Computational Thinking- KEY ELEMENT/CONCEPTS

(Based on Ainsworth, L. Rigorous Curriculum Design, 2010)

see Norton Public Schools for a completed example

Grades K-2: *By the end of Grade 2, what will ALL students know and be able to do?*			
Element/Concept (*Students will KNOW / understand…)*	**What does this mean?** (*Unpack/ Restate in student-friendly terms.)*	**What does it look like in class?** (*Students will be able to DO…)*	**Where are we already doing it** (*existing standards, curricula, initiatives, etc.*)**?** **+ additional opportunities to learn**
Algorithms		*Students will be able to DO…*	
Computational Models		*Students will be able to DO...*	
Systems		*Students will be able to DO...*	
Data		*Students will be able to DO...*	
Other: _____		*Students will be able to DO...*	

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Grades 3-5: *By the end of Grade 5, what will ALL students know and be able to do?*			
Element/Concept (*Students will know / understand…)*	**What does this mean?** (*Unpack/ Restate in student-friendly terms.)*	**What does it look like in class?** (*Students will be able to…)*	**Where are we already doing it** (*existing standards, curricula, initiatives, etc.*)**?** **+ additional opportunities to learn**
Algorithms		*Students will be able to DO…*	
Computational Models/ Simulations		*Students will be able to DO...*	
Systems-Thinking		*Students will be able to DO...*	
Data		*Students will be able to DO...*	
Other: _____		*Students will be able to DO...*	

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Grades 6-8: *By the end of Grade 8, what will ALL students know and be able to do?*			
Element/Concept (*Students will know / understand…)*	**What does this mean?** (*Unpack/ Restate in student-friendly terms.)*	**What does it look like in class?** (*Students will be able to…)*	**Where are we already doing it** (*existing standards, curricula, initiatives, etc.*)**?** **+ additional opportunities to learn**
Algorithms		*Students will be able to DO…*	
Computational Models/ Simulations		*Students will be able to DO...*	
Systems-Thinking		*Students will be able to DO...*	
Data		*Students will be able to DO...*	
Other: _____		*Students will be able to DO...*	

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Grades 9-12: *By the end of Grade 12, what will ALL students know and be able to do?*			
Element/Concept (*Students will know / understand…)*	**What does this mean?** (*Unpack/ Restate in student-friendly terms.)*	**What does it look like in class?** (*Students will be able to…)*	**Where are we already doing it** (*existing standards, curricula, initiatives, etc.*)**?** **+ additional opportunities to learn**
Algorithms		*Students will be able to DO…*	
Computational Models/ Simulations		*Students will be able to DO...*	
Systems-Thinking		*Students will be able to DO...*	
Data		*Students will be able to DO...*	
Other: _____		*Students will be able to DO...*	