about anything, and when it comes to knowing the family of instruments… W~~why~~hy, they invite Mike to every Family reunion and picnic they have. Rumor has it that Mike Griphone knows every song there is or every was and he ~~can~~ could go on singing pretty much for forever. After he finishes a song request, he'll turn and say
" I'll be Bach!" ~~a~~And walks ~~away~~ humming away.

Art/Spatial

Art and Spatial Intelligence is defined as the ability to visualize and think in multi-dimensions and to modify images and decode graphic information.
Examples of mathematical personalit~~y~~ies are artists, sculptors, architects, pilots, and sailors.
It's about being creative and visualizing ~~about~~ drawing, sculpting, coloring, painting, and taking photos

Working Name: **Jiggy Ann Rembrandt**
Height: Approx. 2 inches
Weight: less than an ounce
Race: Yellow DUPLO
Place of Birth: The Town of Hue, DUPLO

"What if?" has got to be Jiggy Ann Rembrandt's favorite expression. "What if I put this there instead of here?" "What if…" and then she'll stop in mid- sentence and ask you what you think, ~~and~~ then she'll try that way too. Creativity would be her middle name if it wasn't already "Ann".

Social

The ability to understand and interact effectively with others. Social peopleThey have keen perception of self and others, and the a. Ability to identify and classify objects towithin a system. People with this personality trait are able to read the social situations of others. Examples of mathematical social personalityies are teachers, social workers, psychologists, politicians, actors, philosophers, and theologians.

Working Name: **Fran Ship**
Height: Approx. 2 inches
Weight: less than an ounce
Race: Yellow DUPLO
Place of Birth: Buddyville, DUPLO

You know how there are some people whothat can make you feel good, even when you're feeling really bad. They're just fun to be with. They seem to know exactly what to say orand what to do. It just feels good to hang around with them. Well, that'sFran Ship is one of those people. Francis is her full name but she preferslikes Fran; . Iit's friendlier: and *Fran* is a friend, but *Francis* is all stuffy. If you see her, wave to her. Chance and chances areon she'll invite you into her home and show you her latest additions to one of her cool collections of stuff. She'll probably offer you a snack or two and ask, "How are you? I hope you're well." -- which isn't all that unusual except she really means it.

Linguistic

This is thThe ability to think in words, language, and letters in written and oral ways. Examples of linguistic personalityies are jokers, authors, speakers, newscasters, and communicators.

Working Name: **Wordy Wanda Wilson**
Height: Approx. 2 inches
Weight: less than an ounce
Race: Yellow DUPLO
Place of Birth: Verb-burg, DUPLO

Wordy Wanda Wilson always has something to say about everything. Usually, it's very nice. "There are's 26 letters in the alphabet, but there's only one 'U'. That is, of course, unless you count the double U, then there are's three youU's!" and she'll laugh. She loves to laugh, but she really loves to play with words and letters even more. When she wears her favorite shirt (the one with thethat has a big letter T on the front), she's the first to call attention to it: "It's my favorite!"point out that its' her favorite T-shirt. Yes, Wordy loves words that'-is for sure. Nouns and verbs are her favorites, because, aslike Wordy Wanda Wilson says: " Without nouns or verbs, nothing ever happens to anybody or anything." "And by the way", Wordy will quickly adds, "without "U" there's no fun at all."

Math and Logic

This is tThe ability to calculate, quantify, and carry out mathematical operations and logical thought, and to reason things out and then act upon them. Examples of mathematical personalityies are scientists, engineers, programmers, game players, card players, and bankers.

Working Name: **Matty Matics**
Height: Approx. 2 inches
Weight: less than an ounce
Race: Yellow DUPLO
Place of Birth: Counterville, DUPLO

Matty Matics is the kind of guy you can count on. In fact, Matty will often say "You can count on me!" while pointing to his number--emblazoned hat and shirt. In fact, you can count on Matty for all kinds of stuff. Give Matty some numbers, and he'll add or subtract them any way you want in almost no time at all. If you have any kind of problem, Matty will add up the facts and come to thehave an exact answer for you -- and he's almost always right. He settles for nothing less.

Preschool & Kindergarten Teaching Characters

Bricky and Clicky

Playmates and the best of buddies, Bricky and Clicky like to play. They've known each other for over a gazillion years, because they were both born in DUPLO Town. They know a lot about stuff, but not as much as you do. That's why they really like it when you stop by and play with them. They have a lot to learn; and you have a lot to teach. They'll be your friends in Preschool and they'll grow up with you to Kindergarten. There's no difference between work and play when you're with either Bricky or Clicky. Everything they do is just plain fun.

