

Main Units

Click: Photography Studio

Click: Photography Studio	4th & 5th Grade Gifted
“The camera is an instrument that teaches people to see without a camera.” – Dorothea Lange	
STEAM	16 Weeks
Big Idea: Photography is a process. It requires us to develop our skills through practice, constructive critique, reflection, revising, and refining work over time.	
Overarching Question: How do the choices you make impact your work?	
Rationale/Purpose:	
The purpose of Click: Photography Studio is to expose students to the art of photography. Photography teaches us to appreciate the world around us, connect with our environment, and see things from a new perspective. It brings out our creativity, provides a safe outlet for self-expression, builds technical skills, and allows us to communicate our ideas with the world in a new way. Students in this class will learn and apply photography techniques as they become amateur photographers.	
Description:	
In this class students will learn how digital cameras work and develop the skills and techniques necessary for photography. Students will analyze their own photographs as well as the work of others to learn how they can use techniques like composition, light, and angle to communicate feelings and mood. Throughout the semester students will practice what they learn to take a variety of photographs and will exhibit self-selected pieces of their work in an illustrated photography how-to guide.	
Enduring Understandings:	
EU 1.4 There are different processes & strategies for solving problems. Being able to apply these processes & strategies may increase the probability of developing a successful outcome. EU 1.5 Through practice, we can grow in our ability to develop effective solutions to problems. EU 1.1 Decision making (like forming an opinion) requires a process of gathering, analyzing, and applying information and ideas.	
Essential Questions:	
EQ 1.1 How do I make and defend a well through out and reasonable decision (opinion)? EQ 1.2 How do I use different strategies to effectively generate solutions that solve problems? EQ 1.3 Why is it important to be able to solve problems and explain my reasoning? EQ 1.25 How do I collect and determine relevant data?	
MOGLO:	

CR.B.1 - (Problem Solving - Assessed) Develop possible solutions to problems

- Students will identify and solve problems in their photographs based on the techniques they learn.

CR.C.2 - (Reasoning - Assessed) Support ideas, decisions, and opinions with facts tied to evidence

- Students will create a how-to guide that explains what they consider best practices in photography based on facts from articles, videos, and lessons.

CR.A.1 - (Analyzing Information - Assessed) Collect and analyze data to identify elements of issues

- Students will review photos and receive feedback from other students and the teacher. After analyzing that feedback they will look for patterns in their photographs to find strengths and weaknesses and adjust strategies based on this information.

CR.G.1 - (Systems Thinking - Support) Identify cause and effect relationships and complex connections

- Students will learn how different aspects of a camera and a photograph interact and use this knowledge to compose better photographs.

CR.I.1 - (Communication - Support) Effectively communicate ideas to meet the needs of the audience

- Students will create personal how-to guides to communicate what they have learned.

Unit Know, Understand, and Do:

Know:

Strategies for identifying and solving problems.

Strategies for supporting ideas and types of evidence that can be used.

Strategies for finding relevant and reliable sources.

Strategies for collecting qualitative data.

Understand:

EU 1.1 Decision making (like forming an opinion) requires a process of gathering, analyzing, and applying information and ideas.

EU 1.4 There are different processes and strategies for solving problems. Being able to apply these processes and strategies may increase the probability of developing a successful outcome.

& EU 1.5 Through practice, we can grow in our ability to develop effective solutions to problems.

Do:

Use information learned about photography to take photos at stations.

Identify problems in our technique and trends in our photos. Use that information to set realistic goals to develop solutions that improve our work.

Communicate our ideas about what we learn effectively, using evidence to support our opinions.

