

Grade 4 Technology  
Revised UBD Curriculum  
Egg Harbor Township High School  
Instructional Technology Department



# Instructional Technology

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July 2017

## **DISTRICT MISSION STATEMENT**

Our mission in the Egg Harbor Township School District is to partner with the student, family, school, and community to provide a safe learning environment that addresses rigorous and relevant 21st Century standards and best practices which will develop academic scholarship, integrity, leadership, citizenship, and the unique learning style of students, while encouraging them to develop a strong work ethic and to act responsibly in their school community and everyday society.

## **CAREER AND TECHNICAL EDUCATION**

### **Mission:**

New Jersey's Office of Career and Technical Education seeks to prepare students for career opportunities of the 21st century, succeed as global citizens and support healthy economic growth for New Jersey. Career and Technical Education prepares students to succeed as global citizens for career opportunities for the 21st Century and to support healthy economic growth within the state.

## **INTRODUCTION**

The most precious resource teachers have is time. Regardless of how much time a course is scheduled for, it is never enough to accomplish all that one would like. Therefore, it is imperative that teachers utilize the time they have wisely in order to maximize the potential for all students to achieve the desired learning.

High quality educational programs are characterized by clearly stated goals for student learning, teachers who are well-informed and skilled in enabling students to reach those goals, program designs that allow for continuous growth over the span of years of instruction, and ways of measuring whether students are achieving program goals.

## **EGG HARBOR TOWNSHIP SCHOOL DISTRICT CURRICULUM TEMPLATE**

The Egg Harbor Township School District has embraced the backward-design model as the foundation for all curriculum development for the educational program. When reviewing curriculum documents and the Egg Harbor Township curriculum template, aspects of the backward-design model will be found in the stated enduring *understandings/essential questions*, *unit assessments*, and *instructional activities*. Familiarization with backward-design is critical to working effectively with Egg Harbor Township's curriculum guides.

## **GUIDING PRINCIPLES: WHAT IS BACKWARD DESIGN?**

### **WHAT IS UNDERSTANDING BY DESIGN?**

"Backward design" is an increasingly common approach to planning curriculum and instruction. As

its name implies, “backward design” is based on defining clear goals, providing acceptable evidence of having achieved those goals, and then working ‘backward’ to identify what actions need to be taken that will ensure that the gap between the current status and the desired status is closed.

Building on the concept of backward design, Grant Wiggins and Jay McTighe (2005) have developed a structured approach to planning programs, curriculum, and instructional units. Their model asks educators to state goals; identify deep understandings, pose essential questions, and specify clear evidence that goals, understandings, and core learning have been achieved.

Program based on backward design use desired results to drive decisions. With this design, there are questions to consider, such as: What should students understand, know, and be able to do? What does it look like to meet those goals? What kind of program will result in the outcomes stated? How will we know students have achieved that result? What other kinds of evidence will tell us that we have a quality program? These questions apply regardless of whether they are goals in program planning or classroom instruction.

The backward design process involves three interrelated stages for developing an entire curriculum or a single unit of instruction. The relationship from planning to curriculum design, development, and implementation hinges upon the integration of the following three stages.

*Stage I: Identifying Desired Results:* Enduring understandings, essential questions, knowledge and skills need to be woven into curriculum publications, documents, standards, and scope and sequence materials. Enduring understandings identify the “big ideas” that students will grapple with during the course of the unit. Essential questions provide a unifying focus for the unit and students should be able to answer more deeply and fully these questions as they proceed through the unit. Knowledge and skills are the “*stuff*” upon which the understandings are built.

*Stage II: Determining Acceptable Evidence:* Varied types of evidence are specified to ensure that students demonstrate attainment of desired results. While discrete knowledge assessments (e.g.: multiple choice, fill-in-the-blank, short answer, etc...) will be utilized during an instructional unit, the overall unit assessment is performance-based and asks students to demonstrate that they have mastered the desired understandings. These culminating (summative) assessments are authentic tasks that students would likely encounter in the real-world after they leave school. They allow students to demonstrate all that they have learned and can do. To demonstrate their understandings students can explain, interpret, apply, provide critical and insightful points of view, show empathy and/or evidence self-knowledge. Models of student performance and clearly defined criteria (i.e.: rubrics) are provided to all students in advance of starting work on the unit task.

