

Science Standard (3)	3.1 Scientific Investigation
Key Science Content Concepts	Investigation, making inferences, drawing conclusions from data, and using senses.
Best Learning Activities/ curricula: How/what students will do	<p>INCORPORATE MORE DIVERSE 3.1 (Math, Senses, Measurement, conclusions) in other strand activities (all strands will have activities focusing on these skills)</p> <ol style="list-style-type: none"> 1. Skittles Investigation (RCPS website – www.rcps.info) 2. Stream Study (adapted from Save Our Streams by Ms. Larson) 3. ITSI-SU probeware lesson temperature and light (http://itsisu.portal.concord.org/) Lessons created by Ms. Larson <ul style="list-style-type: none"> - How hot am I? - Temperature sensor lesson - Light probe lesson - Ice Cream lesson 4. Simple Machine wheel and axle lesson, marshmallow launcher, inclined plane (created by Ms. Larson) <ul style="list-style-type: none"> - Simple Machine Playground lesson (SID THE SCIENCE KID http://pbskids.org/sid/) 5. Chemical and Physical Change Lab (created by Ms. Larson)
Best Teaching methods: how/what teacher will do	<ol style="list-style-type: none"> 1. Teacher will review senses and provide students with sensory experiences. Teacher will introduce the lab and allow students to complete lab with minimal involvement in the activity. Teacher will ask open-ended questions. Give opportunities for students to create extension lab. 2. Engage activity: video of hiking trail and stream. Ask students where they think the video was taken? What would you do there? Introduction of tools, lab sheets, and equipment. Field Trip to stream. Students will be given time to complete lab and explore the habitat. 3. Discrepant Event: Show students a graph from ITSI-SU portal. Ask them to determine what made the graph? How does the graph change? Why does the graph look like that? Introduction to probeware. Exploration and completion of labs. Extension activities: STEM CAREERS 4. Explore: students will be given supplies and asked to find a way to get a marshmallow from one side of the room to the other without throwing it. They must use a tool. Students will launch marshmallows. Teacher will introduce the different types of simple machines using student creations as examples. Show Sid the Science Kid episodes on Simple Machines. Teacher will provide visual examples of all types of simple machines. Teacher will question why simple machines are used. 5. Demonstrate physical and chemical changes to class. Pass items around, question: How did they change? Complete Lab. After lab, use questioning to have students define and determine what is a chemical change? What is a physical change? Allow students to extend and create their own follow-up lab.

Cross-curricular SOLs: identify SOLs and how curriculum is integrated	Math: measurement 3.4,3.9, 3.11, graphs3.17, 3.19 Reading: 3.5g (conclusions) 3.6d, Social Studies: 3.5 (map skills), 3.6 (reading and construction maps),
Vertical Team Objective:	To strengthen scientific investigation skills in all grade levels.
Resources: what resources the team has and what resources are needed	FOSS Kits, Curriculum guides from other content areas, Project Wild books, Project Learning Tree books, Sid the Science Kid materials and DVD's, and Ms. Larson doing monthly investigations at each grade level. *Time to review and revise current science activities to include more 3.1 skills.
Timeframe: duration and sequence	3.1 Scientific investigation skills will be performed throughout the entire year. Investigations will follow Roanoke City Schools pacing guides. One scientific investigation will be performed in each grade level at least once a month.
Nature and form of assessment	Teachers will examine Science journals for evidence of 3.1 skills and create a rubric to determine effectiveness. Teachers will analyze benchmark scores and compare them with previous scores to determine if improvement on 3.1 skills has been made.