Working Name: **Bricky**
Height: Approx. 2 inches
Weight: less than an ounce
Race: Yellow DUPLO
Place of Birth: DUPLO Town, DUPLO

Bricky is a cool DUPLO boy with a flat top doo (see the Legomaniac as pictured in LEGO catalogs for inspiration). He exhibits age-appropriate, boy play for each SKUskew. He loves to build and he really loves to deconstruct. Bricky is an aggressive player, but and kind of mischievous, at times. He is very charismatic, likes to think, and is not afraid of much.

Working Name: **Clicky**
Height: Approx. 2 inches
Weight: less than an ounce
Race: Yellow DUPLO
Place of Birth: DUPLO Town, DUPLO

Clicky is a very cool DUPLO girl with a short hair cut and a very big heart, who exhibits age-appropriate girl behavior for each SKUskew. Clicky loves to build things, then save them, then change them all around again. and save and modify what she builds She enjoys fantasy play, role play, and she is solution oriented. She's a really good friend to have because she knows how to have fun.

Preschool Learning Activities

Once the child selects a curriculum and learning intelligence buddy, a learning activity begins. The following table sets guidelines for the how the activities will be constructed based on the learning intelligence buddy and specific curriculum. ~~E~~Actual ~~e~~xamples ~~of~~summarizing the activity are also shown.

Curriculum-Personality Guidelines

	Math Exposure to numbers, sequential order and meaning	**Language** Exposure to letters, sequential order and meaning	**Art** Exposure to colors, shapes and patterns	**Music** Exposure to sounds, rhythm, pitch and music
Kinesthetic The ability to unite body and mind to perfect a task. It's about being physical. Seeing, touching and manipulating objects.	Motion as it relates to timing as in 3 jumps are fewer~~is less~~ than 5 jumps	Motion as it relates to order as in dance steps (A, B, C) and instructions as in the use of words: jump high, low, near and far	Motion as it relates to art: Kinetic sculpting, action-painting like Jackson Pollack. Color coded steps and color coded sports plays	Motion to Music: jumping on notes, hitting keys, move things around for sound
Musical Sensitivity to sound, pitch, melody, rhythm and song. It's all about sound!	Numbers as a scale. 1, the lowest note, to 10, the highest ~~note (low) to high note (10)~~. Playing by the numbers (the child should know when a note is off key in part ~~and~~because the number is wrong.)	Rhythm, Rap and Poetry. Making songs with words. Chords and playing music. Remembering melodies.	Color-coded play or color themes: Blue notes to red hot notes.	Sound patterns. Compose music, sing-alongs and memory.
Artistic The ability to visualize and think in multi-dimensions, to modify images and decode graphic information. It's about being creative and visualizing.	Numbers as symbols, as art. Drawing numbers and pattern matching. Puzzles, mazes, simple maps, charts or graphs.	The shape and patterns of letters. Drawing and constructing.	Images, shapes and colors, combining and recombining to create stuff	Color coded composition with notes and sounds.
Social Understand and interact effectively with others. Perception of self and others. Ability to identify, classify objects.	Numbers as units. Match 10 items to the number 10	Arrange letters in groups. A,B, C objects	Create groups: patterns using shapes and colors	Groups of notes, sound patterns, family of instruments
Linguistic The ability to think in words, language and letters, in written and oral ways. Communication	Numbers and math in language with meaning through stories and words. "Two houses past my house are three trees"	Letters to words for meaning	Names of colors and shapes	Letters and words to music. Rap and poetry
Mathematical The ability to calculate, quantify and carry out mathematical operations and logical thought	Sequential numbering with volume, value and placement.	The order of letters. C~~a~~ounting letters	Paint and build by number. Saturation of color: 1 is the lightest to 10	Play by the numbers. The higher the note, the higher it's value

Curriculum-Personality Sample Activities

	Math Exposure to numbers, sequential order and meaning	**Language** Exposure to letters, sequential order and meaning	**Art** Exposure to colors, shapes and patterns	**Music** Exposure to sounds, rhythm, pitch and music
Kinesthetic The ability to unite body and mind to perfect a task. It's about being physical. Seeing, touching and manipulating objects.	Catch objects in numbered barrels, fill the barrels to win	Catch falling numbers in a basket that has a letter that changes	Paint Ball game teaches color mixing	Line up objects on conveyor belt to create music box effect
Musical Sensitivity to sound, pitch, melody, rhythm and song. It's all about sound!	Count the number of sound effects	Match rhyming word pictures	A color coded theramin paint a picture and play the music	Match the play of musical instruments in a Simon-like game
Artistic The ability to visualize and think in multi-dimensions, to modify images and decode graphic information. It's about being creative and visualizing.	Make numbers using basic shapes, the number of shapes equals the number (#2 is two pieces)	Simon Says by coloring letters	Basic shapes create more complex objects	Paint a musical tune using color coded notes
Social Understand and interact effectively with others. Perception of self and others. Ability to identify, classify objects.	Match numbers to objects that are color coded in sets and subsets	Alphabet game, arrange the letters in sequence	Place colored objects in a color wheel, uses random shapes like tetris	Arrange musical instruments by type (wind, string, percussion…)
Linguistic The ability to think in words, language and letters, in written and oral ways. Communication	A story is told but stops at several spots to ask how many of some object	Make a story by selecting picture objects, like mad-libs	Match letters to words by color coding	Make a song by arranging word pictures
Mathematical The ability to calculate, quantify and carry out mathematical operations and logical thought	Arrange numbers to count to 10, build something with bricks	Count the number of a certain letter in alphabet soup	Paint by numbers	Arrange notes to create a scale, notes can be represented by heights of bricks