Project Archaeology

Gifted-Multidisciplinary: Social Science, ELA & Visual Art	16 weeks
Rationale/Purpose:	
<p>To make sense of the present, we must know and understand the past. Archaeology gives students the tools for understanding the complexities of human history and cultural heritage, enriching our knowledge of how the past informs the present and forges a link to the human continuum. Cultural heritage can provide an automatic sense of identity, unity and belonging, and allows us to connect to previous generations and the history of where we come from. Through lessons of the value and importance of cultural heritage and legacy, students learn that its preservation and protection is a shared responsibility and can be safe-guarded through stewardship and education.</p> <p>Throughout this unit, students grow in their ability to understand systems, make decisions about information, defend ideas with confidence, and communicate ideas creatively to meet the needs of their audience. Students discover the knowledge of social science, build transferable skills, and gain confidence asking questions, seeking answers, and working with others.</p>	
Overarching Question:	
How can we use the study of archaeology and inquiry to know and understand cultural heritage and serve as stewards for the protection and preservation of its legacy?	
Description:	
<p>In this unit, students work collaboratively to explore and examine cultural heritage through the support of scientific and historical inquiry and the systems process of archaeology. Students take on the role as archaeological stewards as they rely archaeological evidence, along with primary sources, to reconstruct and interpret cultural heritage and make connections to its preservation and protection. Students further develop their skills in the CCL standards of inquiry, systems thinking and communication as they construct meaningful questions, observe and support inferences with evidence, and analyze and interpret the evidence to build an understanding of, and make conclusions about, cultural heritage and its legacy.</p> <p>During the first half of the semester, students learn about and build knowledge of cultural heritage through the scientific and historical inquiry processes of archaeology. While thinking and working as archaeological stewards, students investigate and explore the cultural material of Herculaneum and Pompeii to build an understanding of the rich cultural heritage and legacy of ancient Rome. Students also evaluate the ethics involved and develop an understanding of their civic responsibility in the preservation and protection of this World Heritage Site.</p> <p>Throughout the second half of the semester, students continue to promote stewardship of cultural heritage and legacy through research and education. Working collaboratively in teams, students investigate and interpret the cultural material of a group-selected ancient culture and World Heritage Site. As stewards of archaeology, students curate and design a museum exhibit that educates and informs an audience of the importance of cultural heritage and its preservation and protection.</p>	
Enduring Understandings:	
<u>SYSTEMS THINKING</u>	
EU 1.2 The decisions that we make impact others. It is important to consider the implications and consequences of personal actions.	
EU 1.4 There are different processes and strategies for solving problems. Being able to apply	

these processes and strategies may increase the probability of developing a successful outcome.

EVALUATE OPTIONS AND EXPLAIN REASONING

EU 1.3 The development of critical thinking skills and dispositions is a life-long endeavor.

EU 1.4 There are different processes and strategies for solving problems. Being able to apply these processes and strategies may increase the probability of developing a successful outcome.

COMMUNICATION

EU 1.5 Through practice, we can grow in our ability to develop and communicate effective solutions to problems.

Essential Questions:

EVALUATE OPTIONS AND EXPLAIN REASONING

EQ 1.1 How do I make and defend a well thought out and reasonable decision?

EQ 1.25 How do I collect and determine relevant data?

EQ 1.3 Why is it important to be able to solve problems and explain my reasoning?

SYSTEMS THINKING

EU 1.4 There are different processes and strategies for solving problems. Being able to apply these processes and strategies may increase the probability of developing a successful outcome.

EQ 1.5 How can I transfer my knowledge and skills to new situations?

COMMUNICATION

EQ 1.5 How can I transfer my knowledge and skills to new situations?

EQ 1.6 How do I communicate my ideas effectively to an appropriate audience?

MOGLO:

Assessed

Evaluate Options and Explain Reasoning (5.CR.C.2)

- Aligns with EU 1.3 & 1.4

Systems Thinking (5.CR.G.1) Assessed

- Aligns with EU 1.2 & 1.4

Communicate Ideas, Thoughts, and Messages (5.CR.I.1) Assessed

- Aligns with EU 1.5

Supported

Analyze Problem Situations and Identify Key Elements (5.CR.A.1) Supported

Identify Possible Solutions and Success Criteria (5.CR.B.1) Supported

Know:

- Archaeology is the study of the ancient and recent human past through cultural material/remains.
- Archaeology gives us the tools to examine and explain human behavior, understand how society functions, learn from the past and apply those lessons to the present, and analyze the drivers and implications of a changing world and how different countries, places and cultures interact.
- Archaeology Process/Scientific Method:

5th Grade at a Glance

- Develop a research/inquiry question
- Gather information and evidence to support research/inquiry question
- Conduct an excavation to gather evidence to support research/inquiry question
- Analyze and interpret evidence
- Make conclusions based upon evidence
- Preserve and protect artifact record
- The archaeological past is a set of events, both pre historic and historic, observed and experienced by humans that occurred before the present.
- History is the study of changes over past time and it covers all aspects of human society and the written record.
- Culture is the beliefs, behavior, social forms and material traits of a a group of people. A culture is a people's way of life. It consists of traditions, religions, laws, social structures, languages, and foodways.
- Cultural element/universal - an element, pattern, trait or institution that is common to all known human cultures worldwide, both past and present
- Cultural heritage is the legacy of physical artifacts (cultural property) and intangible attributes of a group or society inherited from the past.
- Artifact is an object made and/or used by humans which gives information about the culture of its creator and users.
- Material culture/remains is the physical traces of human activity that archaeologists investigate and includes artifacts, bio/eco facts, features and midden. Archeologists learn about cultures in the past through their material remains.
- Scientific skills of archaeology include observation, classification, inference and context
- A primary source is a first-hand account (artifacts, letters, features and biofacts) of an event or topic and the most direct evidence of a time or event that is used by archaeologists to interpret the past.
- Stewardship involves the collaborative management of the archaeological record for the benefit of all people.
- Principles of archaeological ethics: stewardship, responsibility, preservation and public education and outreach
- Curate - select, organize and present objects that communicate a message, tell a story, promote awareness and shape a visitors' knowledge and understanding.

