



Teacher Guide and Curriculum

Grades K–8

Health eXpressions[™]

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Health eXpressions™ Quick Guide for Teachers

Visit the Health eXpressions™ home page at the following URL for information:

<http://www.clevelandclinic.org/HEALTHeXpressions>

STEP 1: Register a class, organization, or group.

From the Health eXpressions™ Web site (URL above), click on the **Teacher Registration** tab. Complete and submit the required registration information online as instructed.

Note: Students will submit their own online registration form from the **Student Submission** tab on the same page.

Registrations and submissions are only accepted during the registration and submission time frames that coincide with the program schedule. Check the Web site for registration and submission deadlines.

Teachers can select dates, times, and topics of interest. Teachers will be contacted by the Office of Civic Education Initiatives to confirm dates and times for presentations.

STEP 2: Host a Cleveland Clinic health professional at school.

A Cleveland Clinic health professional will come to school to engage students in health and wellness topics. The content and themes of the presentations will inspire the students to create works of art.

STEP 3: Follow the Teacher Guide and Curriculum to help students create their artworks inspired by presentations from Cleveland Clinic health professionals.

The lesson plans included in the Health eXpressions™ Teacher Guide and Curriculum provide suggestions on how to guide students through the process of brainstorming ideas, creating artwork, and evaluating artwork.

STEP 4: Instruct students on how to submit their artwork.

To submit student artwork: From the Health eXpressions™ Web site (URL above), click on the **Student Submission** tab. Complete and submit the required registration information online as instructed.

Registrations and submissions are only accepted during the registration and submission time frames that coincide with the program schedule. Check the Web site for registration and submission deadlines.

Health eXpressions™ Rules and Guidelines:

- **Submissions must be received by the deadline to be eligible for judging.**
- **Submissions received after the deadline will not be accepted.**
- **Submissions with incomplete information will not be accepted**



Note: Social security numbers must be provided to be eligible for cash awards (per Internal Revenue Service guidelines).

- **See the Health eXpressions™ Web site for complete submission guidelines.**

STILL HAVE MORE QUESTIONS???

Find answers to your questions about Health eXpressions™: From the Health eXpressions™ Web site (URL above), click on the **Frequently Asked Questions (FAQs)** tab and locate the question and response of interest.

Please visit the FAQ site first before contacting the Office of Civic Education Initiatives. Most questions are addressed in the FAQs. Thank you!

Cleveland Clinic Office of Civic Education Initiatives presents:

Health eXpressions™: The Intersection of Art & Wellness

Teacher Guide and Curriculum

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Health eXpressions™: The Intersection of Art and Wellness – Program Overview

This innovative program, available to students in grades K-8, employs the visual arts to engage young people in the study of health and wellness. Through this interdisciplinary initiative, Cleveland Clinic medical professionals speak to area art classes on important health issues, and the students then bring their newfound knowledge to life through artistic interpretations. In addition to helping students achieve optimal health and a deeper appreciation of art, the program promotes creativity, innovation, communication, and self-esteem.

As a community outreach program, Health eXpressions™ is a valuable interdisciplinary tool for educators to creatively enhance their curriculum. Educators in visual arts, health, physical education, science, mathematics, social studies, technology, and language will be able to use this program to help enrich the learning experiences of their students and will be able to meet many of the required standards or strands required by the state.

This program can be utilized by schools in many ways:

- Whole class experience
- Entire grade levels
- Gifted programs
- Special education programs
- Special circumstances: can be offered for extra credit or make-up credit (illnesses, long absences)
- After-school programs
- After-school clubs such as art clubs or Scouts
- Home-schooling consortia
- Other groups wishing to use cross-curricular education

More information can be found at <http://www.clevelandclinic.org/HEALTHeXpressions>.

Getting Started/TimeLine for Teachers

Though it may sound like a daunting task – a cross-curricular program involving health topics and the arts – it does not need to be. This is a simple guideline to help you plan and pace yourself and your students to achieve a highly successful outcome.

Autumn – Register with Cleveland Clinic Health eXpressions™ to reserve a spot for your class. At this point, the teacher will register for the topic of choice and the date/time of the January presentation. The Office of Civic Education Initiatives will contact you once the selection has been made and reserved.

Visit <http://www.clevelandclinic.org/HEALTHeXpressions> for more information.

Prior to the Speaker's Arrival – Explain the program to the students as an interdisciplinary health and arts program. You may want to have the students view previous art work or show the DVDs available from the Clinic. Be sure to tell the students that they will be required to turn something they learn into a visual arts project that you will discuss as a class later in the week. Check with the speaker to see if the students will need any special supplies or clothing for the presentation.