*Stage III: Designing Learning Activities:* Instructional tasks, activities, and experiences are aligned with stages one and two so that the desired results are obtained based on the identified evidence or assessment tasks. Instructional activities and strategies are considered only once stages one and two have been clearly explicated. Therefore, congruence among all three stages can be

ensured and teachers can make wise instructional choices.

At the curricular level, these three stages are best realized as a fusion of research, best practices, shared and sustained inquiry, consensus building, and initiative that involves all stakeholders. In this design, administrators are instructional leaders who enable the alignment between the curriculum and other key initiatives in their district or schools. These leaders demonstrate a clear purpose and direction for the curriculum within their school or district by providing support for implementation, opportunities for revision through sustained and consistent professional development, initiating action research activities, and collecting and evaluating materials to ensure alignment with the desired results. Intrinsic to the success of curriculum is to show how it aligns with the overarching goals of the district, how the document relates to district, state, or national standards, what a high quality educational program looks like, and what excellent teaching and learning looks like. Within education, success of the educational program is realized through this blend of commitment and organizational direction.

#### **INTENT OF THE GUIDE**

This guide is intended to provide teachers with course objective and possible activities, as well as assist the teacher in planning and delivering instruction in accordance with the New Jersey Core Curriculum Content Standards. The guide is not intended to restrict or limit the teacher's resources or individual instruction techniques. It is expected that the teacher will reflectively adjust and modify instruction and units during the course of normal lessons depending on the varying needs of the class, provided such modified instruction attends to the objectives and essential questions outlined below.

**Unit Name: Technology Operations & Concepts****Author: Mary Ann Cassidy-Hayes****UNIT**

Subject: Technology  
Course/Grade: Grade 4  
School: Egg Harbor Twp Middle School

Country: United States of America  
State/Group: NJ

**UNIT SUMMARY**

All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.

**UNIT RESOURCES**

- Microsoft Word
- PowerPoint, Photostory
- Microsoft Excel

**Internet Resource Links:**

- [www.myhero.com](http://www.myhero.com)
- <http://www.bbc.co.uk/schools/typing/> (dance mat typing)
- [http://www.jason.org/digital\\_library/4851/coaster-creator](http://www.jason.org/digital_library/4851/coaster-creator)

**STAGE ONE****GOALS AND STANDARDS**

- **8.1.4.A.1.** Demonstrate effective input of text and data using an input device.
- **8.1.4.A.2.** Create a document with text formatting and graphics using a word processing program.
- **8.1.4.A.3.** Create and present a multimedia presentation that includes graphics
- **8.1.4.A.4.** Create a simple spreadsheet, enter data, and interpret the information.
- **8.1.4.A.5.** Determine the benefits of a wide range of digital tools by using them to solve problems.

**ENDURING UNDERSTANDINGS** – The use of technology and digital tools requires knowledge and appropriate use of operations and related applications. A tool is only as good as the person using it.

**ESSENTIAL QUESTIONS** – In a world of constant technological change, what skills should we learn? How do I choose which technological tools to use and when is it appropriate to use them? How can I transfer what I know to new technological situations/experiences?

**KNOWLEDGE AND SKILLS** – All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.

## STAGE TWO

### PERFORMANCE TASKS –

- **8.1.4.A.1**
  - Students will document an activity.
- **8.1.4.A.2**
  - Students will create a word processing document.
- **8.1.4.A.3**
  - Students create a multimedia presentation.
  - Students create a book review, personal narratives, etc.
- **8.1.4.A.4**
  - Students create a spreadsheet.
- **8.1.4.A.5**
  - Students complete an online exercise.

