

Math Planned Course: Multimedia 2 Honors - Grades 10 - 12

Unit: **Computer Game Basics**

Content Standard: **Understand the components of a quality computer game.**

State Curriculum Standard:

3.7.10.C. Apply basic computer operations and concepts.

3.7.12.C. Evaluate computer operations and concepts as to their effectiveness to solve specific problems.

3.7.10.D. Utilize computer software to solve specific problems.

3.7.12.D. Evaluate the effectiveness of computer software to solve specific problems.

3.7.10.E. Apply basic computer communications systems.

3.7.12.E. Assess the effectiveness of computer communication systems.

Course Content	Student Performance	Resources	Assessments
A. Game Genres	<ul style="list-style-type: none">• Recognize game genres	<ul style="list-style-type: none">• Computers	<ul style="list-style-type: none">• Classroom discussions and participation
B. Game Views	<ul style="list-style-type: none">• Identify game views	<ul style="list-style-type: none">• Game development software	<ul style="list-style-type: none">• Portfolio evaluation
C. Audience	<ul style="list-style-type: none">• Determine audience	<ul style="list-style-type: none">• ISTE's Educational Technology Standards (see Appendix)	<ul style="list-style-type: none">• Teacher generated rubrics
C. Theme	<ul style="list-style-type: none">• Establish theme		<ul style="list-style-type: none">• Peer review
D. Flow	<ul style="list-style-type: none">• Incorporate flow		<ul style="list-style-type: none">• Oral/visual presentation
E. Scoring	<ul style="list-style-type: none">• Apply scoring		
F. Difficulty	<ul style="list-style-type: none">• Determine difficulty		
G. Length of Play	<ul style="list-style-type: none">• Establish length of play		

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Unit: **Puzzle Games**

Content Standard: **Design and create a puzzle style computer game.**

State Curriculum Standard:

3.7.10.C. Apply basic computer operations and concepts.

3.7.12.C. Evaluate computer operations and concepts as to their effectiveness to solve specific problems.

3.7.10.D. Utilize computer software to solve specific problems.

3.7.12.D. Evaluate the effectiveness of computer software to solve specific problems.

3.7.10.E. Apply basic computer communications systems.

3.7.12.E. Assess the effectiveness of computer communication systems.

Course Content	Student Performance	Resources	Assessments
A. Images B. Importing C. Layers D. Objects E. Puzzle Pieces F. Movie Clips G. Script File	<ul style="list-style-type: none">• Draw images• Import images• Add layers• Place objects• Create pieces• Name movie clips• Write script file	<ul style="list-style-type: none">• Computers• Game development software• ISTE's Educational Technology Standards (see Appendix)	<ul style="list-style-type: none">• Classroom discussions and participation• Portfolio evaluation• Teacher generated rubrics• Peer review• Oral/visual presentation

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Unit: **Action Games**

Content Standard: **Design and create an action style computer game.**

State Curriculum Standard:

3.7.10.C. Apply basic computer operations and concepts.

3.7.12.C. Evaluate computer operations and concepts as to their effectiveness to solve specific problems.

3.7.10.D. Utilize computer software to solve specific problems.

3.7.12.D. Evaluate the effectiveness of computer software to solve specific problems.

3.7.10.E. Apply basic computer communications systems.

3.7.12.E. Assess the effectiveness of computer communication systems.

Course Content	Student Performance	Resources	Assessments
A. Game Introduction	<ul style="list-style-type: none">• Introduce game	<ul style="list-style-type: none">• Computers	<ul style="list-style-type: none">• Classroom discussions and participation
B. Background	<ul style="list-style-type: none">• Draw background	<ul style="list-style-type: none">• Game development software	<ul style="list-style-type: none">• Portfolio evaluation
C. Character Movement	<ul style="list-style-type: none">• Script character movement	<ul style="list-style-type: none">• ISTE's Educational Technology Standards (see Appendix)	<ul style="list-style-type: none">• Teacher generated rubrics
D. Walls	<ul style="list-style-type: none">• Design walls		<ul style="list-style-type: none">• Peer review
E. Hit Test	<ul style="list-style-type: none">• Apply hit test		<ul style="list-style-type: none">• Oral/visual presentation
F. Levels	<ul style="list-style-type: none">• Develop levels		
G. Speed	<ul style="list-style-type: none">• Set speed		
H. Remove Object	<ul style="list-style-type: none">• Program remove object		
I. Scoring	<ul style="list-style-type: none">• Apply scoring		
J. Sounds	<ul style="list-style-type: none">• Create sounds		

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Unit: **Adventure Games**

Content Standard: **Design and create an adventure style computer game.**

State Curriculum Standard:

3.7.10.C. Apply basic computer operations and concepts.