Preschool Math Curriculum

The curriculum zone for the math activities is set in a farm ~~environment~~ with a prominent barn. Inside the barn, the child can play with and learn about numbers. In P~~the~~re-School number play, the child can learn the ~~correspondence~~ relationship between the name of the number, the symbol of the number, and the quantity represented by that number.

Each time a new activity is started in the barn, the numbers are chosen randomly from a set which starts small (1 to 3 elements)~~, and~~ then expands as the child~~the child~~ progresses~~es,~~ ~~(~~eventually ~~to~~reaching 1 ~~to~~through 10 elements~~)~~.

Kinesthetic

Buck the pony plays a juggling game in the barn. Once inside the barn, the child sees Buck, the barn door, and several picture-bricks with numbered baskets. Each~~The~~ basket~~s each~~ contains a number of objects ~~that~~ which match~~eses~~ the number on the outside.

Free-play: Clicking on a basket spills the contents onto the screen. "1…2…3", says Buck when the #3 basket is tipped.   If another basket is selected, the contents of the first basket returns~~s~~ and the new basket tips its contents out. If the child clicks on one of the spilled picture-bricks, it will start bouncing around the screen. If the child clicks it one more time, it returns to the basket. Each time an object is returned to its basket, Buck ~~will~~counts how many objects have been put into the basket.

Learning Buddy Activity: Selecting Buck ~~will~~starts the formal activity. He ~~will~~juggles a certain number of objects and asks the child to click on the basket with the same number on it. When the correct basket is clicked, Buck ~~will~~tosses the objects in, counting as he goes, "1…2…3". If the wrong basket is clicked, he~~'ll~~ lets you know if the basket was too few or too many.   At first, there are only three baskets on screen, but slowly the number of baskets grows, increasing the difficulty as the child progress~~es.~~es~~, the difficulty grows as child progresses by increasing the number of baskets.~~

Musical

Ray the panda plays a matching game in the barn. Once inside the barn, the child sees Ray, the barn door, and several numbered picture-bricks. The picture-bricks have of musical instruments, noisemakers, or farm animals painted on the~~ir~~ backside~~s~~.

Free-play: Clicking on a block, flips it over to reveal the instrument. The number that was on the front of the picture-brick now hovers over the block. The instrument plays the number~~quantity~~ of sound effects represented by the number~~digit~~. For example: clicking on the 6 block flips it over to show the decal of the guitar. Six guitar notes (or chords play) as Ray counts 1-6. Roll over the 6 block and it makes a note that is higher than the one associated with the five block but lower than the for the seven block. The blocks can be rearranged in any order to play an extended sequence.

Learning Buddy Activity: After clicking on the panda, he sings notes (no words). A n~~N~~otes appear~~s~~ in the air for each note he sings. Then h~~H~~e asks, "How many notes?" If the child c~~C~~licks on the correctly numbered brick, Ray ~~and now~~ sings the same notes using~~with~~ the notes from th~~e~~at instrument playing behind him. If the child clicks on the wrong block, ~~and~~ Ray

says "not enough" or "too many." At first, Ray sings from 1-3 notes, but slowly the number of notes increases as the child progresses.

Artistic

Looky the monkey plays a number puzzle game in the barn. Once inside the barn, the child sees Looky, the barn door, and several numbered buckets. Each~~The~~ bucket~~s~~ ~~each~~ contain~~s~~ a numbered picture-brick ~~that~~ which matches the number on the outside.

Free-play: Clicking on a bucket makes the number brick jump out. "1…2…3", says Looky when #3 bucket is clicked. Selecting another bucket tips its contents out as well. If a picture-brick is carried back to the right bucket, Looky ~~will~~ count~~s~~ again. If the wrong bucket is chosen, Looky say~~will~~s "The number is more (or less)" and the picture-brick returns to the right bucket.