After the Speaker, Prior to the Visual Arts Project – Organize yourself in your own mind, define the art project you are seeking (2D, 3D, graphic, video). Create a grade sheet for the students with all directions, requirements, timelines. Visit the Health eXpressions™ Web site for details on requirements. Make two copies of the grade sheet – one for each student to paste in a notebook and one per student for yourself. Include in the grade sheet if the project is to be done individually, with partners, or small groups. Include size or length (video) requirements in the grade sheet, if this is the project you choose.

Art Classes - Week One

Teacher directed: Review rubric, brainstorm with students to come up with ideas to visually portray the lessons taught by the Clinic speaker.

Student directed: Allow time for the students to work individually or to form groups. Students should sketch out ideas, list needed materials, prepare a plan so that work can begin in week 2.

Art Classes - Weeks Two-Five

Student directed: Work on project, redefine ideas, and use problem solving skills as necessary.

Teacher directed: Lead students in a discussion to evaluate and critique the work of their own group as well as other groups.

Art Classes - Weeks Six-Seven

Student directed: Photograph work, finalize artist statement, download and complete required paperwork.

Teacher directed: Explain the process for submitting the finished pieces of art (see the submission guidelines on the Health eXpressions™ Web site or on page 12 in the Main Unit of this curriculum guide).

Art Classes - Week Eight

Teacher directed: Organize and submit student packets of information (see Web site for requirements or see page 12 of this curriculum guide).



Sample Grade Sheet with Directions

Student Name: _____

Class: _____

Group Members (if applicable):

Title of Visual Art Piece:

Materials Needed:

Directions: Based on the information provided by the Cleveland Clinic speaker, you are to choose one topic or fact to visually display. You are explaining this health concept in shape, color, design – just as the speaker described it in words. We are creating 3 dimensional works of art. The maximum size of your art piece is three feet in length, height, depth. Your final grade will be based on the requirements in this rubric. Remember that the “class work” portion of your grade refers to participation, following directions, behavior, respect toward self and others, and responsibility. If you have any questions, do not hesitate to ask.

Total Points = (200pts final project; 100 pts initial brainstorming, class work points, required paperwork)

Class 1:

Brainstorming, sketch ideas, target audience identified (10 pts) _____

Class work (10 pts) _____

Classes 2-5: Creating art piece

Class work (40 pts) _____

Classes 6-7:

Photographs (10 pts) _____

Required Cleveland Clinic forms (10 pts) _____



Artist's statement (10 pts)

Class work (10 pts)

Total Points (100)



Grading Sheet – Final Project

Project completed on time: (20 pts) _____

Project based on fact or topic presented by Clinic speaker (20 pts) _____

Interesting use of materials: (20 pts) _____

Project appeals to target audience (20 pts) _____

Artistic statement accurately reflects project: (20 pts) _____

Project is neat, attractive to the eye: (50 pts) _____

Creativity expressed: (25 pts) _____

Originality expressed: (25 pts) _____

Total Points: (200) _____

Comments:

Main Unit/Lesson Plans

Topic: Visual Arts Project for Cleveland Clinic Health eXpressions™

- 3D project for Grade 8 students

Goals: Students will:

- Become familiar with the Cleveland Clinic's Health eXpressions™ program
- Create a 3-dimensional work of art that reflects health concepts shared by Cleveland Clinic speakers
- Use critical thinking skills to solve problems involving art and health
- Work effectively in collaborative groups
- Express artistic sentiments using the written word
- Evaluate and critique art works

Objectives: Students will be able to:

- View DVDs and research books related to the Health eXpressions™ projects
- Orally review facts presented by the Clinic speaker
- View DVD by George Wolfe on instruction on building 3D figures
- Brainstorm ideas for possible 3D figures
- Sketch a scale model drawing of 3D project
- Measure and recreate scale drawing into larger 3D art work
- Experiment with a variety of art media to create a 3D figure
- Evaluate and critique their own work as well as work of others
- Offer advice or suggestions to enhance an art work
- Work collaboratively to solve problems with construction of 3D art
- Use technology to photograph work, fill in forms, and write artist statement for final submission

Standards/Strands: See standards and strands that follow main unit plan

Procedures: As follows in unit plan

**Materials for 3D project:**

- Notebooks or paper
- Drawing materials
- Computer access
- PowerPoint slides on visual culture
- 3D Wizardry by George Wolfe
- Cleveland Clinic reference materials from last year and web
- Sculpture materials, which can include Sta-Flo Starch, newspaper, chicken wire, plaster tape, clothes hangers, paint, construction paper, foam, small boxes for bases
- Digital camera

Art Classes: Week 1

A. Use of Videos and Technology to Introduce Project

- View last year's Health eXpressions DVD and booklet to help students understand some of the process of creating the projects.
- Show the video [3D Wizardry](#) by George Wolfe. (The book and video can be purchased through art catalogues or through Amazon.com. You can also rent educational videos like this one through <http://smartflix.com/store/video/5584/3D-Wizardry>). This video will give students a great insight on how to create a variety of 3D art works using papier-mâché, plaster tape, foam, balloons, etc.