### OTHER EVIDENCE

Teacher observation, printed documents, NJ TAPIN rubric

## STAGE THREE

### LEARNING ACTIVITIES –

- **8.1.4.A.1** Students publish writing, reports, etc. in Word, PowerPoint or Excel. Students learn touch typing at dance mat typing.
- **8.1.4.A.2** Interview someone of personal of interest (a family member, friend, teacher or someone in the local community). Write an article about that person and include a digital picture and / other relevant graphics. Submit the article to the school online newspaper/magazine.
- **8.1.4.A.3** – Students create a multimedia presentation that distinguishes the roles and responsibilities of the three branches of the national government.  
Students create a book review, personal narratives, etc in PhotoStory.
- **8.1.4.A.4** – Students graph M&M's in Excel.
- **8.1.4.A.5** – Students create a roller coaster using Coaster Creator, an interactive game that explores the science behind roller coasters.

**Unit Name: Creativity and Innovation**

**Author: Mary Ann Cassidy-Hayes**

## UNIT

Subject: Technology  
Course/Grade: Grade 4  
School: Egg Harbor Twp Middle School

Country: United States of America  
State/Group: NJ

### UNIT SUMMARY

All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.

### UNIT RESOURCES

- Digital Camera
- Microsoft PowerPoint
- Photostory
- Microsoft Word

### Internet Resource Links:

- <http://visitnj.org/>  
[www.funnewjersey.com](http://www.funnewjersey.com)

## STAGE ONE

### GOALS AND STANDARDS

- **8.1.4.B.1.** Produce a media-rich digital story about a significant local event or issue based on first-person interviews.

**ENDURING UNDERSTANDINGS** – Digital tools provide opportunities for people to have new experiences, recognize problems, design solutions, and express their ideas.

**ESSENTIAL QUESTIONS** – How can digital tools be used for creating original and innovative works, ideas, and solutions?

**KNOWLEDGE AND SKILLS** – The use of digital tools and media-rich resources enhances creativity and the construction of knowledge.

## STAGE TWO

### **PERFORMANCE TASKS** –

- **8.1.4.B.1.**
  - Use a digital camera to narrate
  - Create a digital story

### **OTHER EVIDENCE**

Teacher observation, PowerPoint presentation, Photos story or Moviemaker file

## STAGE THREE

### **LEARNING ACTIVITIES** –

- **8.1.4.B.1** - Narrate a tour of New Jersey. Have students write a script in Word, insert graphics and narration into a PowerPoint presentation or moviemaker.

Take pictures of local interests and insert them into a Photostory or PowerPoint to create a story.



**Unit Name: Creativity and Innovation**

**Author: Mary Ann Cassidy-Hayes**

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State/Group: NJ

### UNIT SUMMARY

All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.

### UNIT RESOURCES

- Internet
- Microsoft Word
- Microphone

#### Internet Resource Links:

- <http://audacity.sourceforge.net/>
- [http://www.youtube.com/view\\_play\\_list?p=CB987F15ABB65F79](http://www.youtube.com/view_play_list?p=CB987F15ABB65F79)
- [www.epals.com](http://www.epals.com)

## STAGE ONE

### GOALS AND STANDARDS

- **8.1.4.C.1** Engage in online discussions with learners in the United States or from other countries to understand their perspectives on a global problem or issue.

**ENDURING UNDERSTANDINGS** – Digital tools allow for communication and collaboration anytime/anyplace worldwide.

**ESSENTIAL QUESTIONS** – How has the use of digital tools improved opportunities for communication and collaboration?

**KNOWLEDGE AND SKILLS** – Digital tools and environments support the learning process and foster collaboration in solving local or global issues and problems.

## STAGE TWO

### PERFORMANCE TASKS –

- **8.1.4.C.1.**
  - o Create a podcast.
  - o Participate in online collaborative project

### OTHER EVIDENCE

Teacher observation; podcast, participation in project

## STAGE THREE

### LEARNING ACTIVITIES –

- **8.1.4.C.1**– View the UN video: [http://www.youtube.com/view\\_play\\_list?p=CB987F15ABB65F79](http://www.youtube.com/view_play_list?p=CB987F15ABB65F79)

If you were offered the ability to address world leaders, what would you wish to tell them? Discuss with students in the U.S. and other countries to find out their ideas and create a podcast that summarizes the varying points of view. Put your draft into a Word document. Send your podcast to the Committee on Teaching about the UN (CTAUN) at: <http://www.teachun.org>.

Epals has developed collaborative projects about a variety of topics including global warming and the world's water supply.