Understand:

- Understanding the past is essential for understanding the present and shaping the future.
- Archaeology Is a systemic way to learn about past peoples and cultures. It helps us to understand, appreciate and preserve our shared cultural heritage.
- Knowing and understanding cultural heritage and legacy helps us better understand ourselves, place in time and connects the past to the present.
- The study and appreciation of cultural heritage enhances our perception, interpretation, and appreciation of how societies, cultures, and communities have evolved. It offers invaluable lessons that continue to reflect in our current societal framework and structures.
- The cultural heritage and legacy of ancient Rome includes contributions to modern language, religion, society, technology, law, politics, government, warfare, art,

literature, architecture, and engineering and pioneered advances in many areas of science and technology, establishing tools and methods that have shaped the present day world.

- Studying archaeology sites has ethical implications. Archaeologists work for the long-term conservation and protection of the archaeological record, while respecting the rights and beliefs of Indigenous and descendant peoples to the representation of their heritage as manifested in the archaeological record.
- Stewardship of the archaeological record and sites is everyone's responsibility. As stewards, archaeologists are both caretakers of, and advocates for, the archaeological record.
- Archaeological museum exhibits and repositories are important to the promotion and interpretation of archaeological narratives and education. Through their exhibits, museums shape the public's knowledge, understanding, and awareness of cultural heritage and legacy. Museums connect past collections and to present research and act as stewards to preserve and protect cultural material for the future.

Do:

- Explore and investigate cultural heritage through the support of scientific and historical inquiry and the systems process of archaeology - construct meaningful questions, observe and support inferences with evidence, collect data/evidence, and analyze and interpret the data/evidence to make conclusions about how past cultures have informed and influenced our present world today.
- Use archaeological evidence to build an understanding of cultural heritage and legacy. Examine and investigate archaeological sites, landscapes, and material culture to make inferences about people in the past. Analyze and interpret archaeological evidence to explain cultural heritage and its implications on the present.
- Investigate and explore the cultural remains of Pompeii to build an understanding of the rich cultural heritage and legacy of ancient Rome and the ethics involved along with civic responsibility in the preservation and protection of this World Heritage Site.
- Utilize the design process to create a museum exhibit to act as stewards and educate an audience on the importance of cultural heritage and the reasons why cultural heritage and archaeological World Heritage Sites should be preserved and protected.
- Build on prior knowledge each week to explain understandings and make connections - reflect on weekly learning and set goals in a journal.

CCL Test Kitchen

CCL Test Kitchen	5th Grade
Science / Chemistry	16 weeks
Rationale/Purpose:	
This unit provides the opportunity for students to investigate everyday problems encountered in the kitchen while exposing students to the scientific principles related to food and cooking. Cooking and creating food in the kitchen has historically been a family activity across all	

5th Grade at a Glance

cultures. Tapping into students' natural curiosity about a topic that is both current and relevant is an opportunity to engage students as their growing sense of independence leads them to experiment and ask questions. The study of the science of cooking provides an ideal foundation on which to build awareness of the dynamics between science and math, as well as a problem-solving framework for critical thinking and systems thinking. Food science will help students understand more about the food they eat to make safe and healthy decisions throughout their lifetime.

Description:

Through the lens of food scientists, students will participate in food labs and cooking activities to learn about chemistry. Students will use all their senses as they navigate through a working kitchen and prepare food items. They will also be able to make cause and effect connections, solve problems, and have opportunities to share about their cultures through food.

Overarching Question:

How can we look at how things are connected and use our problem-solving skills to solve real-life food problems?

Enduring Understandings:

- EU 1.1 Decision making requires a process of gathering, analyzing, and applying information and ideas.
- EU 1.4 There are different processes and strategies for solving problems. Being able to apply these processes and strategies may increase the probability of developing a successful outcome.
- EU 1.5 Through practice, we can grow in our ability to develop effective solutions to problems.

Essential Questions:

- EQ 1.1 How do I make and defend a well thought out and reasonable decision?
- EQ 1.2 How do I use different strategies to effectively generate solutions that solve problems?
- EQ 1.5 How can I transfer my knowledge and skills to new situations?
- EQ 1.6 How do I communicate my ideas effectively to an appropriate audience?