B. Using Visual Arts as a Communications Tool

- Stress with the class that visual images are a very important part of our culture. They will be re-creating an idea expressed verbally by the Cleveland Clinic visitor through images, color, design, etc.
- Decide together the target audience (young students, teens, or adults) and how best to reach those people. It might also help to have a PowerPoint ready of easily identifiable cultural images that deal with your Clinic topic. For example, aerobic health and nutrition could pick up on NIKE symbols, sports logos, Cleveland Clinic logo, Gatorade, Vitamin Water, etc.
- Discuss how visual art is used to shape peoples' tastes, choices, values, lifestyles, buying habits, opinions. Draw students to realize that visual art is a powerful tool to express meaning and shape opinions. Their project should use the tool of visual art to extend/express the main ideas of the Clinic presentation.

C. Brainstorm and Organize

- Together, review the main topics and ideas taught by the Clinic speaker; brainstorm ideas (list them all on the board, overhead, or Smart Board).
- Organize main ideas by using a web, outline, concept map, or other writing organizer.



- Have the students break into small groups (or work individually depending on how you want to set up the project guidelines). The groups need to decide how to visually present one of the ideas presented by the speaker. The group should list in a notebook or on paper, the members of their group, the topic they are visually recreating, list ideas of how to create this, list materials they think they will need, create sketches of what the project may include. They should also write a short paragraph describing what they are trying to teach the public about their topic. This rough draft will later become their artist statement which must be included with the final paper work.

D. List Materials

- Together as a class, review the list of materials each group requires. For example, papier-mâché could mean papier-mâché paste (which would then also require measuring cups and mixing bowls) or it could be the easier Sta-Flo Starch (available in art catalogs or in grocery stores near the laundry detergent). Make sure students list all materials their group will need on their papers.
- At this point, review which of these materials are available in the art room. Students may have to change materials to those already in the art room, or they may have to supply their own from home. Give students a due date when all materials have to be at school.

E. Grading Sheets

- Hand out grading sheets and review/explain them. Have students fill out the sections on the top of the paper – these may change through the next weeks, but it is good to have a starting point! Tape, glue, or staple grading sheets into notebooks for easy reference.



Art Classes – Weeks 2–5

A. Creating/ Re-evaluating

- Allow the students plenty of time (**at least an hour per week**) to work on the project.
- Students may realize that their original idea or design has flaws and may need to be revamped. This is a great opportunity for students to brainstorm and trouble-shoot together.

B. Critiquing

- As a teacher directed activity, have the students evaluate and critique their own art work.
- They may then comment on and critique the work of others.
- Evaluations should include:
 - (1) Evidence that the project visually demonstrates factual content taught by the Cleveland Clinic speaker,
 - (2) Comments on the artistic merit of the piece including construction, visual appeal, use of materials,
 - (3) Suggestions on how to improve a work if students feel a certain area is lacking.

Art Classes – Week 6–7

Have the students gather and organize their paperwork and materials – and save a great deal of time!

A. Photography

- Using a digital camera, have the students photograph their finished project. Save these images to a computer and create a PowerPoint presentation to show to the students (and save it for next year, too!). Print finished copies from the computer file.

B. Artist Statement

- Have students review, revise, edit, and write up their final copy of the artist statement. Discuss how to write the artist statement so that it is clear and concise. Refer to the book from last year's program to see some examples.

C. Required Forms

- Using laptops or the school computer lab, have students download and complete the required forms from the Clinic Web site. It is best if students sit together with their group partners to coordinate all the required project information, though each student will need to print his or her own copy.
- E-mail the forms to the Clinic and print out 2 copies per student (you might want to ask students to save the finished copy to the desktop before sending or printing, so the information is not lost).



Art Classes – Week 8

A. Organize Information Packets

- Have the students organize their packets of information to submit to the Clinic. Include a cover sheet, artist statement, and pictures as per the directions on the Web site which are referenced in this curriculum guide on pages 13-14. Visit <http://www.clevelandclinic.org/HEALTHeXpressions> for submission instructions.

B. Mailing

- Submit the paper work – and good luck!



Evaluation of Student Work

Evaluate the facts and topics learned in the Cleveland Clinic presentation through classroom discussion and brainstorming – are the main ideas covered and understood by the students?

Evaluate understanding of concepts through visual expression – does the finished artwork reflect the concepts and ideas learned in the Clinic presentation?

Evaluate the artistic merit of the art work – use the grading sheet to determine a final grade for the project.

