21things4teachers.net (2013-2014)

Connections to Tools, Standards, and Best Practice

Each of the 21Things addresses different National Educational Technology Standards for Teachers (NETS-T). Below is a list of the NETS-T that we are addressing in the required activities within each Thing. In addition, these technology tools support best practice instruction using the Classroom Instruction that Works framework. The CITW9 categories and examples of their application are listed below.

0. Introduction to the Course

Basics of Online Instruction; Field Guide to Course Success/Pacing Guide; Screen-captures; Course Expectations; Creating Accounts (Diigo, Google Docs, etc.); online surveys and Pre-Assessment, password keepers, collaboration/discussion forums; Portfolio requirements/deadlines/responsibilities; Technology requirements (computer checks); web list of open links, and othe expectations of the course/Course Management System.

1. Cloud Initiation *Keyboard shortcuts, Diigo, Dropbox* **Addressing the NETS-T**: 1. Facilitate and Inspire Student Learning and Creativity b 2. Design and Develop Digital Age Learning Experiences and Assessments a; 3. Model Digital Age Work and Learning a,b ***CITW 9:*** Cooperative Learning; Cues/Questions/Advance Organizers; Summarizing & Notetaking; Assigning Homework & Practice	***Examples:*** *Use Cloud Initiation tools to:* • *share social bookmarks and files using cloud tools to support **cooperative learning*** • *locate links to **cue** learning, support **questions**, and* • *provide an opportunity for pre-planning of resources* • *(**advance organizers**)* • *organize **summaries or notes** as links and documents for learning* • *locate or store documents for **homework and practice***
2. Face of the Classroom *Creating an Online Presence: Course Management System, Edmodo, Weebly, Blogs, Wikis, or district pages* **Addressing the NETS-T:** 1. Facilitate and Inspire Student Learning and Creativity b,c,d; 2. Design and Develop Digital Age Learning Experiences and Assessments a,b; 3. Model Digital Age Work and Learning a,b,c; 4. Promote and Model Digital Citizenship and Responsibility b,c ***CITW 9:*** All Categories supported	***Examples:*** Use the Face of the Classroom tools to create an online presence that: • *provides a place for posting **objectives** for learning* • *provides **feedback** and **recognition** and, **reinforces student effort** through blog posts, discussion forums, grading, or badges* • *allows for collaboration of documents, opinions, and shared deadlines/responsibilities for **cooperative learning*** • *integrates **cues, questions, and advance organizers** as video, documents, links, and more* • *supports **summarizing and note taking** with sharing of documents, discussion forums, and posts* • *provides a place for instructors to post content, resources, deadlines/responsibilities, and objectives to support learning for **homework and practice*** • *allows students to use tools that compare, contrast, metaphors, and analogies to scaffold learning to identify **similarities and differences*** • *provides resources that support systems analysis, problem solving, experimental, and investigative research to **generate/test hypotheses***

3. Collaboration Tools *Google Docs/Drive, Lino, Doodle, Trello* **Addressing the NETS-T**: 1. Facilitate and Inspire Student Learning and Creativity a,b,c,d; 2. Design and Develop Digital Age Learning Experiences and Assessments a,b,c; 3. Model Digital Age Work and Learning a,b,c ***CITW 9*:** Cooperative Learning; Non-Linguistic Representations; Summarizing & Notetaking; Assigning Homework & Practice	***Examples:*** *Use Collaboration tools to:* • *support peer collaboration of meetings, documents, assignments, and activities to promote **cooperative learning*** • *share **notes or summaries**, documents, deadlines, task lists* • *support peer collaboration of **homework and practice** activities*
4. Communication Tools *BackChannel chat, Skype* **Addressing the NETS-T:** Facilitate and Inspire Student Learning and Creativity a,b,d; 2. Design and Develop Digital Age Learning Experiences and Assessments a,b,c; 3. Model Digital Age Work and Learning a,b,c; 4. Promote and Model Digital Citizenship and Responsibility a,b,c,d; 5. Engage in Professional Growth and Leadership a,c ***CITW 9:*** Reinforcing Effort/Providing Recognition; Cooperative Learning; Assigning Homework & Practice	***Examples:*** *Use a Communication Tool s to:* • ***provide feedback, reinforce effort, or provide recognition** to students within a virtual classroom/online environment* • *support peer collaboration with **cooperative learning*** • *communicate **homework or practice** activities to homebound or absent students*
5. Content Area Tools *Michigan Learns Online, M.O.R.E.,CK-12* **Addressing the NETS-T:** 2. Design and Develop Digital Age Learning Experiences and Assessments a; 3. Model Digital Age Work and Learning a,d; 5. Engage in Professional Growth and Leadership c ***CITW 9:*** Cues, Questions, Advance Organizers; Generating and Testing Hypotheses	***Examples:*** *Use Content Area Tools to:* • *select MEL/MORE sources in expository, narrative, skimming, and graphic formats of **Advance Organizers*** • *select CK-12 resources and select questions for students that focus on what's important, use explicit cues, support inference and analysis in support of **cues, questions, and advance organizers*** • *select readings to **cue** discussion questions about content* • *locate research and resources to support the systems analysis, problem solving, experimental inquiry, or investigation within the **Generating and Testing Hypotheses** category*
6. Differentiated Instruction & UDL *Learnport, Nettrekker, UDL Strategies, CAST, Vozme* **Addressing the NETS-T**: 1. Facilitate and Inspire Student Learning and Creativity a,b; 2. Design and Develop Digital Age Learning Experiences and Assessments a,c; 3. Model Digital Age Work and Learning a,c,d; 4. Promote and Model Digital Citizenship and Responsibility b ***CITW 9:*** Cues, Questions, Advance Organizers; Summarizing and Notetaking; Assigning Homework and Practice	***Examples:*** *Use Differentiation/UDL Tools to:* • *select NetTrekker or Learnport resources to **cue/question, or organize in advance** of the learning* • *select resources for **Homework and Practice** that supports struggling learners, such as read-aloud feature or dictionary in NetTrekker* • *create audio files of text to assist with **summarizing and note-taking** to support struggling learners with Vozme*