MOGLO:

5th Grade at a Glance

<ul style="list-style-type: none">● Identify Possible Solutions and Success Criteria<ul style="list-style-type: none">○ (A) Develop possible solutions to problems○ (S) With guidance, develop success criteria for problem solutions○ (S) Evaluate the possible effectiveness of proposed solutions to problems
<ul style="list-style-type: none">● Evaluate Options and Explain Reasoning<ul style="list-style-type: none">○ (S) Determine criteria for evaluating and selecting responses to issues and support selections○ (A) With guidance, support ideas, decisions, and opinion statements with facts tied to evidence from multiple sources
<ul style="list-style-type: none">● Systems Thinking<ul style="list-style-type: none">○ (A) See trends in systems and identify cause and effect relationships or multiple connections within the system
<ul style="list-style-type: none">● Risk Taking and Open Mindedness<ul style="list-style-type: none">○ (LB) Demonstrate adaptability skills when evaluating thoughts or plans of original products through listening and asking questions

Unit Know, Understand, and Do:

Know:

- Cooking causes the breaking and forming of molecular bonds within and between different molecules.
- The molecular structure of a reactant (recipe's ingredient) is intricately connected to the outcome of the chemical reaction (recipe).
- Thermal energy can be added to food to cause a change to the molecular structure of the food.
- Pure substances have characteristic physical and chemical properties that cause it to behave in specific ways, and these behaviors can be predicted.
- Science knowledge is based upon logical and conceptual connections between evidence and explanations.

Understand:

- Complex problems require a systematic approach to develop effective solutions.
- Flexibility in thinking is needed to determine the most effective testing protocol to solve a problem.
- Data should be approached with an unbiased eye in order to make a logical, evidence-based judgment.
- Cause and effect relationships can be used to create recipes or make substitutions.

Do:

- Reason scientifically to solve problems.
- Use food and cooking to explain scientific principles that are all around us.
- Objectively interpret data and draw conclusions based upon data, and communicate recommendations and/or findings.
- Generate questions to uncover problems and foster investigations.
- Build on prior knowledge each week to explain understandings and make connections.

A Class Act

A CLASS ACT	5TH GRADE GIFTED
THEATRE ARTS	SEMESTER
Real World Process & Product	
Students in “A Class Act” will create a play with a musical number and will perform the original work for a live audience.	
Rationale/Purpose:	
The purpose of “A Class Act” is for CCL students to develop problem-solving, communication, and innovation skills while sharing the entire process of inception, development, and performance of a play/musical. Many students have strengths in the areas of drama and music and in working with others. “A Class Act” will further hone the students’ abilities in these areas. For students who are developing these skills, this unit will provide a comfortable, yet challenging environment, in which skills may be nourished. Working with others to achieve a common goal is a necessary life skill and career work skill.	
Description:	
Students in “A Class Act” will be immersed in creative processes. Students will be particularly engaged in creative writing and storytelling. In addition, we will work on story development/plot development, script creation, analysis of clips from plays and musicals, problem-solving with group members, developing acting skills including vocal inflection, character personality development, the importance of timing, improv work, weekly acting challenges, auditions, role casting, memorization work, vocal exercises, selecting tunes and writing unique lyrics for show musical numbers, choreography for musical numbers, prop, set, and costume brainstorming, selection of preferred audience and dates of performance(s), and as a culminating activity, performing their original works for an audience. <i>*In some situations, interviewing potential audience members to learn what type of show they would most enjoy and developing a show using the interviewees’ criteria will be implemented.</i>	
Overarching Question:	
How can writing and performing plays with classmates help us utilize various problem-solving methods, effectively communicate ideas, and foster creative and innovative thought?	
Enduring Understandings:	
EU 1.4 There are different processes and strategies for solving problems. Being able to apply	

these processes and strategies may increase the probability of developing a successful outcome.
 EU 1.5 Through practice, we can grow in our ability to develop effective solutions to problems.
 EU 2.3 Being open-minded when new and different ideas are proposed is an important aspect of allowing creative thought and encouraging innovation.

Essential Questions:

EQ 1.2 How do I use different strategies to effectively generate solutions that solve problems?
 EQ 1.3 Why is it important to be able to solve problems and explain my reasoning?
 EQ 1.5 How can I transfer my knowledge and skills to new situations?
 EQ 1.6 How do I communicate my ideas effectively to an appropriate audience?
 EQ 2.2 In what ways is creativity important and how does creativity play a role in self-expression and culture?
 EQ 2.3 What conditions, attitudes, and behaviors support creativity, innovative thinking, and creative risk-taking?

