

**NATURE, CONCEPTS AND SYSTEMS
(SYSTEMS THINKING, INTERACTIONS, AND DESIGN)**

3-5

Indicator 1: Students understand the history and progression of technology in relation to the development and design of future technology.

Third Grade	Fourth Grade	Fifth Grade
3.NC.1.1 Describe ways that creative thinking, economics and culture influence the development of technology over time. (Knowledge)	4.NC.1.1 Distinguish how changes in technological tools affect outcomes. (Analysis)	5.NC.1.1 Describe the historical evolution of technological inventions as societies wants and needs change. (Knowledge)
		5.NC.1.2 Report on the relationship between technological inventions and societal changes.. (Application)
		5.NC.1.3 Identify ways people have adapted the natural world to meet their needs and wants. (Knowledge)

Indicator 2: Students analyze the parts of a technological system in terms of input, process, output, and feedback.

Third Grade	Fourth Grade	Fifth Grade
3.NC.2.1 Illustrate, using a flow chart, the parts of the system model as it relates to technology. (Comprehension)	4.NC.2.1 Determine the effects of feedback in the system model. (Application)	5.NC.2.1 Evaluate what changes need to be made within a systems model to accomplish a goal. (Evaluation)
	4.NC.2.2 Identify the resources needed in a system in order for it to work. (Knowledge)	5.NC.2.2 Evaluate how changes in a systems model affect the goal. (Evaluation)

Indicator 3: Students analyze the relationships and the connections between technologies in different fields of study and how they apply to communities.

Third Grade	Fourth Grade	Fifth Grade
3.NC.3.1 Classify technologies into home, school, work, or global use. (Comprehension)	4.NC.3.1 Identify examples of how technology changes have affected society. (Application)	5.NC.3.1 Analyze how careers have changed due to changes in technology. (Analysis)

Indicator 4: Students understand the purpose and demonstrate the use of the design process in problem solving.

Third Grade	Fourth Grade	Fifth Grade
3.NC.4.1 Produce a variety of solutions to a defined problem. (Application)	4.NC.4.1 Adapt a structured method to produce a variety of solutions to a given problem using the design process. (Synthesis)	5.NC.4.1 Evaluate solutions for positive and negative aspects in order to choose the optimum solution. (Evaluation)