

Science, Mathematics and Technology Education Standards Addressed by SENSE IT Lessons

Module 1					
Lesson	NSES	21 st	ISTE NETS	FL Science	FL Math
Sensors and the environment	A, E, F, G	GA, SL		SC.6.N.1.1 SC.6.N.1.4 SC.8.N.4.1 SC.912.L.17.13	
Introduction to electricity	B	IL, SL		SC.912.P.10.13 SC.912.P.10.14 SC.912.P.10.15	MA.6.A.1.3 MA.6.A.3.4 MA.6.A.3.6 MA.8.A.1.1 MA.8.A.1.2 MA.8.A.1.3 MA.8.A.1.4 MA.8.A.1.5 MA.8.A.1.6 MA.912.A.1.1 MA.912.A.1.4
Temperature vs. resistance characteristics of a thermistor	B	IL		SC.912.P.10.13 SC.912.P.10.14 SC.912.P.10.15	MA.6.A.1.3 MA.6.A.3.4 MA.6.A.3.6 MA.8.A.1.1 MA.8.A.1.2 MA.8.A.1.3 MA.8.A.1.4 MA.8.A.1.5 MA.8.A.1.6 MA.912.A.1.1 MA.912.A.1.4 MA.912.A.3.1
Potential dividers	B	IL		SC.912.P.10.13 SC.912.P.10.14 SC.912.P.10.15	MA.6.A.1.3 MA.6.A.3.4 MA.6.A.3.6 MA.8.A.1.1 MA.8.A.1.2 MA.8.A.1.3 MA.8.A.1.4 MA.8.A.1.5 MA.8.A.1.6 MA.912.A.1.1 MA.912.A.1.4 MA.912.A.3.1
Building a linear temperature sensor	B	IL	1D	SC.8.N.1.1 SC.912.P.10.13 SC.912.P.10.14 SC.912.P.10.15	MA.6.A.1.3 MA.6.A.3.4 MA.6.A.3.6 MA.8.A.1.1 MA.8.A.1.2 MA.8.A.1.3 MA.8.A.1.4 MA.8.A.1.5 MA.8.A.1.6 MA.912.A.1.1 MA.912.A.1.4 MA.912.A.3.1 MA.912.A.3.11
Add-on math lesson: Simultaneous equations					MA.6.A.1.3 MA.6.A.3.4 MA.6.A.3.6 MA.8.A.1.1

					MA.8.A.1.2 MA.8.A.1.3 MA.8.A.1.4 MA.8.A.1.5 MA.8.A.1.6 MA.912.A.1.1 MA.912.A.1.4 MA.912.A.3.1
Add-on environmental science lesson: Water quality and temperature	F	GA, SL		SC.7.E.6.6 SC.912.L.17.16 SC.912.L.17.17	
Add-on lesson: Soldering practice					
Module 2					
Lesson	NSES	ISTE NETS	21st	FL Science	FL Math
Connecting a Thermistor to the NXT computer		IL		SC.8.N.1.1 SC.912.P.10.13 SC.912.P.10.14 SC.912.P.10.15	
Programming the NXT to measure and display sensor signals		IL			
Performing mathematical operations on sensor data		IL		SC.8.N.1.1 SC.912.P.10.13 SC.912.P.10.14 SC.912.P.10.15	MA.6.A.1.3 MA.6.A.3.4 MA.6.A.3.6 MA.8.A.1.1 MA.8.A.1.2 MA.8.A.1.3 MA.8.A.1.4 MA.8.A.1.5 MA.8.A.1.6 MA.912.A.1.1 MA.912.A.1.4 MA.912.A.3.1
Linear approximation and calibration of the temperature sensor		IL		SC.8.N.1.1 SC.912.P.10.13 SC.912.P.10.14 SC.912.P.10.15	MA.6.A.1.3 MA.6.A.3.4 MA.6.A.3.6 MA.8.A.1.1 MA.8.A.1.2 MA.8.A.1.3 MA.8.A.1.4 MA.8.A.1.5 MA.8.A.1.6 MA.912.A.1.1 MA.912.A.1.4 MA.912.A.3.1
Programming a calibrated temperature sensor	E	IL	1D	SC.8.N.1.1 SC.912.P.10.13 SC.912.P.10.14 SC.912.P.10.15	MA.6.A.1.3 MA.6.A.3.4 MA.6.A.3.6 MA.8.A.1.1 MA.8.A.1.2 MA.8.A.1.3 MA.8.A.1.4 MA.8.A.1.5 MA.8.A.1.6 MA.912.A.1.1 MA.912.A.1.4 MA.912.A.3.1 MA.912.S.2.1 MA.912.S.2.3 MA.912.S.3.1