MOGLO:

Assessed

Identify Possible Solutions and Success Criteria (5.CR.B.1) Assessed

- Aligns with EU 1.4 & 1.5

Communicate Ideas, Thoughts, and Messages (5.CT.C.1) Assessed

- Aligns with EU 1.5

Innovation Skills (5.CT.C.1) Assessed

- Aligns with EU 2.2 & 2.3

Supported

Analyze Problem Situations and Identify Key Elements (5.CR.A.1) Supported

Evaluate Options and Explain Reasoning (5.CR.C.2) Supported

Systems Thinking (5.CR.G.1) Supported

Know:

Strategies can be used to effectively generate solutions to problems.

Decisions impact others, and therefore, require awareness of our roles in systems.

Effectively communicating ideas requires planning and sensitivity to the audience.

Conditions, attitudes, and behaviors support creativity.

Understand: Applying my skills in problem-solving, communication, and creativity will help the group realize its goal.

Do:

Actively explore and clarify problems.

- Use established or self-created processes to solve problems.
- Support ideas with evidence/reasoning.
- Apply learning to new situations.
- Promote peer relationships that provide encouragement and support creativity.
- Communicate a message to an audience.

Biotechnology

Biotechnology	5TH GRADE GIFTED
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5th Grade at a Glance

Science	SEMESTER
Real World Process & Product	
How can I use biotechnology to address a real-world problem?	
Rationale/Purpose:	
<p>It is important for CCL 5th graders to learn about biotechnology because tomorrow's decision-makers, leaders, scientists, politicians, doctors, parents, and consumers require a firm understanding of the principles of biotechnology, current applications, future significance, and appreciation of the ethical implications that may arise from the use of this technology. One cannot go a day in which one does not see a newspaper or magazine article, internet story, or some tangible evidence that understanding and manipulation of organism genomes is invading human consciousness and life as we know it.</p>	
Description:	
<p>Biotechnology is a unit that will focus on applications of biotechnology with the objective of improving life on Earth. Students will create models and do many hands-on activities, participate in simulations and discussions, make observations, watch educational videos, and examine data in many forms. The fifth graders will be researching a personal interest area (usually a problem) that can be addressed through biotechnology. Students will propose three solutions to the problem and share those proposals with classmates, and using feedback, select the proposal that holds the most promise. Students will apply their biotechnology learning and problem solving skills to create a plan for how biotechnologists could make the student's idea a reality. Students will explain how they would know if their idea were successful. They will also describe the possible positive benefits and negative outcomes of their ideas. These capstone projects will be shared with the class. Finally, students will identify an individual, organization or company that might be interested in learning about their ideas.</p>	
Enduring Understandings:	
<p>Biotechnology can be used to address real-world problems. EU 1.1 Decision making requires a process of gathering, analyzing, and applying information and ideas. EU 1.2 The decisions that we make impact others. It is important to consider the implications and consequences of personal actions. EU 1.5 Through of allowing creative thought and encouraging innovation.</p>	
Essential Questions:	
<p>EQ 1.1 How do I make and defend a well thought out and reasonable decision? EQ 1.4 How do my decisions impact the world? EQ 1.6 How do I communicate my ideas effectively to an appropriate audience?</p>	
MOGLO:	

5th Grade at a Glance

MO GLO: Analyze Problem Situations and Identify Key Elements (Assessed)

Students will analyze a self-selected real-world problem and will research how large this problem is through the analysis of statistics and will find underlying factors that contribute to this problem.

MO GLO: Identify Possible Solutions and Success Criteria (Assessed)

Students will evaluate teacher-selected solutions and develop criteria for evaluating the solutions and determine if the solution was a success. Students will apply similar criteria to their own biotechnology solutions to determine if the solution has success potential.

MO GLO: Communicate Ideas, Thoughts, and Messages (Assessed)

Students will communicate information gained from research, share proposals with the class, present their “best” biotechnology idea along with ways to measure the success of the idea, and participate in formal and informal class discussions. Communication will take a variety of forms and will provide for student choice.

MO GLO: Evaluate Options and Explain Reasoning (Supported)

MO GLO: Systems Thinking (Supported)

Know, Understand, Do:

Unit KUD

Know – Biotechnology is the use of a living organism (or living organisms) and technology to better the world in some way.

Understand – System, and even parts of systems, impact each other.

Do – The student will identify a problem that the student believes biotechnology can effectively address –or– the student will identify a product that the student believes biotechnology can effectively create. The student will research the problem or product idea. The student will propose a way in which biotechnology could address the problem or create a new product and will explain how this proposal could/will be put into action.