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| **Unit:** Methodology | **Turn In List:** **1. Terms** |
| *“I will be able to identify and prescribe solutions for various types of errors in a program.”* | |

**Working with Errors: What happens when a program breaks or fails?**

**Content Objectives:** Students will be able to identify and resolve syntax, runtime and logic errors while stepping through an application.

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| **Starter Activity** |
| Use a while loop to accomplish the following result:   |  |  | | --- | --- | | **Code** | **Result** | | // code here:  int i= 0;  while (i<height) {  i+=10;  line(0, i, width, i);  } | Macintosh HD:Users:kkapptie:Desktop:Screen Shot 2013-10-03 at 6.49.48 AM.png |   Use a for loop to accomplish the following result:   |  |  | | --- | --- | | **Code** | **Result** | | // code here:  for (int i = 0; i<height; i+=10) {  line(0, i, width, i);  } | Macintosh HD:Users:kkapptie:Desktop:Screen Shot 2013-10-03 at 6.49.48 AM.png | |

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| **Key Terms:** | |
| Syntax Error | Violating the language standard |
| Runtime Error | Breaks the app during runtime or after compilation |
| Logic Error | Violates the intended use |
| Break Point | Where we stop the code for the sake of monitoring variables |
| Iterate or Iteration | Looping |

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| **Assignment:** |
| Complete the code to accomplish the result on the right:   |  |  | | --- | --- | | size (200, 200);  background (255);  float w = 200;  while (w>5) {  stroke (0);  fill (w);  ellipse (width/2, height/2, w, w);  w-=25;  } | Macintosh HD:Users:kkapptie:Desktop:Screen Shot 2013-10-03 at 9.45.11 AM.png |   Complete the code to accomplish the result on the right:   |  |  | | --- | --- | | size(200,200);  background(255);  for (float w = 200; w>5; w-=25) {  fill (w);  ellipse (width/2, height/2, w, w);  } | Macintosh HD:Users:kkapptie:Desktop:Screen Shot 2013-10-03 at 9.45.11 AM.png |   Use a nested loop to create random filled rectangles inside a canvas (8 lines of code in a for loop):   |  |  | | --- | --- | | size (200, 200);  background (255);  for (int x=0; x<width; x+=10) {  for (int y=0; y<height; y+=10) {  noStroke();  fill(random(256));  rect(x, y, 10, 10);  }  } | Macintosh HD:Users:kkapptie:Desktop:Screen Shot 2013-10-03 at 7.21.37 AM.png |   **Etch-A-Sketch**  Modify the code below to create an algorithm to write your name.   |  |  | | --- | --- | | int x, y;  void setup() {  size(400,400);  frameRate(10);  // Set start coords  x = 0;  y = 0;  }  void draw() {  fill(255);  drawName();  noLoop();  }  // Algorithm for your first name  void drawName() {  moveRight(1);  }  // Method to draw right line  void moveRight(int rep) {  for(int i=0;i<rep\*10;i++){  point(x+i,y);  }  x=x+(10\*rep);  } | Mac HD:Users:kkapptie:Desktop:Screen Shot 2014-09-29 at 6.40.57 AM.png | |

Notes (Points of interest, mistakes, lessons learned, web resources, and thoughts):

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