

Computer Science: Teaching 8th Grade Students to Use Claude to Design Safer, Kid-Friendly NYC Parks

Teacher: Mr. Holden	Date: Sept/Oct
Class Type: Computer Science/Educational Technology	Grade: 8-03
Time Frame: 2 45-minute blocks	

Lesson Overview
Focus of Lesson: AI as a Design Tool: Using Claude to Prototype Safer, Kid-Friendly NYC Park Streetscapes. Part of a broader unit on artificial intelligence, digital design, and civic problem-solving.
Objectives/Aims: Students will demonstrate understanding/learning around the following Big Ideas: - Students will use Claude, a generative AI assistant, as a digital design tool to draft and iterate on a redesigned streetscape concept for a real NYC park. - Students will practice writing, testing, and revising prompts, documenting each iteration and how peer/user feedback shaped their revisions. - Students will critically evaluate AI-generated design ideas for bias, feasibility, and whose needs (age, ability, language, culture) are and are not represented.
Aligned Standards: NY State Computer Science and Digital Fluency Learning Standards (Grades 7-8): - 7-8.DL.4 — Select and use digital tools to create, revise, and publish digital artifacts. - 7-8.CT.10 — Document the iterative design process of developing a computational artifact that incorporates user feedback and preferences. - 7-8.IC.5 — Analyze potential sources of bias that could be introduced to complex computer systems and the potential impact of these biases on individuals (focus: AI systems). - 7-8.NSD.1 — Design a user interface/product for a computing technology that considers usability, accessibility, and desirability. - 7-8.IC.3 — Identify and discuss issues of ethics surrounding computing technologies and current events. Source: NYS Education Department, K-12 Computer Science and Digital Fluency Learning Standards, Grades 7-8.

Key Vocabulary and Concepts:
Artificial intelligence (AI); large language model; prompt / prompt engineering; iterative design; digital artifact; algorithmic bias; streetscape; accessibility; user-centered design; prototype.

Materials & Resources:

- Chromebooks/laptops with school-approved access to Claude (one per pair)
- Projector/screen for teacher modeling
- Printed or digital photos of 2–3 real NYC park streetscapes (e.g., via Google Maps Street View or teacher's own photos)
- "Child-Safety & Family-Friendly Design Criteria" T-chart handout
- Chart paper/sticky notes for the class Do Now
- Sample prompt starter-sentence stems (for students who need extra scaffolding)

Safety Practices:

- Review the school/NYCDOE acceptable-use and AI policies with students before the lesson; only use school-approved AI accounts.
- Remind students never to enter personal identifying information (full name, address, school, photo) into prompts.
- Teacher circulates and supervises all AI tool use throughout both blocks.
- Revisit what happens to data typed into an AI tool as part of the Day 2 bias/ethics discussion.

Preparation for Teaching Diverse Students:
Provide sentence starters and a visual prompt-writing checklist for multilingual learners and students who need extra scaffolding; pair students strategically (e.g., a stronger reader/writer with a peer who needs support); offer text-to-speech for reading AI outputs aloud.

Cultural context within which the lesson will be grounded, and specific ideas/practices to be included in the lesson:
Students draw on their own neighborhoods across all five boroughs rather than only well-known parks, honoring the diverse ways different communities use public space (multigenerational gathering, religious/cultural practices, accessibility needs, non-English-speaking caregivers). Encourage bilingual students to note where park signage/information should be multilingual.

Prior Knowledge: An ability to describe an idea in writing.

Prior Lesson: Introduction to Generative AI — What Is a Chatbot and How Does It “Think”?

Followup Lesson: Peer Gallery Walk & Community Feedback — Presenting Park Redesigns to an Authentic Audience

Lesson Overview/ Abstract:

Working in pairs, students use Claude as a design partner to reimagine a real NYC park streetscape with child safety and family-friendliness in mind. Across two 45-minute blocks, students identify design criteria, write and iterate on prompts, and critically evaluate their AI-generated design concepts for bias and whose needs are represented — building both digital-fluency skills and civic design thinking.

DAY 1 Lesson Activities		
Time	Activities	Materials
5 min	Do Now: Quick-write — “What NYC park makes you feel safest, and why?” Review AI acceptable-use norms for today.	Chart paper/sticky notes
15 min	Mini-lesson & teacher model: Introduce Claude as a design tool. Teacher live-demos writing a prompt asking Claude for a streetscape redesign of a real park, focused on child safety. Class critiques the first output as a group (what's missing? unrealistic? biased?).	Projector, Claude
15 min	Guided practice: In pairs, students choose a real park in their neighborhood and complete a T-chart listing at least 3 child-safety and family-friendliness design criteria.	T-chart handout
10 min	Exit ticket: Students draft their first Claude prompt (not yet submitted), including at least 2 design criteria from their T-chart.	Exit ticket slip

DAY 2 Lesson Activities		
Time	Activities	Materials
5 min	Do Now: Peer swap yesterday's draft prompts. Give feedback using "2 stars and a wish."	Draft prompts from Day 1
20 min	Work time: Pairs use Claude to generate their park design concept, revising their prompt at least twice based on feedback. Students document each version (what changed and why).	Chromebooks, Claude, iteration log
10 min	Bias & ethics discussion: Pairs evaluate their AI output — whose needs might it have overlooked (accessibility, non-English speakers, different ages, cultural practices)?	Discussion prompts handout
10 min	Gallery walk & reflection: Share before/after concept with another pair. Exit ticket: one way AI helped, one limitation noticed, one revision you'd still make.	Exit ticket slip

"Child-Safety & Family-Friendly Design Criteria" T-Chart

Computer Science — Using Claude to Redesign an NYC Park Streetscape

Name: _____

Park / Neighborhood: _____

Date: _____

Directions: Think about a real park in your neighborhood. In the T-chart below, brainstorm at least 3 design criteria that would make it safer and more welcoming for children and families. For each idea, explain who it helps and why it matters. You will use your top ideas to write your prompt for Claude.

Design Criteria (What would make this park safer or more welcoming for kids & families?)	Why It Matters (Who does this help, and how?)
<i>EXAMPLE: Add a fenced play area set back from the street</i>	<i>EXAMPLE: Keeps young children from running into traffic and lets caregivers relax and supervise more easily.</i>

Need ideas? *Safety: traffic calming (speed bumps, curb bump-outs), fencing near streets, better lighting, clear sightlines for supervision, non-slip play surfaces, crossing guards/signals. Family-Friendly: shaded seating, benches for multiple ages, accessible paths and ramps, splash pads, clean restrooms, signage in multiple languages, space for strollers and wheelchairs.*

My Top 3 Criteria for My Claude Prompt

1. _____
2. _____
3. _____

Prompt Starter: Redesign _____ Park to be safer and more family-friendly by adding _____, _____, and _____.