Learning Buddy Activity: Selecting Looky ~~will~~ start~~s~~ the formal activity. Looky ~~will~~ magically draw~~s~~ a number on the screen and put~~s~~ pictures bricks out that ~~will~~ make that shape. The bricks can be assembled like puzzle pieces to make number shapes, "click…click…click, Three".   Looky ~~will~~ encourage~~s~~ the child to place bricks in the right position. If the wrong space is chosen, the brick goes to the right space automatically. When the child is finished, Looky ~~will~~ says, "That's ~~is~~ the shape of a number three, whoopee!" The number increases as the child progresses requiring more picture bricks to complete.

Social

Scamper the leopard cub plays a grouping game. Once inside the barn, the child sees Scamper, the barn door, a watering can, and a bunch of seed-packets.

Free-play: Clicking on a seed-packet spills seeds. Clicking on the watering can sprinkles the seeds and several plants grow from the watered seeds. Scamper ~~will~~ count~~s~~ them as they grow. Clicking on a plant harvests it, ~~the plant~~ and Scamper tells you how many things you've picked. "1…2…3", says Scamper when you harvest the crop. Selecting another seed-pack ~~will~~ cause~~s~~ Scamper to harvest all the plants and new seeds spill from the selected seed-pack.

Learning Buddy Activity: Selecting Scamper ~~will~~ start~~s~~ the formal activity.   Numbered picture-bricks line the bottom of the screen. Scamper sprinkles seed-packets and tells the child to water them. Several similar plants ~~will~~ grow, but there are ~~will~~ always ~~be~~ some rogue plants. Scamper holds up a picture-brick with one of the plants on it and asks , "Hey, how many plants look like this?" Scamper encourages the child to count up the identical plants that match the number. "1…2…3…That's right there are three ears of corn", he says ~~Scamper~~. The difficulty grows slowly as the child progresses by increasing the numbered picture-bricks and plants.

Linguistic

G. Howdy the giraffe tells a number story. Once inside the barn, the child sees G. Howdy, the barn door, and several picture-bricks.

Free-play: Clicking on a picture-brick makes a random number of those~~at~~ object~~s~~ appear and then G. Howdy counts them out, "1…2…3". Then he ~~will~~ tell~~s~~ a riddle or joke about it, "Why shouldn't you ~~not~~ tell secrets in a corn field? It is full of ears! Ge, get it? E-ears of corn!"~~.~~ Selecting another picture-brick makes all the prior objects disappear and new objects appear based on the selected picture-brick ~~random number of that brick appears~~.

Learning Buddy Activity: Selecting G. Howdy ~~will~~ starts the formal activity. The picture-bricks on the screen all turn into numbers. G. Howdy begins a story. At several places in the story, G. Howdy stops and asks "How many pigs were there?" or <u>a similar question about an object in the story</u>~~whatever object is part of the story~~. Selecting a number ~~will~~ makes that many picture-bricks with that object's picture on them pop out. "Oh, that<u>'s</u> ~~is~~ right<u>! T</u>~~, t~~here were 1…2…3 pigs…" <u>he </u>says ~~G. Howdy~~. The difficulty grows slowly as the child progresses by increasing the number range.

Mathematical

Digit the elephant plays a number order game. Once inside the barn, the child sees Digit, the barn door, and ~~a~~ numbered barrel<u>s</u>. <u>Each</u>~~The~~ barrel ~~each~~ contains a number of objects that match<u>es</u> the number on the outside.

Free-play: Clicking on a barrel spills the contents onto the screen.   "1…2…3", says Digit when the #3 barrel is selected. Selecting another barrel tips its contents out, <u>and </u>the ~~old~~ <u>previous</u> objects return. Each time an object is carried back to the barrel<u>,</u> Digit ~~will~~ counts how many objects have been put into <u>it</u>~~the barrel~~. The barrel ~~will~~ only hold<u>s</u> as many objects as the number on the outside. <u>If </u>the child tries <u>to overfill it, </u>Digit says ~~will that is ~~"That's t<u>T</u>oo many for this barrel!"~~, if you try to over fill it.~~

Learning Buddy Activity: Selecting Digit ~~will~~ starts the formal activity. Digit ~~will ~~puts out several numbered picture-bricks. "These number bricks all go together, can you figure out the order<u>?</u>"~~,~~ says Digit. Arrange the bricks in the right order<u>,</u> and Digit ~~will~~ counts them, "1…2…3"<u> T</u>~~and t~~hen his trunk stretches over the bricks and grabs a snack. ~~The difficulty grows slowly as the child progresses by increasing the number, which requires more picture-bricks.~~ <u>The number rises slowly, gradually requiring more picture bricks and increasing the difficulty.</u>

Confidential – Trade Secrets.