

**NISD Technology-Integrated Lesson Plan For High Schools
LESSON PLANNING GUIDE AND POST LESSON REVIEW**

Teacher's Name	School	Date
Lesson Title		
Primary Subject Area	Grade Level	
List Applicable TEKS		
Possible Secondary Subject Area (s):		
List Applicable TEKS		
List Applicable Technology TEKS:		

Essential Question/Enduring Understanding:

1. WHICH LESSON CYCLE WILL YOU USE?

<p><u>CONSTRUCTIVIST LESSON CYCLE:</u></p> <ol style="list-style-type: none"> 1. Engage 2. Explore 3. Explain 4. Elaborate 5. Evaluate 	<p><u>DIRECT INSTRUCTION LESSON CYCLE:</u></p> <ol style="list-style-type: none"> 1. Objective/Purpose 2. Focus 3. Direct Teach/Modeling/Check for understanding 4. Guided Practice/Check for Understanding: Independent Practice 5. Reteach 6. Closure 7. Assessment
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2. WHICH INSTRUCTIONAL STRATEGIES ARE USED?

<ul style="list-style-type: none"> <input type="checkbox"/> Whole Class Instruction <input type="checkbox"/> Small Group Instruction <input type="checkbox"/> Constructivist <input type="checkbox"/> Individualized Instruction/Conference <input type="checkbox"/> Demonstration <input type="checkbox"/> Active Monitoring <input type="checkbox"/> Socratic Seminar <input type="checkbox"/> Assessment <input type="checkbox"/> Other: 	<p>Bloom's Level</p> <ul style="list-style-type: none"> <input type="checkbox"/> Knowledge <input type="checkbox"/> Comprehension <input type="checkbox"/> Application <input type="checkbox"/> Analysis <input type="checkbox"/> Synthesis <input type="checkbox"/> Evaluation 	<p>Multiple Intelligences Addressed?</p> <ul style="list-style-type: none"> <input type="checkbox"/> Visual/Spatial <input type="checkbox"/> Verbal/Linguistic <input type="checkbox"/> Interpersonal <input type="checkbox"/> Musical/Rhythmic <input type="checkbox"/> Naturalistic <input type="checkbox"/> Bodily/Kinesthetic <input type="checkbox"/> Intrapersonal <input type="checkbox"/> Logical/Mathematical
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3. WHAT RESOURCES ARE NEEDED?

<p><i>In The Classroom</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Folder, Notebook, Binder <input type="checkbox"/> Workbook <input type="checkbox"/> Journal <input type="checkbox"/> Graphic Organizers <input type="checkbox"/> Paper <input type="checkbox"/> Worksheet: <input type="checkbox"/> Manipulatives: <input type="checkbox"/> Content Area Reading <input type="checkbox"/> Textbook <input type="checkbox"/> Supplemental Text: <input type="checkbox"/> Library <input type="checkbox"/> Other 	<p><i>In The Classroom</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> "At the board" workspace <input type="checkbox"/> Charting/Reporting stations <input type="checkbox"/> Student Stations <input type="checkbox"/> Lab Stations <input type="checkbox"/> Overhead or Digital Projection <input type="checkbox"/> Audio or Video equipment <input type="checkbox"/> Scanners <input type="checkbox"/> Cameras <input type="checkbox"/> Microscopes <input type="checkbox"/> Other 	<p><i>In The Lab</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Internet Search Engines <input type="checkbox"/> Word Processing <input type="checkbox"/> Web Authoring <input type="checkbox"/> Multimedia (video, PowerPoint) <input type="checkbox"/> Web-based or Software Tutorial <input type="checkbox"/> Audio or Video equipment <input type="checkbox"/> Scanners <input type="checkbox"/> Cameras <input type="checkbox"/> Microscopes <input type="checkbox"/> Other
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4. HOW WILL FEEDBACK BE PROVIDED?