7. Digital Citizenship *Digital Citizenship, Acceptable Use, Identity Theft, Cyber Safety* **Addressing the NETS-T:** 1. Facilitate and Inspire Student Learning and Creativity b; 3. Model Digital Age Work and Learning a; 4. Promote and Model Digital Citizenship and Responsibility a,b,c ***CITW 9:*** In Support of the Creating an Environment of Learning (Red Zone) -- Setting Objectives and Providing Feedback; Reinforcing Effort and Providing Recognition; Cooperative Learning	***Examples:*** *Use Digital Citizenship tools to:* • *create an environment of learning that promotes digital citizenship, social, ethical, and responsible use* • *promote **cooperative learning** activities that model digital citizenship* • ***set objectives** that incorporate responsible use* • *model netiquette in **providing feedback, reinforcing effort, and providing recognition***
8. Visual Learning *Popplet, Bubbl.us, Gliffy, Wordle, Tagxedo, QR Codes* **Addressing the NETS-T:**1. Facilitate and Inspire Student Learning and Creativity a,c; 2. Design and Develop Digital Age Learning Experiences and Assessments a, c; 3. Model Digital Age Work and Learning a, b, c, d; 4. Promote and Model Digital Citizenship and Responsibility b; 5. Engage in Professional Growth and Leadership b, c ***CITW9:** Setting Objectives/Providing Feedback; Nonlinguistic Representations; Summarizing& Notetaking; Cues, Questions, Advance Organizers; Generating and Testing Hypotheses*	***Examples:*** *Use Visual learning tools to:* • ***set objectives** using Word Cloud tools, with the word most mentioned being the most important* • *utilize visual organizer tools like Bubbl.us, Gliffy, or Popplet for create **Nonlinguistic Representations*** • *use templates in Gliffy for teacher directed notes in support of **Summarizing and Notetaking** or **Advance Organizers*** • *create QR codes for students in anticipation of the lesson to support **cues, questions, and advance organizers*** • *use visual learning tools like Bubbl.us, Gliffy, or Popplet to structure tasks, make prediction, flowchart hypotheses, and/or demonstrate systems, problem solving, experimental inquiry, investigations in suppor of **Generating & Testing Hypotheses***
9. Copyright & Creative Commons *Library of Congress Copyright (copyright.gov); Teach Act; Creative Commons; Public Domain* **Addressing the NETS-T:** 4. Promote and Model Digital Citizenship and Responsibility a,b,c ***CITW 9:*** Setting Objectives/Providing Feedback; Cues, Questions, Advance Organizers	***Examples:*** *Use Copyright/Creative Commons tools to:* • *create the environment within the classroom of responsible, ethical, and legal use of digital materials* • *set objectives, or cue/question students using materials gathered through fair use and respect for copyright*
10. Digital Images *FotoFlexr, PicasaWeb, PhotoPeach, Avatars* **Addressing the NETS-T:** 1. Facilitate and Inspire Student Learning and Creativity a,b; 2. Design and Develop Digital Age Learning Experiences and Assessments a,b,c; 3. Model Digital Age Work and Learning a,b; 4. Promote and Model Digital Citizenship and Responsibility b ***CITW 9:*** Nonlinguistic Representations; Identifying Similarities & Differences; Cues, Questions, Advance Organizers	***Examples:*** *Use Digital Image tools to:* • *generate **nonlinguistic representations**, such as mental imagery* • *create metaphors and analogies using digital tools to **identify similarities and differences*** • *create visual images that serve as writing prompts to generate **cues and questions***