3.7.12.C. Evaluate computer operations and concepts as to their effectiveness to solve specific problems.

3.7.10.D. Utilize computer software to solve specific problems.

3.7.12.D. Evaluate the effectiveness of computer software to solve specific problems.

3.7.10.E. Apply basic computer communications systems.

3.7.12.E. Assess the effectiveness of computer communication systems.

Course Content	Student Performance	Resources	Assessments
A. Storyline	<ul style="list-style-type: none"> Develop storyline 	<ul style="list-style-type: none"> Computers 	<ul style="list-style-type: none"> Classroom discussions and participation
B. Characters	<ul style="list-style-type: none"> Create characters 	<ul style="list-style-type: none"> Game development software 	<ul style="list-style-type: none"> Portfolio evaluation
C. Storyboard	<ul style="list-style-type: none"> Write storyboard 	<ul style="list-style-type: none"> ISTE's Educational Technology Standards (see Appendix) 	<ul style="list-style-type: none"> Teacher generated rubrics
D. Environments	<ul style="list-style-type: none"> Draw environments 		<ul style="list-style-type: none"> Peer review
E. Movement	<ul style="list-style-type: none"> Script character movement 		<ul style="list-style-type: none"> Oral/visual presentation
F. Levels	<ul style="list-style-type: none"> Develop levels 		
G. Animations	<ul style="list-style-type: none"> Create animations 		
H. Transitions	<ul style="list-style-type: none"> Incorporate transitions 		
I. Variables	<ul style="list-style-type: none"> Define variables 		
J. Counters	<ul style="list-style-type: none"> Add counters 		
K. Conditional Statements	<ul style="list-style-type: none"> Insert conditional statements 		

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Unit: 3-Dimensional Animation

Content Standard: **Create 3-dimensional animations using 3-D software.**

State Curriculum Standard:

3.7.10.C. Apply basic computer operations and concepts.

3.7.12.C. Evaluate computer operations and concepts as to their effectiveness to solve specific problems.

3.7.10.D. Utilize computer software to solve specific problems.

3.7.12.D. Evaluate the effectiveness of computer software to solve specific problems.

3.7.10.E. Apply basic computer communications systems.

3.7.12.E. Assess the effectiveness of computer communication systems.

Course Content	Student Performance	Resources	Assessments
A. Object Manipulation	<ul style="list-style-type: none">Manipulate objects	<ul style="list-style-type: none">Computers	<ul style="list-style-type: none">Classroom discussions and participation
B. Mesh Modeling	<ul style="list-style-type: none">Model object	<ul style="list-style-type: none">3-D animation software	<ul style="list-style-type: none">Portfolio evaluation
C. Multi-Resolution Sculpting	<ul style="list-style-type: none">Sculpt objects	<ul style="list-style-type: none">ISTE's Educational Technology Standards (see Appendix)	<ul style="list-style-type: none">Teacher generated rubrics
D. Character Animation	<ul style="list-style-type: none">Animate characters		<ul style="list-style-type: none">Peer review
E. Rigging and Skinning	<ul style="list-style-type: none">Rig and Skin objects		<ul style="list-style-type: none">Oral/visual presentation
F. Shape Keys	<ul style="list-style-type: none">Create shape keys		
G. Textures	<ul style="list-style-type: none">Apply textures		
H. Painting	<ul style="list-style-type: none">Paint objects		
I. Lighting	<ul style="list-style-type: none">Add lighting to objects		
J. Particles	<ul style="list-style-type: none">Create particles		
K. Rendering	<ul style="list-style-type: none">Render objects		