

SOUTH BURLINGTON HIGH SCHOOL

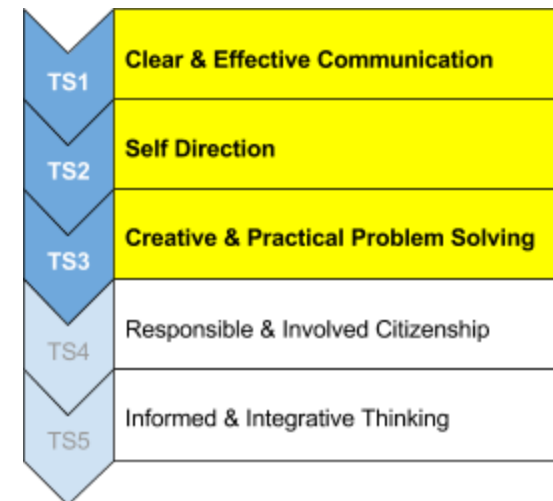
MATHEMATICAL CONTENT AND PRACTICES

9-12 GRADUATION PROFICIENCIES AND PERFORMANCE INDICATORS



GRADUATION PROFICIENCIES & PERFORMANCE INDICATORS:

- ARE REQUIRED BY SECTION 2120.8 OF THE EDUCATION QUALITY STANDARDS
- REFLECT EXISTING LEARNING STANDARDS REQUIRED BY THE VT STATE BOARD OF EDUCATION, UNDER THE VT FRAMEWORK OF STANDARDS (CCSS, NGSS, AND GEs)
- ARE DESIGNED TO BE USED IN CONJUNCTION WITH THE VT TRANSFERABLE SKILLS GRADUATION PROFICIENCIES, WHICH OUTLINE STUDENTS' DESIRED SKILLS AND HABITS ACROSS CONTENT AREAS
- INCREASE PERSONALIZATION AND FLEXIBILITY FOR INSTRUCTION AND LEARNING
- HELP BUILD CURRICULUM AND STEER ASSESSMENT DEVELOPMENT
- SUPPORT FORMATIVE ASSESSMENT PRACTICES, INCLUDING PERFORMANCE ASSESSMENT
- SUPPORT STUDENT ACHIEVEMENT OF THE EXPECTED CONTENT STANDARDS
- REFLECT **SBSD** ENDS POLICIES



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GRADUATION PROFICIENCIES CONTENT	SBHS MATH PERFORMANCE INDICATORS
<p>1. EXPRESS</p> <p>STUDENTS USE MATHEMATICS TO EXPRESS RELATIONSHIPS AMONG QUANTITIES, DATA, AND SHAPE.</p> <p>SBE 1.1(3,4,5)</p> <p>SBE 1.2 (1,2,5,7)</p>	<p>1.1 STUDENTS CAN USE FUNCTIONS TO DESCRIBE HOW ONE QUANTITY DEPENDS ON ANOTHER.</p> <p>1.2 STUDENTS CONSTRUCT MATHEMATICAL MODELS.</p> <p>1.3 STUDENTS MAKE CONNECTIONS AMONG THE DIFFERENT FORMS OF A FUNCTION (GRAPH, NUMERIC, ANALYTIC, VERBAL).</p> <p>1.4 STUDENTS SUMMARIZE AND REPRESENT DATA.</p>
<p>2. SOLVE</p> <p>STUDENTS SOLVE PROBLEMS USING A VARIETY OF MATHEMATICAL METHODS.</p> <p>SBE 1.1 (1,4,5)</p> <p>SBE 1.2(1,6,7)</p>	<p>2.1 STUDENTS REASON QUANTITATIVELY AND USE CONTEXT TO SOLVE PROBLEMS.</p> <p>2.2 STUDENTS USE MATHEMATICAL MODELS TO SOLVE PROBLEMS.</p> <p>2.3 STUDENTS SOLVE DIFFERENT TYPES OF EQUATIONS AND INEQUALITIES USING A VARIETY OF STRATEGIES.</p> <p>2.4 STUDENTS INTERPRET AND ANALYZE DATA TO BUILD SOUND MATHEMATICAL ARGUMENTS IN ORDER TO RESOLVE PROBLEMS.</p>

