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Technology Integration Lesson Plan Examples

4 Complete, Ready-to-Use Lesson Plans | K–12 | SAMR & ISTE Aligned

Grade Levels: K–12	**Subjects:** Math, Science, ELA, STEM	**Frameworks:** SAMR · TPACK · ISTE	**Format:** Print-ready PDF

Each lesson plan below includes a clear learning objective, standards alignment, technology tools, step-by-step procedures, differentiation strategies, and assessment methods — everything you need to teach with technology tomorrow.

> *Tip: These plans are designed to be adapted, not followed rigidly. Swap in a different tool, adjust the grade level, or modify the objective to fit your students. The framework stays the same.*

LESSON PLAN 1 · Elementary School · Mathematics

Place Value Explorers with Virtual Manipulatives

Grade Level	Grades 2–3
Subject	Mathematics
Duration	50 minutes
Objective	Students will model two- and three-digit numbers using hundreds, tens, and ones with at least 90% accuracy, and explain their reasoning using a voice recording.
Standards	CCSS.MATH.CONTENT.2.NBT.A.1 — Understand place value ISTE Student Standard 1d — Empowered Learner
Tech Tools	Toy Theater Virtual Manipulatives (free, browser-based) Seesaw — digital portfolio and voice recording
Materials	Student devices (tablets or Chromebooks), Seesaw accounts, teacher whiteboard

Lesson Procedure

Introduction — 10 min	Write a 3-digit mystery number on the board. Ask: How many hundreds? How many tens? How many ones? Demonstrate Toy Theater virtual base-ten blocks on the projector. Walk students through building one number together as a class. Introduce Seesaw and show how to take a screenshot and add a voice recording.
Main Activity — 30 min	Students open Toy Theater on their devices. They receive a worksheet listing 5 teacher-assigned numbers. For each number, students: (1) build it with virtual blocks, (2) screenshot their model, (3) upload to Seesaw, and (4) record a 15-second voice explanation describing their tens and ones. Teacher circulates, monitoring Seesaw posts in real time on the teacher dashboard.
Differentiation	Struggling learners: Limit to two-digit numbers (10–99). Provide a visual anchor chart showing hundreds/tens/ones. Advanced learners: Introduce decimals — tenths and hundredths blocks. Ask them to build numbers to the tenths place.
Closure & Assessment — 10 min	Class review: teacher pulls up 2–3 strong Seesaw posts to celebrate and discuss. Exit ticket: Write the number 347 — draw the base-ten blocks and label each group. Summative: end-of-week paper quiz with 4 place value problems.

SAMR: Modification

SAMR Rationale: Voice annotation in Seesaw allows a form of mathematical explanation that is impossible on paper — students narrate their thinking while pointing to their model, making misconceptions visible to the teacher immediately.

> *Teacher Reflection Prompt: After the lesson, review the Seesaw recordings. Which students could explain their model clearly? Which could build correctly but struggled to explain? Use this data to form small groups for next-day intervention.*

LESSON PLAN 2 · Elementary School · Science

Life Cycles Unlocked with Nearpod

Grade Level	Grades 1–2
Subject	Life Science
Duration	45 minutes
Objective	Students will correctly sequence the four stages of a butterfly's life cycle and explain each stage in their own words with at least 3 key vocabulary terms.
Standards	NGSS 2-LS4-1 — Make observations of plants and animals ISTE Student Standard 1a — Empowered Learner: articulate learning goals
Tech Tools	Nearpod — interactive lesson with embedded quizzes and drawing activities YouTube — curated time-lapse video (teacher-selected, 3 min)
Materials	Student devices or shared tablets, Nearpod teacher account (free tier works), vocabulary anchor chart

Lesson Procedure

Hook — 5 min	Play a curated 3-minute time-lapse showing a caterpillar spinning a chrysalis and emerging as a butterfly. Pause at key moments and ask: What do you notice? What surprised you? Record student observations on chart paper.
Interactive Lesson — 25 min	Launch Nearpod lesson on student devices. The lesson includes: (1) an introductory video clip, (2) a drag-and-drop life cycle sequencing activity, (3) a vocabulary matching quiz (egg, larva, pupa, adult), (4) a Draw It activity where students sketch their favorite stage and label it, and (5) an open-ended question: If you could be any stage of the butterfly's life, which would you choose and why? Students respond at their own pace.
Differentiation	ELL students: Allow labeling in home language alongside English. Provide a bilingual vocabulary card with images. Students with IEPs: Pre-loaded sentence frames for the open-ended response.
Closure — 15 min	Teacher projects anonymized student Draw It submissions as a gallery. Class votes on the clearest diagram. Nearpod session data shows each student's sequencing accuracy — teacher provides immediate verbal corrective feedback to any student who sequenced incorrectly.

SAMR: Modification

Real-time Nearpod session data transforms assessment from a once-a-week quiz to an every-minute dashboard — enabling the teacher to identify and correct misconceptions before they become entrenched.

