# AVON PUBLIC

# Unit 3: Planning & Programming A Game

| **Unit #:** APSDO-00100162<br>**Team:** Justin Schumacher (Author) | | **Grade(s):** 9, 10, 11, 12<br>**Subject(s):** Technology<br>**Course(s):** COMPUTER PROGRAMMING FOR GAMING I |
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## Unit Focus

In this unit, students will program a game that they have planned on their own. Students will create animations, chose appropriate assets, and program all gaming functions. Students will apply their learning by programming a fully functional, well-designed game. Primary instructional materials will include, but are not limited to, computers with programming software (e.g., Construct2) and provided programming instructions and game assets.

## Stage 1: Desired Results

| Established Goals | Transfer |
|---|---|

**Standards**

- Connecticut Goals and Standards
  - *Technology Education: 7-12*
    - ENGINEERING TECHNOLOGY
      - ENG101 Use the design process to solve problems by creating and refining prototypes.
      - ENG106 Identify and demonstrate the use of various software programs used in the engineering field.
    - GRAPHICS DESIGN TECHNOLOGY
      - GRP101 Communicate ideals using industry standard terminology.
      - GRP102 Explore careers available in the field of graphic communications and the design industry.
      - GRP108 Demonstrate knowledge of concept development.
      - GRP114 Identify and produce files utilizing different digital formats.

*What kinds of long-term, independent accomplishments are desired? Students will be able to independently use their learning to...*

T1 (T1) Explore and evaluate the use of technology in personal interests, aspirations, and/or employment opportunities.

T2 (T2) Communicate effectively based on purpose, task, and audience using industry standard vocabulary and medium.

T3 (T3) Identify a problem or need and use technology to develop a solution.

T4 (T4) Demonstrate fluency and precision in industry standard processes.

### Meaning

| Understanding(s) | Essential Question(s) |
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| *What specifically do you want students to understand? What inferences should they make? Students will understand that...* | *What thought-provoking questions will foster inquiry, meaning making, and transfer? Students will keep considering...* |
| U1 (U100) Exploration and use of technology, embedded in our lives, increases likelihood of personal and professional success. | Q1 (Q100) How does my choice of technology impact personal and professional success? |
| | Q2 (Q201) How was my message received? How can I use feedback to improve the effectiveness of my communication and solution? |
| U2 (U200) Medium and communication choices (including industry standard vocabulary) impact how an audience receives and responds to the intended message. | Q3 (Q300) Input: What problem/need am I trying to solve (now)? |
| U3 (U300) When presented with a challenge, the Design Process is an effective, iterative sequence that values information gained from both successes and failures to develop an innovative solution. | Q4 (Q302) Input: How does prior experience influence my approach? |
| | Q5 (Q304) Process: How am I using appropriate tools and techniques in this phase of the design? |
| U4 (U400) The depth of understanding and use of industry standard processes directly relates to the sophistication and innovation of a design. | Q6 (Q305) Process: What real-time adjustments might I need to make? |
| | Q7 (Q306) Output: To what extent did the solution address the identified problem/need? |
| | Q8 (Q400) How does understanding industry standard processes help me solve the problem or guide my design? |

| Acquisition ||
|---|---|
| **Knowledge** | **Skill(s)** |
| *What facts and basic concepts should students know and be able to recall? Students will know...* | *What discrete skills and processes should students be able to use? Students will be skilled at...* |
| K1 How to create and load a sprite strip | S1 Programming a functioning game |
| K2 How to insert sprites, sounds, and backgrounds into layouts | S2 Creating animations using sprite sheets |
| | S3 Programming functions and routines to control assets |
| K3 How to choose and create properly sized images and assets | |