Evaluate and critique the work of others. Offer positive changes if needed.

Submission Guidelines

To efficiently meet the ever-growing response to Health eXpressions™ and to expedite the evaluation process, all Health eXpressions™ artwork submissions will need to follow the following guidelines:

- Instead of sending in the actual piece, all participants will be required to send color photographs/printouts of their original artwork. NOTE: No original artwork will be accepted for judging.
- If you are sending in color printouts, make sure they are photo-quality.
- Send in as follows:
 - *All 2 dimensional artwork (sketches, paintings): Send in one 8 x 10 inch photograph of the artwork stapled/taped securely to an 8.5 x 11 inch sheet of white paper, or one 8.5 x 11 inch color printout of the artwork.
 - *All 3 dimensional artwork (sculptures, models): Send in two 4 x 6 inch photographs/printouts of the artwork depicting different angles, stapled/taped securely to an 8.5 x 11 inch sheet of white paper.
 - *Audio submissions: Send in on a CD (PC compatible formats only, e.g., .wav).
 - *Video submissions: Send in on a CD/DVD (PC compatible formats only, e.g., .avi, .wmv).
- On a separate sheet of paper, prepare an information sheet (typewritten only, not handwritten). This sheet must display the following information: Student-Artist's Name; Title of Artwork; Dimensions of Artwork; Name of Healthcare Professional Whose Presentation is Being Interpreted; Presentation Topic; and Artist Statement. (PLEASE NOTE: Only students whose teachers have registered for the program and who have attended a Cleveland Clinic healthcare professional's classroom presentation are eligible to submit artwork.)
- Attach this information sheet to the photograph sheet such that the back of the information sheet faces the back of the photograph sheet. In short, the judges should be able to flip over the photograph sheet to read the information.
- For audio/video submissions, include information sheet with CD/DVD.
- The prints/photographs/CD/DVD and information sheets should be accompanied by a printed copy of the online submission form.
- Once the review process is complete, the Office of Civic Education Initiatives will ask selected students to submit their artwork in its physical form.

TIPS FOR PHOTOGRAPHING YOUR WORK*

1. Use a good camera, preferably a 35mm, single-reflex lens camera. If using a digital camera, then use a three mega pixel camera or higher.
2. Use the correct film or setting for the lighting.
3. For OUTSIDE shooting using natural light, use a high-speed film. If shooting digital images, make sure the camera's white balance setting is for outdoor or daylight.
4. For INDOOR shooting, block out other sources of light and use two tungsten bulbs. Place a light on each side of your artwork at a 45-degree angle. Use Ektachrome tungsten film with tungsten lights. If shooting digital images, make sure the camera's white balance setting is for indoor or tungsten.
5. Photograph each piece individually.
6. Try to fill the camera frame with your work. If you use a background, it should be a neutral color (preferably black).
7. Most important, take your time. Photograph again if necessary. Select the best shot and send it to us!

(*Source: Cleveland Institute of Art)

SUBMISSION DIRECTIONS

Complete the following form, double check your answers for accuracy, and hit PRINT. Make two copies. Keep one copy of the form for your records and attach the other copy of the form to your photograph/information sheet. (NOTE: only submissions with completed submission forms will be judged.) After you have printed copies of the form, hit DONE. This will submit your information to us electronically. (NOTE: you must submit the form both electronically and as a printout attached to your submission in order to participate in the Health eXpressions™ program.)

All photographs or audio/video material, information sheets, and submission forms must be received in the Office of Civic Education Initiatives by the submission deadline.

The mailing address is:

Office of Civic Education Initiatives
ATTN: Bryan Pflaum, Director of Creative Learning
Cleveland Clinic
1950 Richmond Road/TR307
Lyndhurst, OH 44124

Links to the Ohio and National Standards

Cleveland Clinic Health eXpressions™: The Intersection of Art & Wellness uses the visual arts to engage K-8 students in the study of health and wellness. Through this interdisciplinary initiative, Cleveland Clinic medical professionals speak to area art classes on important health issues, and the students then bring their newfound knowledge to life through artistic interpretations.

The following national and state academic and process skills standards are addressed in the Health eXpressions™ program:

Ohio Academic Content Standards, Benchmarks and Grade Level Indicators

FINE ARTS (Grades K-8)

Creative Expression and Communication

Grades K-4

Benchmark A: Demonstrate knowledge of visual art materials, tools, techniques and processes by using them expressively and skillfully.

- Explore and experiment with a variety of art materials and tools for self-expression (Grade K).
- Demonstrate beginning skill in the use of art materials and tools (Grade 1).
- Demonstrate increasing skill in the use of art tools and materials (Grade 2).
- Demonstrate skill and expression in the use of art techniques and processes (Grade 3).
- Identify and select art materials, tools and processes to achieve specific purposes in their artworks (Grade 4).