LESSON PLAN 3 · Middle School · STEM / Data Science

Climate Data Detectives with Google Sheets

Grade Level	Grade 7
Subject	Math / Earth Science / STEM
Duration	60 minutes
Objective	Students will import, organize, and analyze 10 years of real temperature data using Google Sheets formulas, create a line chart, and present one data-backed conclusion about local climate trends.
Standards	CCSS.MATH.CONTENT.7.SP.A.1 — Use random sampling to draw inferences NGSS Science Practice 4 — Analyze and interpret data ISTE Student Standard 5 — Computational Thinker
Tech Tools	Google Sheets — data organization, formulas (SUM, AVERAGE, MAX, MIN), charting Google Slides — presentation of findings National Weather Service — free public temperature data
Materials	Student Google accounts, teacher-prepared NWS data CSV file shared via Google Classroom, printed data literacy rubric

Lesson Procedure

Launch — 10 min	Pose the driving question: Has our city gotten warmer over the last 10 years? Ask for student predictions — record on board. Show a raw NWS data table and ask: What patterns do you notice? This is hard to see in raw numbers — how could we make it clearer?
Data Work — 30 min	Student pairs open the shared Google Sheets starter file. Tasks: (1) Review and clean 10 years of monthly average temperature data, (2) Use AVERAGE formula to calculate annual mean temperatures, (3) Use MAX/MIN to find hottest and coldest years, (4) Insert a line chart showing temperature trend over 10 years, (5) Add a trendline. Teacher uses the Sheets comment feature to flag formula errors in real time without stopping the whole class.
Presentation Prep — 12 min	Each pair copies their chart into a Google Slides template. They add one text box: their data-backed answer to the driving question with one supporting statistic.
Gallery Share — 8 min	Partners do a quick 90-second share with one other pair, explaining their conclusion and chart. Pairs swap one piece of feedback using the sentence frame: Your data clearly shows ___, and one thing to strengthen it is ___.
Differentiation	Struggling pairs: Pre-cleaned data set, formula hints card, sentence frames for the conclusion. Advanced pairs: Calculate year-over-year percentage change; compare two cities' data side-by-side.
Assessment	Formative: Teacher reviews formula accuracy in Sheets during work time. Summative: Slides presentation scored on a 4-point data literacy rubric: data accuracy, chart clarity, conclusion quality, and communication.

SAMR: Redefinition

Students analyze real public data — something no textbook worksheet can replicate. They make authentic discoveries about their own city's climate, transforming the lesson from an exercise into genuine scientific inquiry.

LESSON PLAN 4 · High School · English Language Arts

Digital Journalism: From Research to Publication

Grade Level	Grades 10–12
Subject	English Language Arts / Media Literacy
Duration	3 weeks (approximately 45 min/day)
Objective	Students will research a real-world issue using credible digital sources, apply AP-style journalistic writing standards, and publish an original article or podcast episode for an authentic audience outside the classroom.
Standards	CCSS.ELA-LITERACY.W.9-10.2 — Write informative/explanatory texts CCSS.ELA-LITERACY.W.9-10.7 — Conduct short research projects ISTE Student Standard 6 — Creative Communicator ISTE Student Standard 2 — Digital Citizen
Tech Tools	Google Workspace — research organization and writing Audacity or GarageBand — podcast recording and editing WordPress or Wix — article publication on class news site Canva — article layout and header image design
Materials	Student devices, school email accounts, printed source evaluation checklist, journalism rubric, interview release form template

3-Week Project Overview

Week 1: Research & Source Evaluation	Day 1–2: Mini-lesson on source credibility using the SIFT method (Stop, Investigate the source, Find better coverage, Trace claims). Students evaluate 5 sources for a teacher-provided topic. Day 3: Students choose their own issue — local, national, or global. They create a research plan in Google Docs listing: the question they will investigate, 3 sources they will use, and 1 person they will interview (community member, expert, or peer). Day 4–5: Independent research. Teacher conferences with each student about source quality.
Week 2: Drafting & Production	Article track: Students write a 600–800 word draft following AP Style. Peer editing pairs use a structured feedback protocol in Google Docs comment mode. Podcast track: Students script their episode, record in Audacity/GarageBand, and edit for clarity, pacing, and sound quality. Minimum 4 minutes. Both tracks: Students design their header image or podcast cover art in Canva.
Week 3: Revision, Publication & Reflection	Day 1–2: Final revisions based on teacher and peer feedback. Day 3: Publication — articles go live on the class WordPress site; podcasts are uploaded to the class podcast feed and shared with parents via the school newsletter. Day 4: Authentic audience response — students read/listen to each other's published work and leave one specific comment. Day 5: Individual written reflection answering: What did you learn about your topic? About the writing/production process? About reaching a real audience?
Differentiation	Students who struggle with writing: Choose the podcast track for oral communication focus. Advanced students: Pitch their article to a local news outlet or community newsletter.

Assessment	AP Language-style rubric (4 points each): Argument/Claim Quality, Source Credibility and Use, Organization and Style, Publication Quality, and Audience Awareness. Process grade: Research plan, draft, and peer feedback participation.

SAMR: Redefinition

Real publication for a real audience transforms the purpose of writing from impressing a teacher to communicating with the world. Students who know their work will be read by parents, community members, or peers write with fundamentally different care, voice, and intention.

All four lesson plans in this resource are available as editable Word documents. See the accompanying Technology Integration Lesson Plan Template (DOCX) to customize any of these plans for your classroom context.