<ul style="list-style-type: none"> <input type="checkbox"/> Peer or Group Verification <input type="checkbox"/> Teacher Reviewed Answers <input type="checkbox"/> Verbal Checks <input type="checkbox"/> Scope provided for products or performances at assignment time 	<ul style="list-style-type: none"> <input type="checkbox"/> Rubric provided for assessment before due date <input type="checkbox"/> Performance review <input type="checkbox"/> Written Assessment <input type="checkbox"/> Other
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LESSON NOTES

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Introduce or Reconnect To Previous Learning				
Strategies/Activity Description				
Daily Closure/Reconnect/Conclusions				

Lesson Assessment

What Modifications or Adaptations would assist needy learners?

What Extensions are needed for gifted or talented students to push them to higher achievement?

[Click Here for to assess the lesson using the TIPPA Interactive Rubric .](#)

Then write the results and your notes or reflections here.

ESSENTIAL INSTRUCTIONAL CONCEPTS EXPECTED IN LESSON PLANNING WITH TECHNOLOGY INTEGRATION aka The Molly Manual

Essential Question/Enduring Understanding

This is a statement that represents the Big Idea that has enduring value beyond the classroom: what resides at the heart of the discipline? Usually, this is a thematic or conceptual statement revolving around concepts such as freedom, friendship, conservation, change, authority, stress, evaluation, life goals. etc. Valuable statements in your content area can be found in your TEKS.

(<http://memory.loc.gov/learn/educators/workshop/design01/bigidea.html>)

(<http://www.tea.state.tx.us/teks/index.html>)

The Constructivist Lesson Cycle

(<http://laaplatform.org/techtools/program/5E.html>)

Engage

- Student interest is captured with an activity about which there is previous experience and to which the learner can relate.
- Students share what they know about the concept.
- Teachers connect previous knowledge to new concepts the learner will discover.

Explore

- Students explore, predict, experiment, observe, discover, record, retest, and discuss through hands-on, minds-on activities.
- Teachers offer little or no explanation and direction.
- The teacher acts as a facilitator of learning by encouraging, listening, observing, probing, redirecting, consulting.

Explain

- Teachers facilitate student construction of formal labels, definitions, and explanations.
- Students are encouraged to listen to and evaluate the ideas of other students.
- Teachers then formally provide definitions, explanations and new labels.
- Students use the information gathered during exploration and use the terms they have defined to explain and describe the activity.

Elaborate

- Students apply what they have learned to similar activities or situations.
- Students verbalize definitions, explain their understandings to others and compare their ideas.
- As students interact, they question, hypothesize, propose experiments and solutions, record observations, draw conclusions and check their peers for understanding.

Evaluate

- The teacher assesses the learner's understandings of the concept by observing and asking open ended questions.
- The student shows understanding by answering questions verbalizing evidence, observations, and using demonstrations to support answers.

Bloom's Taxonomy

Write activities and use technology to achieve the higher levels of cognition using these action words:

Knowledge

define, memorize, repeat, record, list, recall, name, relate, collect, label, specify, cite, enumerate, tell, recount, write, match, pick, show, underline, the 5 W's

Drill and Practice Software
Tutorial Software
Internet Tutorials
Word Processing
Display Devices
DVDs, CDs
Internet Resources
Teacher Presentations
Concept Mapping Software

Comprehension

restate, summarize, discuss, describe, recognize, explain, express, identify, locate, report, retell, review, translate, clarify

Word Processing
Display Devices
DVDs, CDs
Internet Resources and Activities
Hot Lists, Scavenger Hunts
Graphic Programs
Concept Mapping Software
Charting and Graphing Tools

Application

exhibit, solve, interview, simulate, apply, employ, use, demonstrate, dramatize, practice, illustrate, operate, calculate, show, experiment

DVDs, CDs
Internet Resources & Activities
Simulation Software
Interactive Software
Word Processing
Spreadsheets, Databases
Graphic Software
Display Devices
Internet Search Engines
Scanners, Cameras
Presentation Programs
Multimedia Authoring
Concept Mapping Software

What is the target or goal for student use of technology in your content area?