Benchmark B: Use the elements and principles of art as a means to express ideas, emotions, and experiences.

- Explore art elements to express ideas in a variety of visual forms (e.g., drawings, paintings, and ceramics) (Grade K).
- Use selected art elements and principles to express a personal response to the world (Grade 1).
- Establish and communicate a purpose for creating artworks (Grade 2).
- Identify, select and use art elements and principles to express emotions and produce a variety of visual effects (Grade 2).



Benchmark C: Develop and select a range of subject matter and ideas to communicate meaning in two- and three-dimensional works of art.

- Explore and use a range of subject matter (e.g., people, places, animals, and nature) to create original works of art (Grade 1).
- Recognize and identify a purpose or intent for creating an original work of art (Grade 3).
- Create an original work of art that illustrates a story or interprets a theme (Grade 3).

Grades K-8

Benchmark A: Apply knowledge of materials, tools, media, techniques, and processes to communicate subject matter, themes, or ideas in a variety of visual forms.

- Demonstrate a variety of techniques to create the illusion of depth (Grade 7).
- Apply the principles of design to construct a three-dimensional piece of artwork (Grade 7).

Benchmark B: Create two- and three-dimensional original artwork that demonstrates personal visual expression and communication.

- Identify and communicate sources of ideas (e.g., personal experience, interests, nature, or common objects) for their artwork (Grade 5).
- Explore ways that art-making functions as a means of personal identification and expression (Grade 6).
- Use observation, life experiences, and imagination as sources for visual symbols and images (Grade 6).
- Use a variety of sources to generate original ideas for art making (Grade 7).
- Demonstrate an enhanced level of craftsmanship in original two- and three-dimensional art products.

Benchmark C: Achieve artistic purpose and communicate intent by selection and use of appropriate media.

- Apply problem-solving strategies to improve the creation of artwork.

Analyzing and Responding

Grades K-4

Benchmark A: Identify and describe the visual features and characteristics in works of art.

- Relate their own experiences to what they see in works of art.

Benchmark B: Apply comprehension strategies (e.g., personal experience, art knowledge, emotion and perceptual and reasoning skills) to respond to a range of visual artworks.

- Connect their own interests and experiences to the subject matter in artworks.

Connections, Relationships and Applications

Grades K-4

Benchmark B: Use the visual arts as a means to understand concepts and topics studied in disciplines outside the arts.

- Create a visual art product to increase understanding of a concept or topic studied in another content area (e.g., mathematics – measurement; English language arts – sequencing a story; geography – continents; science – balance).
- Compare and contrast the importance of visual artists to society with the importance of explorers, inventors, or scientists.
- Communicate mathematics, geography, or science information visually (e.g., develop a chart, graph, or illustration).
- Relate concepts common to the arts and disciplines outside the arts (e.g., composition, balance, form, and movement).

Benchmark C: Create and solve an interdisciplinary problem using visual art processes, materials, and tools.

- Create artwork that explores a central theme across disciplines (e.g., family, communication, and culture).

Grades 5-8

Benchmark C: Use key concepts, issues, and themes to connect visual art to various content areas.

- Use artwork to communicate and enhance understanding of concepts in other subject areas (e.g., science, English language arts, mathematics, and social studies).
- Demonstrate understanding of the relationship between words and images by applying text to images and images to text (e.g., write descriptions of their artworks and illustrate a scene from literary work).

SCIENCE (Grades K-8)

Life Sciences

Characteristics and Structure of Life

- Explore that organisms, including people, have basic needs which include air, water, food, living space and shelter.

Diversity and Interdependence of Life

- Explain that food is a basic need of plants and animals (e.g., plants need sunlight to make food and to grow, animals eat plants and/or other animals for food, food chain) and is important because it is a source of energy (e.g., energy used to play, ride bicycles, read, etc.).

Physical Science

Nature of Energy

- Describe that chemical and physical changes occur all around us (e.g., in the human body, cooking, and industry).

Scientific Ways of Knowing

Science and Society

- Demonstrate ways science is practiced by people everyday (children and adults).
- Identify various careers in science.
- Discuss how both men and women find science rewarding as a career and in their everyday lives.

LANGUAGE ARTS (Grades K-8)

Writing Processes

Prewriting

- Develop a clear main idea for writing.
- Determine a purpose and audience.

Drafting, Revising, and Editing

- Organize writing with a developed beginning, middle, and end.
- Construct complete sentences with subjects and verbs.
- Proofread writing to improve conventions (e.g., grammar, spelling, punctuation, and capitalization).

