|  |  |
| --- | --- |
| NECC_NETS_small | **Lesson Plan for Implementing NETS•S—Template I*(More Directed Learning Activities)*** |
| ***Template with guiding questions*** |
| Teacher(s) Name | Stuart Ogburn |
| Position | Teacher |
| Grade Level(s) | 4th Grade |
| Content Area | Science  |
| Time line | 2 weeks |

**Standards** (What do you want students to know and be able to do? What knowledge, skills, and strategies do you expect students to gain? Are there connections to other curriculum areas and subject area benchmarks? ) Please put a summary of the standards you will be addressing rather than abbreviations and numbers that indicate which standards were addressed.

**Lesson Objectives**

Students will create and analyzing a weather map and then write, record, and edit a script based on the information.

Students will also generate a website or presentation to showcase their weather script and includes a section on all of the content specific vocabulary that is discussed.

**Common Core and Georgia Performance Standards**

**Science**

Students will analyze weather charts/maps and collect weather data to predict weather events and infer patterns and seasonal changes.

a. Identify weather instruments and explain how each is used in gathering weather data and making forecasts (thermometer, rain gauge, barometer, wind vane, anemometer).

b. Using a weather map, identify the fronts, temperature, and precipitation and use the information to interpret the weather conditions.

c. Use observations and records of weather conditions to predict weather patterns throughout the year.

d. Differentiate between weather and climate.

**Writing**
a. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

b. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

c. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.

d. With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.

**Speaking and Listening**

a. Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.

b. Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.

**NSTE-S Standards**

**1. Creativity and innovation**

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

a. Apply existing knowledge to generate new ideas, products, or processes

b. Create original works as a means of personal or group expression

**2. Communication and collaboration**

Students use digital media and environments to communicate and work collaboratively, including

at a distance, to support individual learning and contribute to the learning of others.

a. Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media

b. Communicate information and ideas effectively to multiple audiences using a variety of media and formats

**3. Students apply digital tools to gather, evaluate, and use information.**

b. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media

c. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks

**Overview** (a short summary of the lesson or unit including assignment or expected or possible products)

|  |
| --- |
| In this lesson students will work in groups to create and form a weather news station. Students will write and record a script that uses a map to predict the weather. Students will also generate a website or presentation for their news station that includes their weather script video as well as a section that is dedicated to the content vocabulary.  |

**Essential Questions** (What **essential question** or learning are you addressing? What would students care or want to know about the topic? What are some questions to get students thinking about the topic or generate interest about the topic? Additionally, what questions can you ask students to help them focus on important aspects of the topic? (Guiding questions) What background or prior knowledge will you expect students to bring to this topic and build on?) Remember, essential questions are meant to guide the lesson by provoking inquiry. They should not be answered with a simple “yes” or “no” and should have many acceptable answers.

|  |
| --- |
| How does a meteorologist predict the weather?What tools do meteorologists use to predict the weather? |

**Assessment** (What will students do or produce to illustrate their learning? What can students do to generate new knowledge? How will you assess how students are progressing (*formative assessment*)? How will you assess what they produce or do? How will you differentiate products?) You must attach copies of your assessment and/or rubrics. Include these in your presentation as well.

|  |
| --- |
| Students will create a presentation or webpage that includes their script, a video of their script, vocabulary information, and information about their news stations. Students’ webpages and presentations will be assessed by a rubric created by the teacher to determine if students have mastered the objectives of this lesson. Products are differentiated by providing students a choice of creating a presentation or website. Providing choice to students allows them to pick a tool they are most comfortable using. For example, advanced students may choose to create a website whereas lower students may be encouraged to use a familiar presentation software or Web 2.0 tool.  |

**Resources** (How does technology support student learning? What digital tools, and resources—online student tools, research sites, student handouts, tools, tutorials, templates, assessment rubrics, etc—help elucidate or explain the content or allow students to interact with the content? What previous technology skills should students have to complete this project?)

|  |
| --- |
| Technology supports student learning through enabling students to use twenty-first century skills and resources in order to complete authentic and purposeful tasks. By utilizing modern day tools and technology students can better understand the concepts that are set before them. In this lesson, students will use tools such as Weebly, Prezi, Google Slides, PowerPoint, iMovie, and Loopster to discover different ways to present information. Students should already know how to locate certain information and images on the internet using a search engine. However students will be reminded how to safely search for images and how to save and upload them to the different tools they will be using.  |

**Instructional Plan**

**Preparation** (What student **needs, interests, and prior learning** provide a foundation for this lesson? How can you find out if students have this foundation? What difficulties might students have?)