					MA.912.S.4.1
Add-on math lesson: Programming an NXT					
Add-on lesson: Datalogging		IL, SL			
Add-on lesson: NXT cable making					
Add-on lesson: Resistors	B	IL, SL		SC.912.P.10.14 SC.912.P.10.15	
Add-on lesson: Conductivity Sensor	E	IL, SL	1D, 6C	SC.8.N.1.1 SC.912.P.10.13 SC.912.P.10.14 SC.912.P.10.15	MA.6.A.1.3 MA.6.A.3.4 MA.6.A.3.6 MA.8.A.1.1 MA.8.A.1.2 MA.8.A.1.3 MA.8.A.1.4 MA.8.A.1.5 MA.8.A.1.6 MA.912.A.1.1 MA.912.A.1.4 MA.912.A.3.1
Add-on lesson: Turbidity Sensor	E	IL, SL	1D, 6C	SC.8.N.1.1 SC.912.P.10.13 SC.912.P.10.14 SC.912.P.10.15	MA.6.A.1.3 MA.6.A.3.4 MA.6.A.3.6 MA.8.A.1.1 MA.8.A.1.2 MA.8.A.1.3 MA.8.A.1.4 MA.8.A.1.5 MA.8.A.1.6 MA.912.A.1.1 MA.912.A.1.4 MA.912.A.3.1
Add-on lesson: Depth Sensor	E	IL, SL	1D, 6C	SC.8.N.1.1 SC.912.P.10.13 SC.912.P.10.14 SC.912.P.10.15	MA.6.A.1.3 MA.6.A.3.4 MA.6.A.3.6 MA.8.A.1.1 MA.8.A.1.2 MA.8.A.1.3 MA.8.A.1.4 MA.8.A.1.5 MA.8.A.1.6 MA.912.A.1.1 MA.912.A.1.4 MA.912.A.3.1

Module 3

Lesson	NSES	ISTE NETS	21st	FL Science	FL Math
Water as a resource	F	GA, SL		SC.912.L.17.12 SC.912.L.17.13 SC.912.L.17.14 SC.912.L.17.15 SC.912.L.17.16 SC.912.L.17.17 SC.912.L.17.18	
Water quality	F	GA, SL		SC.6.N.1.1 SC.7.N.1.1 SC.8.N.1.1 SC.912.L.17.2 SC.912.L.17.3 SC.912.L.17.4 SC.912.L.17.7 SC.912.L.17.8	

Environmental justice	F	GA, SL		SC.912.L.17.12 SC.912.L.17.13 SC.912.L.17.14 SC.912.L.17.15 SC.912.L.17.16 SC.912.N.4.1 SC.912.N.4.2	
Environmental engineering	F	GA, SL			
Sensor development	E	GA, IL, SL	6B	SC.912.N.1.1 SC.912.L.17.13 SC.912.L.17.17	
Sensor networks	E, F	GA, IL, SL	6B	SC.912.N.1.1 SC.912.L.17.13 SC.912.L.17.17	
Math					
Module 4					
Lesson	NSES	ISTE NETS	21st	FL Science	FL Math
Wireless sensor networks	E	IL, SL, VL	2D, 4ABCD		
Connecting two NXTs via Bluetooth	E	IL, SL, VL	2D, 4ABCD		
Building a distributed sensor network	A, E, F	IL, SL, VL	2D, 3D, 4ABCD, 6C		