TECHNOLOGY (Grades K-8)

Standard 3: Technology for Productivity Applications – Students learn the operations of technology through the usage of technology and productivity tools.

Grades K-2

Benchmark A: Understand basic computer and multimedia technology concepts and terminology.

Research Tools

- Identify/recognize technology resources (e.g., pre-selected Web sites, educational software).
- Use technology resources with teacher assistance for communication and illustration of thoughts and ideas (e.g., creative stories, drawings, presentations, publication software).

Grades 3-5

Benchmark C: Use productivity tools to produce creative works and prepare publications.

Communication Tools

- Use media and technology resources for presenting information (e.g., projectors, video cameras).

Grades 6-8

Benchmark B: Select appropriate technology resources to solve problems and support learning.

Productivity Tools

- Edit video clips using video editing software.
- Create a video production related to a class activity.

Research Tools

- Apply technology resources to support personal productivity and learning throughout the curriculum.

Standard 4: Technology and Communication Application – Students use an array of technologies and apply design and concepts to communicate with multiple audiences, acquire and disseminate information and enhance learning.

Grades 3-5

Benchmark B: Develop, publish, and present information in print and digital formats.

Multimedia Applications

- Collaborate in a class video project (e.g., act as a camera operator, actor or director in a video project as part of a unit of study).

Standard 5: Technology and Information Literacy – Students engage in information literacy strategies, use the Internet, technology tools and resources, and apply information-management skills to answer questions and expand knowledge.

Grades 6-8

Benchmark B: Use technology to conduct research and follow a research process model which includes the following: developing essential question; identifying resources; selecting, using and analyzing information; synthesizing and generating a product; and evaluating both process and product.

Use

- Use a variety of technology resources for curriculum and personal information needs: library catalog, online encyclopedia, Web sites.

Standard 7: Designed World – Students understand how the physical, informational and bio-related technological systems of the designed world are brought about by the design process. Critical to this will be students’ understanding of their role in the designed world: its processes, products, standards, services, history, future, impact, issues, and career connections.

Grades K-2

Benchmark B: Develop an understanding of the goals of informational technologies.

Information and Communication

- Explore ways to share ideas (e.g., speaking, drawing, modeling).

Benchmark C: Develop an understanding of the goals of bio-related technologies.

Medical

- Recognize how medicine helps people who are sick to get better. List job titles that are in the technological system of medical technology (e.g., nurse, doctor, emergency medical technician).

Grades 3-5

Benchmark C: Develop an understanding of how bio-related technologies improve our lives.

Medical

- Describe how medical personnel are trained.

Grades 6-8

Benchmark C: Develop an understanding of how bio-related technologies have changed over time.

Medical

- List advances and innovations in medical technologies that are used to improve health care (e.g., prevention, diagnosis, treatment, rehabilitation).

National Standards

National Fine Arts Standards: Visual Arts – Consortium of National Arts Education Associations (Grades K-8)

Understanding and Applying Media, Techniques, and Processes

- Students use different media, techniques and processes to communicate ideas, experiences, and stories.
- Students select media, techniques, and processes; analyze what makes them effective or not effective in communicating ideas; and reflect upon the effectiveness of their choices.
- Students intentionally take advantage of the qualities and characteristics of art media, techniques, and processes to enhance communication of their experiences and ideas.

Using Knowledge of Structures and Functions

- Students use visual structures and functions of art to communicate ideas.
- Students select and use the qualities of structures and functions of art to improve communication of their ideas.

Choosing and Evaluating a Range of Subject Matter, Symbols, and Ideas

- Students integrate visual, spatial, and temporal concepts with content to communicate intended meaning in their artworks.

Making Connections between Visual Arts and Other Disciplines

- Students identify connections between the visual arts and other disciplines in the curriculum.
- Students describe their ways in which the principles and subject matter of other disciplines taught in the school are interrelated with the visual arts.

National Science Education Standards – National Research Council (Grades K-8)

Life Sciences

The Characteristics of Organisms

- Organisms have basic needs. For example, animals need air, water, and food; plants require air, water, nutrients, and light. Organisms can survive only in environments in which their needs can be met. The world has many different environments, and distinct environments support the life of different types of organisms.

Science in Personal and Social Perspectives

Personal Health

- Individuals have some responsibility for their own health. Students should engage in personal care – dental hygiene, cleanliness, and exercise – that will maintain and improve

- health. Understandings include how communicable diseases, such as colds, are transmitted and some of the body's defense mechanisms that prevent or overcome illness.
- Nutrition is essential to health. Students should understand how the body uses food and how various foods contribute to health. Recommendations for good nutrition include eating a variety of foods, eating less sugar, and eating less fat.
 - Regular exercise is important to the maintenance and improvement of health. The benefits of physical fitness include maintaining healthy weight, having energy and strength for routine activities, good muscle tone, bone strength, strong heart/lung systems, and improved mental health. Personal exercise, especially developing cardiovascular endurance, is the foundation of physical fitness.
 - Food provides energy and nutrients for growth and development. Nutrition requirements vary with body weight, age, sex, activity, and body functioning.