|  |
| --- |
| Before this lesson students will be taught the main content vocabulary pertaining to weather. Therefore students should have some prior knowledge before beginning this project. Students have learned in their computer class how to research safely online and how to use certain presentation software such as PowerPoint. Students are very eager to learn how to use computer tools and the internet successfully and tend to place much of their enthusiasm in lessons that incorporate the use of technology. However, students who choose to use a different tool will need to be trained. All students will need to be trained on how to use iMovie or Loopster as they have never been exposed to these tools.  |

**Management** Describe the classroom management strategies will you use to manage your students and the use of digital tools and resources. How and where will your students work? (Small groups, whole group, individuals, classroom, lab, etc.) What strategies will you use to achieve equitable access to the Internet while completing this lesson? Describe what technical issues might arise during the Internet lesson and explain how you will resolve or **trouble-shoot** them? Please note: Trouble-shooting should occur prior to implementing the lesson as well as throughout the process. Be sure to indicate how you prepared for problems and work through the issues that occurred as you implemented and even after the lesson was completed.

|  |
| --- |
| Students will work in small groups to complete their projects. Most of the learning will take place within the classroom with the support of a SPED teacher. Students will have access to three desktops and a class set of iPads. Due to the schools wireless network students will have access to the internet daily. However, if the Internet services went down students would be provided with an extended period to complete their assignments. In addition, since most of the students are using iPads there may be some technical issues using some of the Web 2.0 tools due to Flash player, Java, etc. However, most of these tools have apps that will need to be downloaded in order to solve these issues. A class set of netbooks can also be secured if the iPads are not successful. However, the iPads are preferred due to the amount of technical issues the netbooks have. Throughout the course of this project students will be offered advice and support if they are unsure on how to proceed with certain tools. Prior to the start of this project the teacher will model how to use all of the tools available to the class and answer any questions that students might have.  |

**Instructional Strategies and Learning Activities** – Describe the research-based instructional strategies you will use with this lesson. How will your learning environment support these activities? What is your role? What are the students' roles in the lesson? How can you ensure **higher order thinking at the analysis, evaluation, or creativity levels of Bloom’s Taxonomy**? How can the technology support your teaching? What authentic, relevant, and meaningful learning activities and tasks will your students complete? How will they build knowledge and skills? How will students use digital tools and resources to **communicate and collaborate** with each other and others? How will you facilitate the collaboration?

|  |
| --- |
| Throughout the duration of this projects student will be communicating and cooperatively working in small groups, primarily in the classroom and under supervision of the teacher as well as a SPED teacher. All students will be given access to a class set of iPads and three desktop computers. The teacher will act as learning facilitator by giving advice, trouble-shooting, and providing assistance to students in regards to the digital tools that many students are still not familiar with. Students will take on the role of a meteorologist and a newscast, which helps apply the content standards into a real world simulation. Students will be expected to utilize digital tools to create a website or presentation that simulates the major aspects of a real news station. Due to the authenticity of this project students are reaching the higher levels of blooms taxonomy by evaluating and creating their presentations or webpages. Developing a presentation or website based on the material being learned and presenting to an audience of peers, family, and community members allows this lesson to become more authentic and meaningful. Having to research and piece together the project with their group members allows students the opportunity to further delve into the material and gain a higher understanding of the content. All students will be required to participate in the presentation of their projects.  |

**Differentiation** (How will you differentiate **content and process** to accommodate various learning styles and abilities? How will you help students learn independently and with others? How will you provide extensions and opportunities for enrichment? What assistive technologies will you need to provide?)

|  |
| --- |
| Students will be grouped with peers that are similar in both learning style and ability levels. Differentiation will occur through the process of allowing students to choose the mediums of which they present their projects. Students will be given a variety of tools to choose from, thus allowing them to thrive in their learning style and methods of learning that feel most comfortable to them. Students will receive a separate role within the group and collaboratively work together to reach a successful outcome. In order to enrich this lesson, students will be allowed to create multiple weather scripts to put into their website or presentation. Students can also extend their news station to include additional reports on topics we are studying.  |

**Reflection** (Will there be a closing event? Will students be asked to reflect upon their work? Will students be asked to provide feedback on the assignment itself? What will be *your process* for answering the following questions?