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GRADUATION PROFICIENCIES CONTENT	SBHS MATH PERFORMANCE INDICATORS
<p>3. APPLY</p> <p>STUDENTS APPLY MATHEMATICS TO MAKE SENSE OF THE WORLD.</p> <p>SBE 1.1(3,5)</p> <p>SBE 1.2 (1,2,6,7)</p>	<p>3.1 STUDENTS INTERPRET FUNCTIONS IN TERMS OF THE SITUATION THEY MODEL AND EXTEND THAT UNDERSTANDING TO RELATED APPLICATIONS.</p> <p>3.2 STUDENTS SELECT AND APPLY THE APPROPRIATE ALGEBRAIC MODELS FOR STEAM APPLICATIONS.</p> <p>3.3 STUDENTS USE GEOMETRIC CONCEPTS TO ENGAGE WITH REAL WORLD PROBLEMS AND DRAW CONCLUSIONS.</p> <p>3.4 STUDENTS USE STATISTICS TO MODEL SITUATIONS, MAKE INFERENCES AND JUSTIFY CONCLUSIONS.</p>

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GRADUATION PROFICIENCIES SCHOOL-WIDE	SBHS PERFORMANCE INDICATORS
TS1. CLEAR & EFFECTIVE COMMUNICATION SBE1 (1,2,3,4,5,6) SBE 1.2(2,3,5,6)	<ul style="list-style-type: none"> ● STUDENTS DEMONSTRATE ORGANIZED AND PURPOSEFUL COMMUNICATION. ● STUDENTS USE EVIDENCE AND LOGIC APPROPRIATELY IN COMMUNICATION. ● STUDENTS USE TECHNOLOGY TO FURTHER ENHANCE AND DISSEMINATE COMMUNICATION. ● STUDENTS COLLABORATE EFFECTIVELY AND RESPECTFULLY.
TS2. SELF-DIRECTION SBE 1.1(1,3,4,5) SBE 1.2(2,4,5,6) SBE 1.3.4	<ul style="list-style-type: none"> ● STUDENTS INTEGRATE KNOWLEDGE FROM A VARIETY OF SOURCES TO SET GOALS AND MAKE INFORMED DECISIONS. ● STUDENTS APPLY KNOWLEDGE IN FAMILIAR AND NEW CONTEXTS. ● STUDENTS DEMONSTRATE INITIATIVE AND RESPONSIBILITY FOR LEARNING. ● STUDENTS ANALYZE THE ACCURACY, BIAS, AND USEFULNESS OF INFORMATION. ● STUDENTS PERSEVERE IN CHALLENGING SITUATIONS. ● STUDENTS USE TECHNOLOGY AND DIGITAL MEDIA STRATEGICALLY AND CAPABLY.
TS3. CREATIVE & PRACTICAL PROBLEM SOLVING SBE 1.1(3,4,5) SBE 1.2(2,4,5,6,7) SBE 1.3.5	<ul style="list-style-type: none"> ● STUDENTS OBSERVE AND EVALUATE SITUATIONS IN ORDER TO DEFINE PROBLEMS. ● STUDENTS FRAME QUESTIONS, MAKE PREDICTIONS, AND DESIGN DATA COLLECTION AND ANALYSIS STRATEGIES. ● STUDENTS ANALYZE, EVALUATE, AND SYNTHESIZE EVIDENCE, ARGUMENTS, CLAIMS, AND BELIEFS. ● STUDENTS GENERATE A VARIETY OF SOLUTIONS, USE EVIDENCE TO BUILD A CASE FOR BEST RESPONSES, CRITICALLY EVALUATE THE EFFECTIVENESS OF RESPONSES, AND REPEAT THE PROCESS TO GENERATE ALTERNATE SOLUTIONS. ● STUDENTS USE A RANGE OF TOOLS, INCLUDING TECHNOLOGY, TO SOLVE PROBLEMS. ● STUDENTS PERSIST IN SOLVING CHALLENGING PROBLEMS AND LEARN FROM FAILURE.