

Botball[®] and National Science Standards

Grades 5 - 8

	Botball	R & D Challenge
Science as Inquiry		
* Abilities necessary to do scientific inquiry	X	
* Understandings about scientific inquiry	X	
Physical Science		
* Properties and changes of properties in matter	X	
* Motions and forces	X	
* Transfer of energy	X	
Science and Technology		
* Abilities of technological design	X	X
* Understandings about science and technology	X	X
Personal and Social Perspectives		
* Science and technology in society	X	X
History and Nature of Science		
* Science as a human endeavor	X	X
* Nature of science	X	X
* History of science		X

Grades 9 - 12

	Botball	R & D Challenge
Science as Inquiry		
* Abilities necessary to do scientific inquiry	X	
* Understandings about scientific inquiry	X	
Physical Science		
* Motions and forces	X	
* Conservation of energy and increase in disorder	X	
* Interactions of energy and matter	X	
Science and Technology		
* Abilities of technological design	X	X
* Understandings about science and technology	X	X
Personal and Social Perspectives		
* Science and technology in local, national, and global challenges	X	X
History and Nature of Science		
* Science as a human endeavor	X	X
* Nature of scientific knowledge	X	X
* Historical perspectives		X

Botball® National Technology Standards

Grades K - 12

	Botball	R & D Challenge
Basic Operations and Concepts		
* Students demonstrate a sound understanding of the nature and operation of technology systems.	X	
* Students are proficient in the use of technology.	X	X
Social, Ethical and Human Issues		
* Students understand the ethical, cultural, and societal issues related to technology.		X
* Students practice responsible use of technology systems, information, and software.	X	X
* Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.	X	X
Technology Productivity Tools		
* Students use technology tools to enhance learning, increase productivity, and promote creativity.	X	X
* Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.	X	X
Technology Communication Tools		
* Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.	X	X
* Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.	X	X
Technology Research Tools		
* Students use technology to locate, evaluate, and collect information from a variety of sources.	X	X
* Students use technology tools to process data and report results.	X	X
* Students evaluate and select new information resources and technological innovations based on the appropriateness for specific tasks.	X	X
Technology Problem-Solving and Decision-Making Tools		
* Students use technology resources for solving problems and making informed decisions.	X	X
* Students employ technology in the development of strategies for solving problems in the real world.	X	X