

RESEARCH & INFORMATION FLUENCY

In the 21st Century classroom, students find, navigate through and evaluate large amounts of information. Teachers provide guided and independent research opportunities for students to make informed decisions and create products.

Emerging	Developing	Enhancing	Ideal
<p>Teacher...</p> <ul style="list-style-type: none"> • provides print resources for research and information acquisition. • directs student use of electronic resources. 	<p>Teacher...</p> <ul style="list-style-type: none"> • evaluates electronic resources for appropriateness. • utilizes school-based digital resources for enhanced research and information acquisition. <p>Students...</p> <ul style="list-style-type: none"> • locate and acquire information using provided resources. 	<p>Teacher...</p> <ul style="list-style-type: none"> • plans and implements strategies to guide student investigation. • instructs students on the acquisition, evaluation and ethical use of information. <p>Students...</p> <ul style="list-style-type: none"> • develop questions to guide research. • apply research methods to find and evaluate resources • select information from a variety of digital resources and databases. 	<p>Teacher...</p> <ul style="list-style-type: none"> • creates structures, provides opportunities and assesses student performances. <p>Students...</p> <ul style="list-style-type: none"> • select appropriate digital tools to assemble, evaluate and utilize information. • apply varied research skills to find and evaluate resources. • use information and resources to accomplish real-world tasks.

Foundations

Modern technologies that promote research and information fluency include search engines, databases, social bookmarking, push/pull technologies and supportive empowering organizational structures and strategies.

How to use this document: Each chart title reflects essential 21st Century skills and collectively embodies a vision of instruction in technology-rich classrooms. Columns are snapshots of student and teacher behaviors in various stages of classroom development. Each column increases in degree of student-centered focus. A progression occurs between columns with the most desired behaviors in the right-hand column.

COMMUNICATION & COLLABORATION

In the 21st Century classroom, students communicate and collaborate effectively to reach a common goal to create a product. The teacher utilizes a variety of communication methods, structures student interaction in groups and engages students in collaborative projects.

Emerging	Developing	Enhancing	Ideal
<p>Teacher...</p> <ul style="list-style-type: none"> disseminates information with limited student interaction. initiates communication opportunities. 	<p>Teacher...</p> <ul style="list-style-type: none"> creates structures for student communication within the classroom. provides opportunities for students to work in groups on products and projects. 	<p>Teacher...</p> <ul style="list-style-type: none"> models effective communication. provides opportunities for students to make global connections. establishes group norms to facilitate effective collaboration. 	<p>Teacher...</p> <ul style="list-style-type: none"> creates structures, provides opportunities and assesses student performances.
<p>Students...</p> <ul style="list-style-type: none"> work independently to create individual products. 	<p>Students...</p> <ul style="list-style-type: none"> communicate using a variety of techniques and tools. work in groups to create products. 	<p>Students...</p> <ul style="list-style-type: none"> communicate with audiences within and beyond the classroom. frequently collaborative to create products. 	<p>Students...</p> <ul style="list-style-type: none"> initiate communication in real and non-real time. communicate and collaborate with learners of diverse cultural backgrounds. form collaborative teams to solve real-world problems and create original works.

Foundations

Technologies that foster communication and collaboration include electronic messaging, multimedia publishing, video conferencing, shared authoring tools and social networking applications.

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CRITICAL THINKING & PROBLEM SOLVING

In the 21st Century classroom, students will apply knowledge and skills in practical ways to solve real-world problems. The teacher provides the activities, experiences and feedback needed for students to develop critical thinking and problem solving skills.

Emerging	Developing	Enhancing	Ideal
<p>Teacher...</p> <ul style="list-style-type: none"> disseminates information with limited real-world connections. places little emphasis on helping students think analytically, make decisions and solve problems. 	<p>Teacher...</p> <ul style="list-style-type: none"> provides direct instruction on critical thinking and problem solving skills. Creates opportunities for students to solve basic real-world problems. <p>Students...</p> <ul style="list-style-type: none"> uses resources including technology to make decisions and solve problems. 	<p>Teacher...</p> <ul style="list-style-type: none"> incorporates problem and project-based learning into instruction. utilizes open-ended questions and emphasizes higher-order thinking skills. guides and encourages the use of appropriate resources to solve authentic problems. <p>Students...</p> <ul style="list-style-type: none"> use technology and work independently to solve problems. engage in open-ended learning experiences that require higher-order thinking skills. 	<p>Teacher...</p> <ul style="list-style-type: none"> creates structures, provides opportunities and assesses student performances. <p>Students...</p> <ul style="list-style-type: none"> use multiple resources to discover real-world problems, plan, design and execute real-world solutions. use technology to collaborate and solve authentic problems. develop and answer open-ended questions using higher order thinking skills.

Foundations

Critical thinking and problem solving require specific behaviors that ultimately lead to insights and quality decisions. Modern tools that encourage and promote thinking critically and solving problems are flexible, varied and include simulations and data visualization software in addition to the tools included in the Research & Information Fluency and Communication & Collaboration sections.

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CREATIVITY & INNOVATION

In the 21st Century classroom, students develop original ideas and create products by applying critical thinking, research methods, communication tools and collaborative process. Teachers provide experiences that allow students to create unique ideas and products.

Emerging	Developing	Enhancing	Ideal
<p>Teacher...</p> <ul style="list-style-type: none"> • limits instruction to specific content domain. • makes internal connections within existing knowledge. 	<p>Teacher...</p> <ul style="list-style-type: none"> • provides instruction to accommodate a range of learning styles, interests and capabilities. • prompts students to identify trends, make predictions and think insightfully. • makes connections within and between content domains. <p>Students...</p> <ul style="list-style-type: none"> • make connections to existing knowledge. • create products following teacher direction. 	<p>Teacher...</p> <ul style="list-style-type: none"> • creates a student-centered environment. • provides opportunities for students to demonstrate collaborating, communication and critical thinking skills. • establishes group norms to facilitate effective collaboration. <p>Students...</p> <ul style="list-style-type: none"> • identify trends and make predictions independently. • apply existing knowledge to create ideas and products. 	<p>Teacher...</p> <ul style="list-style-type: none"> • creates structures, provides opportunities and assesses student performances. <p>Students...</p> <ul style="list-style-type: none"> • apply critical thinking research methods and communication tools to create original work. • Collaborate effectively with an audience beyond the classroom to create original work.

Foundations

Creativity and Innovation ultimately lead to new products, perspectives and insights. Modern tools that augment and accelerate thinking creativity and innovation are flexible and varied. Examples of such powerful tools included in the Research & Information Fluency and Communication & Collaboration sections.

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