History and Nature of Science

Science as a Human Endeavor

- Men and women have made a variety of contributions throughout the history of science and technology.
- Many people choose science as a career and devote their entire lives to studying it. Many people derive great pleasure from doing science.
- Women and men of various social and ethnic backgrounds – and with diverse interests, talents, qualities, and motivations – engage in the activities of science, engineering, and related fields such as the health professions. Some scientists work in teams, and some work alone, but all communicate extensively with others.

National Language Arts Standards – National Council of Teachers of English (Grades K-8)

Communication Strategies

- Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.

Applying Language Skills

- Students use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information).

National Physical Education Standards – National Association for Sport and Physical Education (Grades K-12)

Standard 6: Values Physical Activity for Health, Enjoyment, Challenge, Self-Expression, and/or Social Interaction

Physical Activity

- A physically educated student exhibits a physically active lifestyle.

Physical Fitness

- A physically educated student achieves and maintains a health-enhancing level of physical fitness.

National Health Education Standards – American Cancer Society (Grades K-8)

Health Promotion and Disease Prevention

Students will comprehend concepts related to health promotion and disease prevention.

- Describes relationships between personal health behaviors and individual well-being.
- Describe how physical, social, and emotional environments influence personal health.
- Explain the relationship between positive health behaviors and the prevention of injury, illness, disease, and premature death.
- Describe ways to reduce risks related to adolescent health problems.
- Explain how appropriate healthcare can prevent premature death and disability.
- Describe how lifestyle, pathogens, family history, and other risk factors are related to the cause or prevention of disease and other health problems.

Reducing Health Risks

Students will demonstrate the ability to practice health-enhancing behaviors and reduce health risks.

- Identify responsible health behaviors.
- Demonstrate strategies to improve or maintain personal health.
- Explain the importance of assuming responsibility for personal health behaviors.

Health Advocacy

Students will demonstrate the ability to advocate for personal, family, and community health.

- Express information and opinions about health issues.

Standards for the 21st-Century Learner – American Association of School Librarians (Grades K-12)

Learners use skills, resources and tools to:

Inquire, think critically, and gain knowledge.

Skills

- Use prior and background knowledge as context for new learning.
- Find, evaluate, and select appropriate sources to answer questions.



- Read, view, and listen for information presented in any format (e.g., textual, visual media, digital) in order to make inferences and gather meaning.
- Collaborate with others to broaden and deepen understanding.

Dispositions in Action

- Display persistence by continuing to pursue information to gain a broad perspective.

Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.

Skills

- Use the writing process, media and visual literacy, and technology skills to create products that express new understandings.

Dispositions in Action

- Demonstrate personal productivity by completing products to express learning.

Responsibilities

- Connect understanding to the real world.

Self-Assessment Strategies

- Recognize new knowledge and understanding.

Pursue personal and aesthetic growth.

Skills

- Read, view, and listen for pleasure and personal growth.
- Respond to literature and creative expressions of ideas in various formats and genres.
- Seek information for personal learning in a variety of formats and genres.
- Connect ideas to own interests and previous knowledge and experience.
- Use creative and artistic formats to express personal learning.

Dispositions in Action

- Display curiosity by pursuing interests through multiple resources.
- Demonstrate motivation by seeking information to answer personal questions and interests, trying a variety of formats and genres, and displaying a willingness to go beyond academic requirements.

Responsibilities

- Seek opportunities for pursuing personal and aesthetic growth.

Self-Assessment Strategies

- Identify own areas of interest.



- Recognize the limits of own personal knowledge.
- Recognize how to focus efforts in personal learning.

Academic Strands (Catholic Schools) – Grade 8

Health

Strand I: Nutrition

Content A. Influence on Nutrition

Skills:

- Investigate how social and psychological factors influence eating behaviors
- Compare media portrayal of body shape/type with real life images
- Identify how obesity and extreme thinness can be dangerous to health

Strand VI: Social and Emotional Health

Content A. Social Relationships

Skills:

- Discuss how individual, family, and faith community values influence health

Technology

Strand I: Social, Ethical, Human, and Catholic Issues in Technology

Content A: Catholic values

Skills:

- Demonstrate stewardship in appropriate use and care of technology
- Exhibit cooperative and collaborative work habits when using technology

Content B: Ethical norms and legal norms

Skills:

- Comply with school's Acceptable Use Policy and its responsibilities and consequences
- Know what constitutes appropriate and inappropriate use of hardware and software: computers, printers, scanners, cameras, etc.