**Unit Name: Digital Citizenship**

**Author: Mary Ann Cassidy-Hayes**

## UNIT

Subject: Technology  
Course/Grade: Grade 4  
School: Egg Harbor Twp Middle School

Country: United States of America  
State/Group: NJ

### UNIT SUMMARY

All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.

### UNIT RESOURCES

- Microsoft Movie Maker
- Digital camera

### Internet Resource Links:

- <http://bullyingacademy.com/>
- <http://pbskids.org/webonauts/>
- <http://learninglab.org/>
- <http://www.netsmartz.org/>
- <http://www.cyberbee.com>
- <http://www.copyrightkids.org>
- [www.readwritethink.org/files/resources/interactives/comic/index.html](http://www.readwritethink.org/files/resources/interactives/comic/index.html)

## STAGE ONE

### GOALS AND STANDARDS

- **8.1.4.D.1** Explain the need for each individual, as a member of the global community, to practice cyber safety, cyber security, and cyber ethics when using existing and emerging technologies.
- **8.1.4.D.2** Analyze the need for and use of copyrights.
- **8.1.4.D.3** Explain the purpose of an acceptable use policy and the consequences of inappropriate use of technology.

**ENDURING UNDERSTANDINGS** – Technology use can have positive or negative impact on both users and those affected by their use.

**ESSENTIAL QUESTIONS** – What are an individual’s responsibilities for using technology? What constitutes misuse and how can it best be prevented?

**KNOWLEDGE AND SKILLS** – Technological advancements create societal concerns regarding the practice of safe, legal, and ethical behaviors.

## STAGE TWO

### PERFORMANCE TASKS –

- **8.1.4.D.1**
  - o Create a cybersafety video.
  - o Cybersafety games
  - o Cyberbullying Activities
- **8.1.4.D.2** Create a Public Service Announcement
- **8.1.4.D.3** Create an online cartoon

### OTHER EVIDENCE

Teacher observation; NJTAPIN rubric, movie, public service announcement, cartoon

## STAGE THREE

### LEARNING ACTIVITIES –

- **8.1.4.D.1** – Create a multimedia slideshow that explains the importance of cyber safety, cyber security and cyber ethics and post online. Invite students from schools worldwide to post comments.
- Students play cybersafety games <http://pbskids.org/webonauts> <http://learninglab.org>  
<http://www.netsmartz.org>  
<http://www.cyberbee.com>  
Students go through cyberbullying activities. <http://bullyingacademy.com>
- **8.1.4.D.2** – Create a public service announcement that explains copyright protection regulations and how they affect the resources that are posted online. Submit to the school or town media specialist for posting on their website. <http://www.copyrightkids.org/>
- **8.1.4.D.3** – Using [www.readwritethink.org/files/resources/interactives/comic/index.html](http://www.readwritethink.org/files/resources/interactives/comic/index.html) students create an online cartoon for younger students explaining the school’s AUP.

**Unit Name: Effective use of digital tools assists in gathering and managing information.**

**Author: Mary Ann Cassidy-Hayes**

## UNIT

Subject: Technology  
Course/Grade: Grade 4  
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State/Group: NJ

### UNIT SUMMARY

All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.

### UNIT RESOURCES

- Microsoft Word or PowerPoint

### Internet Resource Links:

- <http://www.zunal.com/webquest.php?w=77820>

## STAGE ONE

### GOALS AND STANDARDS

- **8.1.4.E.1** -Investigate a problem or issue found in the United States and/or another country from multiple perspectives, evaluate findings, and present possible solutions, using digital tools and online resources for all steps.
- **8.1.4.E.2** - Evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks.

**ENDURING UNDERSTANDINGS** – Information is spread worldwide within seconds due to technological advancements and has an immediate impact.

**ESSENTIAL QUESTIONS** – Why is the evaluation and appropriate use of accurate information more important than ever in the technological age?

