

Updated on: **April 2020**

Wilson Central School District
Technology Grade 7

Unit: Power Point

Teacher: Scarpine

Days	Lesson	Essential Question	Standards	Vocabulary	Content / Skills	Resources	Specially Designed Instruction	Assessment / Common Assessments
1	Introduction	What is Power Point	Common Core Learning Standard(s) Addressed: RST.6-8.3, WST.6-8.2.d	Slide, Transitions. animation	Develop a power point to convey information to an audience	Intro Power Point	Written directions, additional time	
2	Backgrounds	How to change backgrounds to add an artistic element	New York State Standards (MST) Addressed MST 5.1, MST5.2, MST3.5	Template Gradient Contrast	Change backgrounds on the slides to provide a more colorful presentation. Check to see if slides are legible and contrast between text and background	Adding backgrounds	Aid students in grammar and spelling, Encourage projects with less written content and more power point features.	
3	Transitions	How to add transitions to provide a dynamic way to go from slide to slide		Entrance effects Motion path	Add dynamic transitions between slides, add sound.	Adding transitions and animation		

4	Animations	Control how and when information is presented		Effects Emphasis	Add animation effects to control how and when information is presented on the slides			
Work/Build days								
5	Work day	Develop slides			Develop Slides			
6	Work day	Develop slides			Develop slides			
7	Timing	How can I get the slide show to play on its own		Timings Rehearse	Adding timing to the presentation so that it plays on its own with no input from a presenter	Add timings to allow power point to be presented automatically.		
8	Present				Present your project to the class			
9	Present	Was my presentation easy to watch? Were all my slides readable?			If done, review what was good and what needed work	Good contrast between letters and backgrounds. Good use of sound and animations.		

Updated on: **March 2020**

**Wilson Central School District
Technology Grade 7**

Unit: Lego Robots

Teacher: Scarpine

Days	Lesson	Essential Question	Standards	Vocabularies	Content / Skills	Resources	Specially Designed Instruction	Assessment / Common Assessments
1	Introduction	What is a Robot?	Common Core Learning Standard(s) Addressed: RST.6-8.3, WST.6-8.2.d	Electromechanics Artificial intelligence Software Autonomous Programming Sensors	How are robots used today Movie and books use of robots	Lego mindstorn robots Lego Mindstom software USB cables AC chargers	Extra time, provide example programs. Software does not require reading. Project does require organized thinking	Assess the students on how well they program, how many attempts it takes to complete each maze.
2	Use of software	How do we program the robot to do what we want?	New York State Standards (MST) Addressed MST 5.1, MST5.2, MST3.5	Icons Graphic user interface download	Start programing, explore the software. Basic commands to move and turn the robot		Break each maze down into smaller units. Have students complete the small sub maze before moving to next phase.	
3	Touch Sensor	How do we use sensors?		Touch sensor	Use the touch sensor to have the robot touch a wooden block and respond by turning, backing or stopping. Set up maze with 4 blocks	Classroom table, wooden blocks	May need to reduce the size and complexity of each maze so that they get tol use each sensor.	
4	Touch Sensor				Finish Maze 1			

5	Touch Sensor				Start maze 2, pull robot into three areas.	Second set of wooden blocks		
6	Touch Sensor				Continue maze 2. Maze 1 is done			
7	Color/Light sensor	How do we use light/color sensor	Light intensity		Start maze 3 .Series of plastic strips of varied colors taped down to table.		Reduce number of turns needed in color maze.	
8	Color/Light sensor							
9	Color/Light sensor				Finish maze 3			
10	Ultrasonic sensor	How do we use the ultrasonic sensor?	Sound Ultrasonic Radar Proximity		Start Maze 4. Series of blocks the robot must navigate using the ultrasonic sensor. Robot cannot contact any of the walls picture of maze 4		Reduce size of maze. Reduce number of turns	
11	Ultrasonic sensor							
12	Ultrasonic sensor							
13	Ultrasonic sensor				End maze 4			
14	Final maze				Develop a maze that uses all three sensors		Final maze may be skipped if needed.	
15	Final maze							
16	Final maze							
17	Final maze				End unit. Review with the class what they learned and how can we improve the unit. What other tasks can we get the robot to do?			Lego Scoring Rubric