"The learner uses technology applications skills to acquire information from multiple sources, solve authentic problems, and communicate to an authentic audience." In doing so, the student has multiple avenues of learning and expression, and he/she builds authentic, real-world skills.

<http://intranet.northside.isd.tenet.edu/InstructionalTech/TIPPA/subpages/technology%20standards.htm>

Bloom's Taxonomy, continued

Analysis

interpret, classify, analyze, arrange, differentiate, group, compare, organize, contrast, examine, scrutinize, survey, categorize, dissect, probe, inventory, investigate, question, discover, text, inquire, distinguish, detect, diagram, inspect

Internet Search Engines
Internet Projects & Activities such as Web quests
Student Presentation Software
Concept Mapping Software
Databases & Spreadsheets
Word Processing with Formatting Requirements
Science Probes
Graphic Programs

Synthesis

compose, setup, plan, prepare, propose, imagine, produce, hypothesize, invent, incorporate, develop, generalize, design, originate, formulate, predict, arrange, contrive, assemble, concoct, construct, systematize, create

Multimedia Authoring
Web Authoring
Internet Projects and Activities
Internet Rubric Makers
High-End Word Processing
Graphics and Editing Tools
Graphics Tablet
Display Devices
Cameras and Scanners
Audio Equipment
Databases and Spreadsheets
Video Editing Tools
Sound and Video Files
Interactive Math & Science Software

Evaluation

judge, assess, decide, measure, appraise, estimate, evaluate, infer, rate, deduce, compare, score, value, predict, revise, choose, conclude, recommend, select, determine, criticize

All of the above, plus
Science Probes
Robotic Devices

“Technology Integration Strategies

Integrating technology into the classroom has become an imperative for teachers at all grade levels. State standards require it and research supports its positive impact on student learning. Nearly all schools today have computer labs or a computer in the classroom and many also have Internet connections.

Teachers know that they must integrate technology into their lessons, and they finally have the equipment at their disposal. Understanding *why* it should happen and *how* best to do it are often less clear.

Reasons for Integrating Technology

When done effectively, technology has a positive impact on student learning. It can:

- Increase student motivation for learning
- Improve communication of learning goals
- Facilitate higher-order thinking skills
- Build valuable skills that students will use in college and in the workplace
- Expand students' understanding from novice to mastery

There is no denying that computer technology has become as commonplace as the telephone in American society. To make learning relevant to students, this reality needs to be acknowledged in the form of technology-based lessons.”

(http://www.glencoe.com/sec/teachingtoday/subject/tech_integration.phtml)

