



## 21st Century Skills

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Odyssey of the Mind  
Complex Technical and Artistic Problem Solving

### Global Awareness

- *Global Competitiveness and Understanding*
- *Teams meet other teams from around the world at the annual World Finals*

### Intellectual Curiosity

- *Research to find information needed to solve the problem*
- *Choosing a problem and idea that is personally exciting*

### Interpersonal and Collaborative Skills Communication

- *Team work - Consensus, collaboration, communication*
- *Understanding and valuing the power of diversity within the team*
- *Understanding personal strengths and weaknesses*

### Problem Solving & Creative and Critical Thinking

- *Analyze complex open-ended real world problems*
- *Identifying challenges within the problem*
- *Brainstorm possible technical solutions*
- *Brainstorm possible thematic and artistic solutions*
- *Evaluate potential solutions- How creative is this solution? Will other teams have thought of this?*
- *Spontaneous-training your mind to generate creative solutions by analyzing and evaluating your ideas and learning to use targeted thinking strategies.*

### Self Direction

- *No Outside Assistance rule-team generated research, solutions and decision making*
- *Select potential solutions using scoring criteria*
- *Planning for tournaments*

### Authentic Assessment Accountability and Adaptability

- *Team reflection on effectiveness during spontaneous practice*
- *Team reflection on tournament results*
- *Planning and refining for future tournaments*
- *Create-test-improve-re-test best solutions*



## 21st Century Skills: Inventive Thinking

**Experts agree:** As technology becomes more prevalent in our everyday lives, cognitive skills become increasingly critical. "In effect, because technology makes the simple tasks easier, it places a greater burden on higher-level skills" (International ICT Literacy Panel, 2002, p.6). The committee on Workforce Needs in Information Technology (2001) defines intellectual capabilities as "one's ability to apply information technology in complex and sustained situations and to understand the consequences of doing so" (p 18). These capabilities are "life skills" formulated in the context of Digital Age technologies.

Inventive thinking is comprised of the following "life skills":

- **Adaptability and Managing Complexity:** The ability to modify one's thinking, attitude, or behavior to be better suited to current or future environments; and the ability to handle multiple goals, tasks, and inputs, while understanding and adhering to constraints of time, resources, and systems (e.g., organizational, technological).
- **Self-Direction:** The ability to set goals related to learning, plan for the achievement of these goals, independently manage time and effort, and independently assess the quality of learning and any products that result from the learning experience.
- **Curiosity:** The desire to know or the spark of interest that leads to inquiry.
- **Creativity:** The act of bringing something into existence that is genuinely new and original, whether personally (original only to the individual) or culturally (where the work adds significantly to a domain of culture as recognized by experts).
- **Risk Taking:** The willingness to make mistakes, advocate unconventional or unpopular positions, or tackle extremely challenging problems without obvious solutions, such that one's personal growth, integrity, or accomplishments are enhanced.
- **Higher-Order Thinking and Sound Reasoning:** The cognitive processes of analysis, comparison, inference and interpretation, evaluation, and synthesis applied to a range of academic domains and problem-solving contexts.