**KNOWLEDGE AND SKILLS** – Effective use of digital tools assists in gathering and managing information.

## STAGE TWO

### **PERFORMANCE TASKS –**

- **8.1.4.E.1** – Webquest on Immigration experience
- **8.1.4.E.2** – Collaborative writing project

### **OTHER EVIDENCE**

Teacher observation; NJ TAPIN rubric, completed project

## STAGE THREE

### **LEARNING ACTIVITIES –**

- **8.1.4.E.1** – Webquest on the Immigration Experience at <http://www.zunal.com/webquest.php?w=77820>  
Final project choices are to write a report filled with facts and details about immigration to America or comparing and contrasting Ellis Island and Angel Island, or a realistic fiction story that describes the life of a child that immigrates to America, or a poem telling the immigration experience, compare and contrast Ellis Island and Angel Island, or immigration today verses long ago.
- **8.1.4.E.2** – Collaborative writing project with Library using Word or PowerPoint. Topic at teacher's discretion.

**Unit Name: Critical Thinking, Problem Solving, and Decision-Making**

**Author: Mary Ann Cassidy-Hayes**

## UNIT

Subject: Technology  
Course/Grade: Grade 4  
School: Egg Harbor Twp Middle School

Country: United States of America  
State/Group: NJ

### UNIT SUMMARY

All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.

### UNIT RESOURCES

- Microsoft Excel

### Internet Resource Links:

- <http://nces.ed.gov/nceskids/graphing/Classic>

## STAGE ONE

### GOALS AND STANDARDS

- **8.1.4.F.1** - Select and apply digital tools to collect, organize, and analyze data that support a scientific finding.

**ENDURING UNDERSTANDINGS** - Selection of technology should be based on personal and/or career needs assessment. A tool is only as good as the person using it.

**ESSENTIAL QUESTIONS** - How do I choose which technological tools to use and when it is appropriate to use them?  
How can I transfer what I know to new technological situations/experiences?

**KNOWLEDGE AND SKILLS** - Information accessed through the use of digital tools assists in generating solutions and making decisions

## STAGE TWO

### PERFORMANCE TASKS –

- **8.1.4.F.1** -Collect and analyze data on motion and force.

### OTHER EVIDENCE

Teacher observation; completed table and chart.

## STAGE THREE

### LEARNING ACTIVITIES –

- **8.1.4.F.1** – Using <http://nces.ed.gov/nceskids/graphing/Classic> students investigate motion and forces by using a ramp, toy car, meter stick and stopwatch to record the time it takes for the card to travel down the ramp. Record the data in a spreadsheet and graph the results to determine trends.



## **Curriculum Resources - Differentiated Instruction**

### **Special Education Interventions in General Education**

Visual Supports

Extended time to complete tests and assignments

Graphic Organizers

Mnemonic tricks to improve memory

Study guides

Use agenda book for assignments

Provide a posted daily schedule

Use of classroom behavior management system

Use prompts and model directions

Use task analysis to break down activities and lessons into each individual step needed to complete the task

Use concrete examples to teach concepts

Have student repeat/rephrase written directions

Heterogeneous grouping

*Resources:*

Do to Learn:

<http://www.do2learn.com/>

Sen Teacher:

<http://www.senteacher.org/>

Intervention Central:

<http://www.interventioncentral.org/>

Learning Ally:

<https://www.learningally.org/>

### **English Language Learners Interventions in Regular Education**

*Resources:*

FABRIC - Learning Paradigm for ELLs (NJDOE)

[www.nj.gov/education/bilingual/pd/fabric/fabric.pdf](http://www.nj.gov/education/bilingual/pd/fabric/fabric.pdf)

Guide to Teaching ELL Students

<http://www.colorincolorado.org/new-teaching-ells>

Edutopia - Supporting English Language Learners

<https://www.edutopia.org/blog/strategies-and-resources-supporting-ell-todd-finley>

Reading Rockets

<http://www.readingrockets.org/reading-topics/english-language-learners>

### **Gifted and Talented Interventions in Regular Education**

*Resources:*

Who are Gifted and Talented Students

<http://www.npr.org/sections/ed/2015/09/28/443193523/who-are-the-gifted-and-talented-and-what-do-they-need>

Hoagies Gifted Education Page

<http://www.hoagiesgifted.org/programs.htm>

### **21st Century Learning**

*Resources:*

Partnership for 21st Century Learning

<http://www.p21.org/>

Career Ready Practices (NJDOE)

<http://www.nj.gov/education/cte/hl/CRP.pdf>