Strand II: Technology for Productivity

Content B: Basic computer and multimedia technology tools



Skills:

- Incorporate a variety of technology tools and resources to research, investigate, and present findings
- Apply basic troubleshooting technology
- Demonstrate effective keyboarding skills

Strand III: Technology for Communication

Content A: Nature and operation of communication systems

Skills:

- Apply formatting techniques to enhance a project or activity
- Apply graphic editing procedures

Strand IV: Technology for Information and Research

Content B: Basic browser and navigation skills

Skills:

- Evaluate the final product for its adherence to project requirements
- Digitalize information for archiving and future use

Mathematics

Strand I: Number and Operations

Content Objective 3: Use computational tools and strategies

Skills:

- Compute efficiently
- Expand concept and use scale drawing

Strand III: Geometry and Spatial Sense

Content Objective 1: Analyze characteristics and properties of dimensional shapes

Skills:

- Apply geometric ideas and relationships outside the mathematics classroom in areas such as art, science

Strand IV: Measurement

Content Objective 2: Apply variety of techniques, tools, and formulas for determining measurement

Skills:

- Select techniques and tools to measure accurately
- Successfully utilize a ruler

English

Strand I: Writing Process

Content B: Drafting and Revising

Skills:

- Generate an effective initial draft by grouping related ideas into paragraphs
- Use available technology to compose text
- Use revision strategies to improve consistency of ideas, clarity, and effectiveness

Content C: Editing and Publishing

Skills:

- Edit to improve fluency, grammar, usage
- Prepare writing for publication

Strand II: Writing Applications

Content E: Letters and documents

Skills:

- Produce practical, functional documents that follow appropriate form

Strand III: Writing Conventions

Content B: Spelling

Skills:

- Spell correctly in written work

Content C: Punctuation and Capitalization

Skills:

- Use correct punctuation and capitalization

Content D: Grammar and Usage

Skills:

- Recognize and use correctly the parts of speech
- Use complete sentences

Strand V: Communication

Content A: Listening and viewing

Skills:

- Provide feedback to or ask relevant questions of the regarding content and purpose

Physical Education

Strand I: Motor Skills and Movement Principles

Content A: Non-locomotor skills manipulatives

Skills:

- Demonstrate competency in a variety of skills performed individually and with others

Content B: Locomotor skills

Skills:

- Utilize critical thinking skills and apply them to a variety of movement activities
- Demonstrate competency in combinations of locomotor skills performed individually and with others

Content C. Movement Patterns

Skills:

- Apply principles of biomechanics to movement
- Create movement sequences that increase in complexity

Strand II: Health-Related Fitness

Content A. Physical Fitness

Skills:

- Demonstrate appropriate training principles and exercise techniques during participation to improve physical fitness
- Self-assess a level of physical activity and health-related fitness to develop a plan for maintenance or improvement
- Be aware of the availability and quality of fitness resources in school and the community

Content B: Healthy Lifestyle**Skills:**

- Explain the effects of nutrition and participation in physical activity on weight control, self-concept, and physical performance
- Identify ways to increase physical activity in routine daily activities

Visual Arts**Strand I: Historical, cultural, social, religious, Catholic faith contexts****Content C. Historic influences on contemporary works of art****Skills:**

- Identify examples of visual culture and discuss how visual arts have been used to shape people's tastes, choices, values, lifestyles, buying habits, and opinions.

Strand II: Creative Expression and Communication**Content A. Material, tools, techniques****Skills:**

- Identify and apply criteria to assess content and craftsmanship in their works

Content B. Two- and three-dimensional original artwork**Skills:**

- Demonstrate an enhanced level of craftsmanship in original two- and three-dimensional art products.
- Discuss and develop strategies for collaborative works of art.

Content C. Purpose and intent of media**Skills:**

- Experiment with style and demonstrate how the same object can be portrayed in different ways.

Content D. Art Technology**Skills:**

- Demonstrate an increased technical skill by using more complex processes to design and create two- and three-dimensional artworks.

Content E. Artistic Decisions

Skills:

- Explain and defend their artistic views and opinions using appropriate visual art vocabulary.

Strand III: Analyzing and Responding

Content A. Analytical Strategies of art

Skills:

- Observe a selected work of art and explain how the artist's choice of media relates to the ideas and images in the work.

Content C. Criteria for Artwork

Skills:

- Analyze and discuss qualities in the artwork of peers to better understand the qualities in their own artworks.

Strand V: Connections, Relationships, Applications

Content C. Visual art connections

Skills:

- Collaborate to create a thematic work that incorporates visual art.

Content D. Words and visual art images

Skills:

- Explore ways to communicate and support the importance of art in their communities.