# MODIFIED UBD LESSON PLAN



**COURSE: MIDDLE SCHOOL** 

**UNIT: Electronics/Coding EXERCISE:** Code Your Own Animation TIME FRAME: 2-3 Hours

PREPARATION: Summary of "to do's" that the teacher should understand and prepare before bringing this lesson to the classroom.

Teachers will need to ensure that the proper supplies are available for students to build their solutions.

From this activity, you will need these items:

#### Materials:

Online classroom Scratch account

#### Tools:

- Pencil
- Computer or Chromebook



SAFETY: Summary of safety strategies in the lesson.

Please use this space to describe safety procedures or highlights for this lesson.

# **DESIRED RESULTS: ESTABLISHED GOALS:**

Problem Solving Techniques and Applications Standards:

#### TRANSFER:

Students will be able to independently use their learning to...

Create their own animation using coding skills

### MEANING:

# UNDERSTANDINGS

Students will understand that...

- Coding is used in many different industries
- Most products that are electronic incorporates coding

#### **ESSENTIAL QUESTIONS**

Students will keep considering...

- Improving coding skills
  - Learning coding to become proficient

# ACQUISITION OF KNOWLEDGE AND SKILL:

Students will know...

- Basic coding using Scratch
- The 4 quadrants of a coordinate plane

Students will be skilled at...

- Using Scratch productively
- Basic math
- Coding their own animation

# **EVIDENCE**:

### **EVALUATIVE CRITERIA:**

Placeholder

### ASSESSMENT EVIDENCE:

Performance Task(s):

# Task Placeholder

Online quiz

Other Evidence:

Student's animation created in Scratch





# LEARNING PLAN: Summary of Key Learning Events and Instruction

#### 1. Introduce Activity

In this activity you will create your own animation using coding skills. Your animation will include a character that moves on screen to all 4 quadrants of the coordinate plane.

- a. Safely create a classroom online Scratch account with your teacher's assistance.
- **b.** Practice appropriate online responsibility and safety.
- **c.** Select a theme or storyline for your animation and choose a **sprite** and **backdrop** that coordinate.
- d. Effectively use 4 go to or glide command blocks from the blue motion menu to move your sprite with
- e. (x, y) coordinates to each of the 4 quadrants of the coordinate plane.
- f. Use when green flag is clicked from the yellow events menu to effectively start your animation.
- g. Add an extra creative touch to your animation using other Scratch code blocks.

## 2. Brainstorm

a. Brainstorm ideas for your animation. Begin by deciding what sprites and backdrops you might want to include. Think about storyline situations that would require a sprite to move around the screen. Be creative and make it unique! Include a rough sketch of your plan. Be flexible and know your plan may change during this process

#### 3. Construct

a. Create your animation in Scratch. List the coordinates you use to navigate your sprite to each of the 4 quadrants. If you chose to use additional blocks that your teacher showed you or that you discovered on your own, list and describe them

#### 4. Test

a. Each time you click a block you are running a test of your coding program. Continue to test and modify as much as needed to finish your animation.

# 5. Communicate Results

**a.** Answer the questions in the reflection section. Reflect on your design process by describing at least one test that went well and one that needed modification. Students share and/or present your animation. Turn in the design brief.

#### **Progress Monitoring:**

Teacher should observe students and provide on-going feedback during the activity. While introducing the unit, the teacher will pause and ask for questions to make sure everyone understands.

Students will complete self-assessment and brainstorm how they could improve their skills in the future. At the end of the unit, there will be a quiz to measure their overall understanding.



# DIFFERENTIATION: Summary of Key Differentiation Techniques

Please use this space to insert your differentiation techniques. Depending on the needs of students, various techniques might be needed in a classroom, therefore use the information below and experts in the area needed to design your plan for differentiation.

The ASCD Study Guide for Integrating Differentiated Instruction and Understating by Design: Connecting Content and Kids. by Carol Ann Tomlinson, Jay McTighe

Integrating Differentiated Instruction and Understating by Design: Connecting Content and Kids.



COURSE: MIDDLE SCHOOLError! Reference source not found.

UNIT: ELECTRONICS/CODING EXERCISE: CODE YOUR OWN ANIMATION TIME FRAME: 2-3 HOURS

by Carol Ann Tomlinson, Jay McTighe ISBN-13: 978-1416602842 ISBN-10: 1416602844

Differentiating Reading Instruction by Laura Robb. ISBN13: 9780545022989

A Teacher's Guide to Differentiating Instruction
The Center for Comprehensive School Reform and Improvement



CAREER CONNECTIONS: Summary of Career Opportunities Associated with this Lesson

Please use this space to insert careers that might be connected to this lesson. This section will need continuous updating as new careers and emerging technologies change the opportunities available in the workforce.

Good sources for career connections:

Occupational Outlook Handbook <a href="http://www.bls.gov/ooh">http://www.bls.gov/ooh</a>

The National Career Clusters® Framework <a href="http://www.careertech.org/career-clusters">http://www.careertech.org/career-clusters</a>



KEYWORDS: Please Insert Keywords from this Lesson with their Definitions

Please use this space to insert keywords and their definitions Use resources like dictionary.com to find definitions to your keywords