Multiple Intelligences

Address MI Learning Styles with these Technology Activities

<u>Which Intelligence</u>	<u>How It Works</u>	<u>Use software or websites that do...</u>	<u>Possible Products/Assignment Ideas:</u>
Visual-spatial	Through pictures, images, icons, and visualizations in two and three dimensions	Animation (Macromedia), movie making (Moviemaker), Clip-Art programs, Draw & Paint programs, Spatial problem solving games, Web Page Design Software programs (Macromedia, Publisher, Word)	Advertisement, Art /Display Design, Blueprint, Board Game, Book Cover, Bulletin Board, Card Game, Chart, Collage, Comic Strip, Detailed Illustration, Diorama, Display, Family Tree, Graph, Greeting Card, Drawing, Map with Legend, Mobile, Poster, Photo Essay, pamphlets, newsletter design
Verbal-linguistic	Through words, letters, playing with the sound of words and letters	Word processing programs (Word), Typing tutors (Mavis Beacon), Desktop publishing (MicroSoft Publisher) , Electronic libraries (World Library), Crossword games (Crossword Companion), Language Translators	Advertisement text, annotated bibliography, 3D Writing, Board Game text, Chart text, photo captions, comic strip dialogue, crossword puzzle creation, debate, script writing, editorial essay, written critique, fables, fact file, fairy tale, glossary, journal, labels for diagram, lecture notes, letters, letter to the editor, magazine copy, article, news report, pamphlet writing, reference file, PowerPoint presentation, survey development, stories, vocabulary listing, written report, newsletter writing
Interpersonal	Through communicating with others, verbalizing, socializing	Electronic bulletin boards (Kidsnet), Simulation games; Email programs and Shared Interest-Based Listservs	Board game direction, card game direction, debate, dramatic dialogue, peer coaching, peer grouping, stories, re-enactment, movies, photo essay development, survey enactment, teaching
Musical-rhythmic	Through rhythmic patterns, intonation, harmonizing	Music literature tutors (Exploratorium), Singing software, Musical instrument digital interfaces (Midi systems; Vocalizer) , Musical Problem Solving (Making Music; Music Ace; Dr. Brain)	Commercial development/jingles; song and poetry development, computer programs, dramatic monologues, story writing in meter, compositions requiring timing changes
Naturalistic	Through nature and natural forms	Scientific plug-ins; Nature sound files; Classification of Flora/Fauna software (DK Encyclopedia of Nature), Animal sounds, Earth Science programs, Life Science programs	Advertising, drawing, photography, collections, parts-to-whole assignments, pamphlets

Multiple Intelligences, continued

Bodily-kinesthetic	Through physical sensations, movement, enactment, touch, gut reactions	Weaving, dancing, sports, sculpting, miming Hands-on construction kits, Motion simulation games (Flight simulator) , Virtual reality system software, Eye-Hand coordination games, Tools that plug into computers (Science Tool Kit), Snappy (video camera-microscope)	Gallery walks, board and body movement games, charting, debate, dramatic enactment, experiments, graphic design (large scale), mobiles, exhibits, pattern creation and use, presentations, storytelling
Intrapersonal	Through inner reflection	Journaling, hobbies, research, scrap-booking Personal choice software, Career counseling software (The Perfect Career); Any self-paced program (Foreign Languages; Personal finances)	One to one discussions, journals, fictional diaries, character assumption/playacting, drama, editorials, poems, stories, self-chosen biographical research
Logical-mathematical	In logical patterns and sequences	Flow charts, equations, if-then reasoning, ranking Math skills tutorials (Math Blaster; Math for the Real World), Computer programming tutors (LOGO), Logic games, Science programs (Science Tool Kits; DK Multimedia), Critical thinking programs, Science Programs (DK Multimedia: "The Way Things Work"), Problem Solving (Oregon Trail; Africa Trail, etc.)	Annotated bibliographies, computer programming, crosswords, detailed illustrations, experiments, family trees, glossaries; sorting, matching, and relating

Partial Sources: (Reardon and Derner, page 17), Kay Bass, Education Service Center-Region XI , and <http://www.chariho.k12.ri.us/curriculum/MISmart/MISoftwr.htm>

“Student Engagement

Today’s classrooms are not filled with “cookie cutter” students who think and learn in exactly the same ways. A wealth of educational research enables teachers to identify variables that can affect students’ academic performance. Two powerful and well-known models for understanding learning differences and tapping into student potential are **Learning Styles** and **Multiple Intelligences**. Utilizing these models can be especially valuable when working with underachieving students. Creatively tailoring the learning scenario to accommodate differences in students’ preferences and strengths can motivate and engage students who were formerly passive and “tuned out” to instruction.

Teaching in a way that is balanced and fair to all learners will help ensure better motivation, and very importantly, a higher percentage of students mastering the standards.”

(http://intranet.northside.isd.tenet.edu/InstructionalTech/TIPPA/subpages/learner_engagement.htm)

Feedback and Assessment For Students

Feedback

- Allow students to discuss with each other and you frequently on their progress in a unit of learning.
- Provide large group “check in” moments.
- Allow independent self-checks with posters of expectations on classroom walls.
- Praise often, frequently, and again.
- Daily work, when graded formally or informally, should be corrected.