11. Presentation Tools *Prezi, Google Presentations, Zoomit* **Addressing the NETS-T:** 1. Facilitate and Inspire Student Learning and Creativity a,b,d; 2. Design and Develop Digital Age Learning Experiences and Assessments a,b,c; 3. Model Digital Age Work and Learning a,b,c; 4. Promote and Model Digital Citizenship and Responsibility b; 5. Engage in Professional Growth and Leadership c ***CITW 9:*** Setting Objectives/Providing Feedback; Nonlinguistic Representations; Summarizing & Notetaking, Assign Homework & Provide Practice; Cooperative Learning	***Examples:*** *Use Presentation tools to:* • *create visually appealing presentations using **nonlinguistic representations*** • *prompt students using **cues and questions**, or prepare students for the lessons as an **advance organizer*** • *set the stage by integrating the **objectives** within the presentation* • *generate presentations that support learning and help students develop understanding to **homework or practice activities*** • *use Google Presentations or other collaborative presentation tools to support peer editing to **provide feedback**, or promote positive interdependence and individual accountability within **cooperative learning***
12. Evaluation & Assessment *Data Warehousing & School Improvement Tools (MISchoolData), Rubistar, Google Forms, PollEverywhere, Socrative, Testmoz, and spreadsheets (Google Spreadsheets, Excel, Open Office spreadsheets)* **Addressing the NETS-T:** 1. Facilitate and Inspire Student Learning and Creativity b,c; 2. Design and Develop Digital Age Learning Experiences and Assessments a, b, c, d; 3. Model Digital Age Work and Learning a,b,c ***CITW 9:*** Setting Objectives/Providing Feedback; Generating & Testing Hypotheses; Identifying Similarities & Differences	***Examples:*** *Use Evaluation and Assessment tools to:* • *use online polls or surveys to gather perception data for investigation, problem solving, or experimenting (**generating and testing hypotheses**);* • *use data warehousing tools like MISchoolData to review student performance or perform progress monitoring to look for trends, issues, or successes (**identifying similarities and differences**)* • ***provide feedback** about performance, or create visual representations (**nonlinguistic representations)** using spreadsheet charts/graphs* • *use data to inform instruction; **set objectives** based on findings*
13. Interactive Learning Tools *NuSkool, Google Earth, Quizlet, Vocabulary Spelling City, PBS Learning Media, ReadWriteThink, TeachersFirst, Illuminations* **Addressing the NETS-T**: 1. Facilitate and Inspire Student Learning and Creativity a,b,c,d; 2. Design and Develop Digital Age Learning Experiences and Assessments a,b,c 4. Promote and Model Digital Citizenship & Responsibility b ***CITW 9:*** Cues, Questions, and Advance Organizers; Assigning Homework and Practice; Nonlinguistic Representations	***Examples:*** *Use Interactive Learning tools to:* • *provide **cues, questions, or advance organizers** that support the lesson* • *support the curriculum or supplement the lessons through **homework and practice*** • *utilize interactives to support differentiation with **nonlinguistic representations***