Wilson Central School District
Technology 7

Unit: Mouse Trap Cars

Teacher: Mr. Scarpine

Days	Lesson	Essential Question	Standards	Vocabulary	Content / Skills	Resources	Specially Designed Instruction	Assessment / Common Assessments
1	Intro	What is a mousetrap car?	Common Core Learning Standard(s) Addressed: RST.6-8.3, WST.6-8.2.d	Kinetic energy Potential energy	Speed, acceleration, momentum	Steps to build a mousetrap car	Provide extra time. Provide visual example of energy types	
2		What are the 6 simple machines?	New York State Standards (MST) Addressed MST 5.1, MST5.2, MST3.5	Wheel and axle. Lever arm	Lever, transfer of energy, Calculate speed and distance.		Provide visual examples of simple machines	
3	Build day	How do we build the car?		Chassis, bushings,	Cutting craft sticks, using hot glue, review of using rulers.		Demo construction Assist with construction as needed	
4	Build Day			Dowels, adapters	Install wheels and axles		Breakdown construction into smaller steps.	
5	Test Day	Does my car roll straight?		Troubleshoot	Test roll car down ramp	Test ramp	Assist students who need extra help in correcting	

							defects	
6	Test Day	How far does my car go?		Energy transfer	Add mouse trap and lever arm and string. Need dowel for lever arm Need 3D printed parts to attach lever arm to mouse trap. Wind up and test car under power	3D printed parts needed to build car		Record 5 distances
7	Test Day	What is my best distance?		Coasting momentum	Getting good roll and coast Reduce friction			
8	Grading/Review				Mouse Trap car project write-up		Allow extra time. Read questions to them. Accept answers not in complete sentences	Two grades, building and competitive distance

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Unit: Water Rockets

Teacher: Scarpine

Days	Lesson	Essential Question	Standards	Vocabulary	Content / Skills	Resources	Specially Designed Instruction	Assessment / Common Assessments
1	Intro	How does a rocket fly?		Lift, thrust, drag	Rocket worksheet	Water Rocket Worksheet		
2	Rocket Flight	What are the parts of a Rocket Flight	Common Core Learning Standard(s) Addressed: RST.6-8.3, WST.6-8.2.d	Assent, Launch, Coasting, Apex, Recovery	Draw part of flight on graph paper	Internet websites are to be used to complete worksheet and to find parts of Rocket Flight.	Allow extra time. Demo construction Assist with construction as needed.	
3	Fin Design	How do fins or wings effect rocket flight?	New York State Standards (MST) Addressed MST 5.1, MST5.2, MST3.5	Fin, aerodynamics , Stability	Design Fins for stable flight	Fin Design Examples, Fins layout template (either 3 or 4 fins). Foam core board for making fins Empty 2-liter bottle with cap. Old 2 liter bottles that can be used for capsules Hot glue guns with glue	Demo construction Assist with construction as needed	
4	Begin Construction	Begin construction of rockets		Capsule, Parachute, Recovery	Cut out an glue fins on rocket, begin capsule construction	Steps to build a water rocket Card stock Fin templates Hatch templates (3D printed hatch templates) Hatch and nose cone templates Plastic bags and string	Provide verbal instructions as well as written.	

5	Build	Build				Use of exacto knives to cut out fins Use of hot glue guns safely	Break down construction into smaller steps.	
6	Build	Is my rocket properly built?				Look over and compare your rocket to others	Assist students who need extra help in correcting defects	
7	Final build	Am I ready for Launch?				Eggs, card stock hatch templates		
8	Launch			Countdown Recovery Altitude		Launch system Funnel to aid fill of rockets Stop watch		Record flight time, egg recovered
9	Review/grading	How did my rocket fly?				Water Rocket Project review write up	Allow extra time. Read questions to them. Accept answers not in complete sentences	Scoring Rubric