**•** Did students find the lesson meaningful and worth completing?

**•** In what ways was this lesson effective?

**•** What went well and why?

**•** What did not go well and why?

**•** How would you teach this lesson differently?)

|  |
| --- |
| Following the students their presentations to the class students will be given a peer evaluation sheet allowing them the opportunity to reflect upon their group work. Students will also be asked to critique the projects of other groups. Students will perform this critique by stating a compliment, an area of improvement, and then another complement. By doing this, students will learn the necessary skill of positive criticism and feedback. Students will be asked to write a journal reflecting on what learned from the activity and what they gained from completing the project. Students will be asked to reflect upon how this project relates to the real world and how the tools they learned can be used outside of the confines of this project. Suggestions on improvement and growth for this project will be encouraged. I will take anecdotal notes throughout the duration of this project and will use them in order to better plan for future projects and lessons that involve the use of technology.  |

**Closure:** Anything else you would like to reflect upon regarding lessons learned and/or your experience with implementing this lesson. What advice would you give others if they were to implement the lesson? Please provide a quality reflection on your experience with this lesson and its implementation.

|  |
| --- |
| As a whole, I would consider this lesson as a success. Although my students were unfamiliar with many of the tools that were supplied, they were successful in learning them and implementing them into their project. Students needed a lot of support in regards to the web 2.0 tools. Students naturally took to the presentation tools and felt comfortable using them because they have had previous experience with these tools. On the other hand, students who used Weebly, iMovie or Loopster had more difficulty due the lack of experience they have had with these tools. However, once students were familiarized with these tools they seemed to do pretty well using them independently. I am also glad that students were paired up in groups in order to help and support each other. I believe it was most helpful to have a co-teacher in my classroom to help trouble shoot and implement this lesson. I would highly recommend that other teachers would find someone else in the building to help if their students lack experience. Before I started the Instructional Technology program at Kennesaw State University I was unfamiliar with many of the Web 2.0 tools that are available to use for class instruction. However, now that I have been made more aware of these resources I hope to further use them in lessons to come. I find that through using technology based tools my students become more engaged and gain more from the lessons and projects than they would otherwise. Technology based tools provide an imaginative platform for teachers and students to openly discuss content material and to answer questions that students might have otherwise kept to themselves.  |

**Weather News Station Project Rubric**

|  |
| --- |
| **Script and Video** |
| Script | Script is well written with an accurate weather analysis. | Script has an accurate weather analysis but lacks ideas, organization or style. | Script does not have an accurate weather analysis **OR** lacks ideas, organization or style. | Script does not have an accurate weather analysis **AND** lacks ideas, organization or style. |
| Video  | Well-rehearsed with smooth delivery that holds audience attention. No mistakes are made | Rehearsed with fairly smooth delivery that holds audience attention most of the time. 1-2 mistakes are made | Delivery not smooth, but able to maintain interest of the audience most of the time. 3-4 mistakes are made | Delivery not smooth and audience attention often lost. 5 or more mistakes |
| **Presentation or Webpage** |
| Presentation/ Webpage | All requirements are met and **exceeded** including uploaded weather script and video, content vocabulary section, additional information about the news station. | All requirements are met including uploaded weather script and video, content vocabulary section, additional information about the news station. | One of the following requirements was not completely met: uploaded weather script and video, content vocabulary section, additional information about the news station. | More than one following requirement was not completely met: uploaded weather script and video, content vocabulary section, additional information about the news station. |
| Attractiveness | Makes excellent use of font, color, graphics, effects, etc. to enhance the presentation. | Makes good use of font, color, graphics, effects, etc. to enhance to presentation. | Makes use of font, color, graphics, effects, etc. but occasionally these detract from the presentation content. | Use of font, color, graphics, effects etc. but these often distract from the presentation content. |
| **Culminating Requirements** |
| Presentation | Shows a full understanding of the topic. Speaks clearly and distinctly all (100-95%) the time. | Shows a good understanding of the topic. Speaks clearly and distinctly all (100-95%) the time. | Shows a good understanding of parts of the topic. Speaks clearly and distinctly most (94-85%) of the time.  | Does not seem to understand the topic very well. Often mumbles or cannot be understood. |
| Collaboration with Peers | Almost always listens to, shares with, and supports the efforts of others in the group. Tries to keep people working well together. | Usually listens to, shares with, and supports the efforts of others in the group. Does not cause "waves" in the group. | Often listens to, shares with, and supports the efforts of others in the group but sometimes is not a good team member. | Rarely listens to, shares with, and supports the efforts of others in the group. Often is not a good team member. |
| Mechanics | No misspellings or grammatical errors. | Five or fewer misspellings and/or mechanical errors. | Between five and ten misspellings and/or grammatical errors. | More than 10 errors in spelling or grammar. |