14. Productivity Tools *Evernote, ZamZar, Google Calendar, URLshorteners* **Addressing the NETS-T:** 1. Facilitate and Inspire Student Learning and Creativity a,b,c,d; 2. Design and Develop Digital Age Learning Experiences and Assessments a,b,c; 3. Model Digital Age Work and Learning a,b,c 4. Promote and Model Digital Citizenship and Responsibility b ***CITW 9:*** Summarizing and Notetaking; Assigning Homework and Practice; Cues, Questions, and Advance organizers	***Examples:*** *Use Productivity tools to:* • *create calendars to support **homework and practice** and provide an **advance organizer*** • *utilize Evernote to organize workflow, homework, links, and research for **summarizing and notetaking*** • *edit URLs or modify file types to streamline and suppor **homework and practice***
15. Staying Informed *RSS, Old Reader, Netvibes, TED, Horizon reports, Portable Mobile devices* **Addressing the NETS-T:** 1. Facilitate and Inspire Student Learning and Creativity a; 2. Design and Develop Digital Age Learning Experiences and Assessments a; 3. Model Digital Age Work and Learning d; 5. Engage in Professional Growth and Leadership b,c ***CITW 9:*** Cues, Questions, and Advance organizers; Homework and Practice	***Examples:*** *Use Staying Informed tools to:* • *use digital tools stay informed about current trends to inform **cues or ask questions*** • *generate **homework and practice** activities about current topics*
16. Research & Reference Tools *MEL databases, Google Scholar, Online Citation tools, web evaluation* **Addressing the NETS-T:** 1. Facilitate and Inspire Student Learning and Creativity a,b; 2. Design and Develop Digital Age Learning Experiences and Assessments a; 3. Model Digital Age Work and Learning a; 4. Promote and Model Digital Citizenship and Responsibility b; 5. Engage in Professional Growth and Leadership c ***CITW 9:*** Generating & Testing Hypotheses; Cues, Questions, Advance Organizers; Homework and Practice; Identify Similarities & Differences	***Examples:*** *Use Research and Reference tools to:* • *locate sources to assist in investigations, experiments, problem solving, and **generate and test hypotheses*** • *critically evaluate sources for the purpose of systems analysis, problem solving, experimental inquiry, or investigation within the **Generating and Testing Hypotheses** category* • *select MEL, RefDesk, or Google Scholar sources in expository, narrative, skimming, and graphic formats of **Advance Organizers*** • *select readings to **cue** learning and discussion **question** about content* • *select readings for comparing, contrasting, creating metaphors and analogies to **identify similarities and differences*** • *locate sources to support **homework and practice***

17. Professional Learning Networks *Professional organizations, Twitter, MACUL, ISTE, Michigan LearnPort , LinkedIn, Google+* **Addressing the NETS-T:** 1. Facilitate and Inspire Student Learning and Creativity a,b,c,d; 3. Model Digital Age Work and Learning a,b,c; 5. Engage in Professional Growth and Leadership a,b,c,d ***CITW 9:*** Cooperative Learning; Setting Objectives & Providing Feedback	***Examples:*** *Use Professional Learning Networks tools to:* • *participate in **cooperative learning** groups in the form of professional social networks like LinkedIn, Google+, Twitter* • *stay informed about current topics, locate professional development, and network in professional learning communities using LearnPort, MACUL, ISTE, and other professional organizations to assist in setting goals, **objectives, and gain feedback on current practice***
18. Virtual Classrooms *Michigan Learns Online, Online Learning guidelines, Video Conferencing, Navigating The Land of Online Learning, TWICE/CAPSpace, Edmodo* **Addressing the NETS-T:** 1. Facilitate and Inspire Student Learning and Creativity a,b,c,d; 2. Design and Develop Digital Age Learning Experiences and Assessments a,b,c; 3. Model Digital Age Work and Learning a,b,c; 4. Promote and Model Digital Citizenship and Responsibility b; 5. Engage in Professional Growth and Leadership a,c,d ***CITW 9:*** Cooperative Learning	***Examples:*** *Use Virtual Classroom tools to:* • *utilize online learning resources to encourage and support **cooperative learning opportunities** for students* • ***create an environment for learning** by knowing the roles of key players through Navigating the Land of Online Learning and online learning guidelines* • *locate sources in the Michigan Learns Online portal that **help students develop understanding** or **extend and apply knowledge***
19. Digital Story Telling *Photo Story 3/iMovie, Animoto, Kerpoof, little birdtales, Storybird, ReadWriteThink Comic Creator, Go!Animate, Make Beliefs Comix, WeVideo* **Addressing the NETS-T**: 1. Facilitate and Inspire Student Learning and Creativity a,b; 2. Design and Develop Digital Age Learning Experiences and Assessments a,c; 3. Model Digital Age Work and Learning a,b; 4. Promote and Model Digital Citizenship and Responsibility b ***CITW 9:*** Summarizing & Notetaking; Non-linguistic Representations; Setting Objectives and Providing Feedback; Cues, Questions, and Advance Organizers; Identifying Similarities & Differences	***Examples:*** *Use Digital Storytelling tools to:* • *create stories that represent **summaries or notes*** • *create visually appealing stories that support differentiation through **non-linguistic representations*** • *present lesson **objectives** using a digital story* • *prompt students with **cues or questions** with a digital story* • *use a digital story to compare, contrast, or present metaphors and analogies to support **identifying similarities and differences***
20. Online Video and Audio Files *School Tube, Teacher Tube, iTunes, MiStreamnet, Discovery Education. Lear360, New Dimension, Mi Streamnet, PBS Learning Media, iTunes U* **Addressing the NETS-T**: 1. Facilitate and Inspire Student Learning and Creativity a,d; 3. Model Digital Age Work and Learning a,d; 4. Promote and Model Digital Age Citizenship and Responsibility a; 5. Engage in Professional Growth and Leadership c,d ***CITW 9: :*** summarizing and note-taking; non-linguistic representations	***Examples:*** *Use Online Video and Audio tools to:* • *present lesson **objectives** and support differentiation using a video or audio* • *prompt students with **cues or questions** with online video or audio* • *use video or audio segments to compare, contrast, or present metaphors and analogies to support **identifying similarities and differences*** • *locate videos that support **summarizing and notetakin** of a lesson's main ideas, or can be used as resources i **assigning homework and practice***

