



Kinderlogo:

Creative Math Activities for Young Learners



Overview of the Kinderlogo Activities

Level 1

KL1 is the beginning Kinderlogo level activity. Commands introduced are:

- F** Forward
- R** Right turn
- L** Left turn
- X** Undo last command (the Backspace key works in the same way)
- N** New picture

Balloon offers practice in directional and problem-solving skills using Level 1 commands. A small circle (the balloon) is drawn at a random location on the screen and the turtle is positioned at the center. The object of the game is to “pop” the balloon by moving the turtle to it. The balloon gets smaller and smaller as successful pops are executed.

Mazes give the learner the opportunity to maneuver the turtle along a path using Level 1 commands. Children can choose from three different mazes of increasing difficulty.

Turtle Dance allows the learners to explore using five turtles, each using a different color pen.

Level 2

KL2 introduces the following turtle commands:

- B** Back
- S** Square
- C** Circle
- O** Opposite turn

Backmaze uses one of the maze patterns from Level 1, but the turtle can only move backward. Using the commands **B**, **R**, **L**, and **O**, children must back the turtle through the maze.

Star Cage helps children become more aware of how the Level 2 squares and circles are drawn. A star is placed on the screen at a random location. The object is to move the turtle next to the star and then “cage” it by drawing a square or circle around it.

Beads is a three-part activity in which children explore patterns made of colors and shapes. They “string” together circles, squares, and triangles to copy a pattern, continue a pattern, and then create patterns of their own.



Kinderlogo:



Creative Math Activities for Young Learners

Level 3

KL3 introduces the following turtle commands:

- U** Pen **U**p
- D** Pen **D**own
- T** Hides or shows the **T**urtle
- H** **H**ome

Target is similar to the Level 1 **Balloon** activity except that the turtle is hidden and points in a random direction at the start. Children must move the turtle and watch the line that it draws to get it to the balloon and pop it.

TicTacToe provides practice in using the **U** (pen up) and **D** (pen down) commands. After a grid is drawn, two players take turns drawing X's and circles using the keys **X** and **O**. They must remember to lift the turtle's pen before moving it so that a trail is not left, then put the pen back down to draw the mark.

Toy Pickup has students send the turtle around the screen to pick up toys and move them to the bin that matches the toy's color. They press **P** to stamp the image of the toy to place it in the bin before the next toy appears. After they correctly place 8 toys, they can start again.

Level 4

KL4 introduces color commands:

- 0-9** Pen colors
- P** **P**aints (fills in) the current enclosed shape or background
- I** Turns on the ink command, which automatically fills in squares and circles drawn using the S and C commands.
- K** Turns off the ink command

Trace allows the children to practice turtle movement and Level 4 commands. After choosing a letter of the alphabet to trace (or having the computer pick one at random), the child copies over it using a different pen color (or erases it using white).

Kite is a game of matching pen colors. The child draws a line to a kite using a pen color that is the same as the color of the kite.

Mirror allows children to explore drawing with 2 turtles. The turtles mirror each other's actions. When one turns left, the other turns right. Using different pen colors adds to the effect.

Symmetry is similar to **Mirror** except that the children can explore drawing with 4 turtles.



Kinderlogo:



Creative Math Activities for Young Learners

Level 5

KL5 introduces commands to define up to 4 procedures, allowing children to store a set of instructions by a letter name (**A**, **G**, **M**, and **Z**). They can use these building blocks to create more complex designs and give them a new letter name.

Sizes allows children to explore shapes of different sizes by entering a number for the length of each side. The activity uses these five shapes:

| | | | | | |
|----------|------------------|----------|------------------|----------|-------------------|
| S | S Square | C | C Circle | T | T Triangle |
| H | H Hexagon | O | O Octagon | | |

Guess is a logic guessing game. The player guesses the shape that is randomly selected by the computer. The player chooses from among five shapes, three sizes, and five colors. After each guess, the computer reports which guesses are right and which are wrong to guide the player to the correct shape.

KL Extras

These activities are fun at any level. They don't introduce new commands or even use the standard letter commands to move and turn the turtle. In these activities, they can express their creativity or play some games.

Color Grid allows children to recreate graph paper drawings on the computer. They can change the pen color using the numbers 0–9 and then click in any box to fill it with that color. They can also use the grid for colorful free exploration.

Turns is a two-player game, although it also can be played by one person. The object is to be the first to move the turtle to your side of the game board. The number of steps is determined by the roll of a die. Players move by pressing **F** as many times as shown on the die.

Memory Game presents 16 cards that students can click on. Eight pairs of matching cards are placed in random positions. Students click on cards and try to match the images. When the cards don't match, the cards turn back over. If they match, they are removed from play. There are 7 different sets of images for students to pair up.

Music Keyboard lets students click on keys on the keyboard to play notes, or type their number or letter equivalents.

Explore with Bee-Bot introduces students to the Bee-Bot robot. They can move it forward and back, and turn it right or left 90°, just like the real Bee-Bot. There are three mats to choose from: Alphabet Mat; Shapes, Colors, and Size Mat; and Community Mat. They can make a spot with a circle by pressing **C**.

Use the Bee-Bot Emulator links to the online Bee-Bot emulator on Terrapin's website. Here they can use many more mats and see how Bee-Bot can store a set of commands.