“Student Assessment

In assessing student work that is created as the result of a technology integration project, we find ourselves in the domain of **performance-based assessment**. Performance-based assessment evaluates products, processes, and performances that **allow students to demonstrate what they know and are able to do**. Performance-based assessment is built upon four premises:

- **Knowledge is Constructed** - Students perform at higher levels of learning when required to construct their own understanding of concepts.
- **Tasks are Instructional, Engaging** - Ideal tasks may be open-ended, assessing an array of knowledge and skills related to the curriculum.
- **Better Assessments Improve Teaching** - The progress of students should inform teachers of the "next steps" or "remediation" needed by an individual student or a class.
- **Meeting Criteria Improves Learning** - Students perform better when they are aware of their goals in advance and can compare their performance to an established set of criteria.

Role of Rubrics

Rubrics are scoring tools or checklists that define the criteria to be used for student performance assessment. They also detail the attributes of different levels of proficiency within an assigned task. Rubrics may use a numerical or qualitative scale, which should be clearly defined. According to Herman, Aschbacher, and Winters (1992), the purpose of a well-constructed rubric is to:

- Help teachers define academic targets and plan how to help students achieve them
- Show students what constitutes excellence and how to self-evaluate
- Communicate goals and results to parents and others
- Help teachers or other raters in accurate, unbiased and consistent scoring
- Document the procedures used in making important judgments about students

The following sites may be helpful in developing rubrics for technology integration projects:

[Rubistar - Rubric Templates & Generator](#) | [Teach-nology Rubric Generators Rubric Builder](#) | [SDSU Rubrics for Web Lessons](#)”

<http://intranet.northside.isd.tenet.edu/InstructionalTech/TIPPA/subpages/assessment.htm>

Feedback About and Assessment Of The Lesson

Feedback For The Teacher

- Survey your students after completion of a unit of study. What worked? What did they like? What did they not like? Are there any more questions they might have? Students will be brutally honest about their learning experiences.
- Invite a peer to review your lesson plan, test, handout, webquest, etc. Your peer will spot areas for improvement that you may overlook.
- Use local expertise. Is there anyone on campus who can help you? A department head, technology specialist, or academic dean?
- Use the Internet. After writing your lesson plan, search for others already created on your lesson topic.
- Email your lesson plan to an equal at another school and request feedback. Have a lesson plan buddy to share ideas with.

Assessment of The Lesson

Did you:

- Clearly define learning objectives for each part of the unit/individual lessons for your students?
- Align lessons (lecture, handouts, activities) with content standards?
- Prepare learning assessment tools (feedback opportunities, rubrics, checklists) in advance?
- Design student activities with a variety of instructional strategies?
- Provide a rich menu of student product choices for a majority of intelligences and upper levels of Blooms?
- Share assessment methods with students prior to the due date?
- Familiarize yourself with the technology before using it in the classroom?
- Prepare a back-up lesson in case technology malfunctions?
- Did you modify lesson expectations for needy students?
- Did you extend expectations for the gifted and talented?
- Did you celebrate successes and post/show/gallery exemplars of student work?

Student Evidence

Were your students engaged about

- 100% 75% 50% Less Than 50%?

- Can your students articulate the essential understanding of the unit when prompted?
- Were noteworthy student products created that are worthy of parent and administrator review?
- Can your students articulate how the skill/knowledge learned has real-world application?

Continuation Of Your Professional Development

- Have you reflected, in writing, your experiences with the unit after its completion? What worked, what didn't?
- Have you saved copies of rubrics, handouts, tests, and other resources for use again another year?
- Have you considered how you could integrate other subject area content or expectations (TEKS) into your lesson to provide learning links for your students?
- Have you considered how you could team or co-teach this unit in the future?
- Have you considered how you can bring in a community expert on the subject to provide a real-world voice of authority and connections for your students?