21. Flipping Your Classroom (Screencasting) *Jing, Screencast-o-matic, and posting/sharing online, Khan Academy* **Addressing the NETS-T:** 1. Facilitate and Inspire Student Learning and Creativity a,b,c,d; 2. Design and Develop Digital Age Learning Experiences and Assessments a,b,c; 3. Model Digital Age Work and Learning a,c; 4. Promote and Model Digital Citizenship and Responsibility b ***CITW 9:*** Setting Objectives and Providing Feedback; Cues, Questions, and Advance Organizers; Summarizing & Notetaking; Assigning Homework and Practice	*Examples:* *Use Flipping the Classroom tools to:* • *present **objectives*** • *create videos or locate content that include **cues or questions, or advance organizers*** • *represent **summaries or notes**, or support **homework and practice** as content posted in a flipped classroom*

Effective teachers model and apply the NETS·S as they design, implement, and assess learning experiences to engage students and improve learning; enrich professional practice; and provide positive models for students, colleagues, and the community. All teachers should meet the following standards and performance indicators.

1. Facilitate and Inspire Student Learning and Creativity

Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments.

a. Promote, support, and model creative and innovative thinking and inventiveness

b. Engage students in exploring real-world issues and solving authentic problems using digital tools and resources

c. Promote student reflection using collaborative tools to reveal and clarify students' conceptual understanding and thinking, planning, and creative processes

d. Model collaborative knowledge construction by engaging in learning with students, colleagues, and others in face-to-face and virtual environments

2. Design and Develop Digital Age Learning Experiences and Assessments

Teachers design, develop, and evaluate authentic learning experiences and assessment incorporating contemporary tools and resources to maximize content learning in context and to develop the knowledge, skills, and attitudes identified in the NETS·S.

a. Design or adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity

b. Develop technology-enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals, managing their own learning, and assessing their own progress

c. Customize and personalize learning activities to address students' diverse learning styles, working strategies, and abilities using digital tools and resources

d. Provide students with multiple and varied formative and summative assessments aligned with content and technology standards and use resulting data to inform learning and teaching

3. Model Digital Age Work and Learning

Teachers exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society.

a. Demonstrate fluency in technology systems and the transfer of current knowledge to new technologies and situations

b. Collaborate with students, peers, parents, and community members using digital tools and resources to support student success and innovation

c. Communicate relevant information and ideas effectively to students, parents, and peers using a variety of digital age media and formats

d. Model and facilitate effective use of current and emerging digital tools to locate, analyze, evaluate, and use information resources to support research and learning

4. Promote and Model Digital Citizenship and Responsibility

Teachers understand local and global societal issues and responsibilities in an evolving digital culture and exhibit legal and ethical behavior in their professional practices.

a. Advocate, model, and teach safe, legal, and ethical use of digital information and technology, including respect for copyright, intellectual property, and the appropriate documentation of sources

b. Address the diverse needs of all learners by using learner-centered strategies providing equitable access to appropriate digital tools and resources

c. Promote and model digital etiquette and responsible social interactions related to the use of technology and information

d. Develop and model cultural understanding and global awareness by engaging with colleagues and students of other cultures using digital age communication and collaboration tools

5. Engage in Professional Growth and Leadership

Teachers continuously improve their professional practice, model lifelong learning, and exhibit leadership in their school and professional community by promoting and demonstrating the effective use of digital tools and resources.

a. Participate in local and global learning communities to explore creative applications of technology to improve student learning

b. Exhibit leadership by demonstrating a vision of technology infusion, participating in shared decision making and community building, and developing the leadership and technology skills of others

c. Evaluate and reflect on current research and professional practice on a regular basis to make effective use of existing and emerging digital tools and resources in support of student learning

d. Contribute to the effectiveness, vitality, and self-renewal of the teaching profession and of their school and community