True Teamwork: Human-AI Partnership Activities

Educator's Guide to Downloaded Materials

Thank you for downloading these materials from the NICE K12 Cybersecurity Education Conference 2025 session *True Teamwork: Building Human-AI Partnerships for Tomorrow's Cyber Challenges*!

These activities are designed to reshape how students understand AI in cybersecurity, moving them beyond viewing AI as either adversary or tool and toward recognizing it as a **collaborative partner**.

Conference Session Agenda

For conference attendees, the 45-minute session follows this structure:

Phase	Duration	Description
Experience	20 minutes	Participate in a complete activity as learners, experiencing the Middle School Phishing Response Team investigation firsthand
Materials Tour	10 minutes	Guided walkthrough of the curriculum ecosystem, including implementation guides and assessment tools
Planning	10 minutes	Select grade-appropriate activities and begin developing your implementation plan
Resources	5 minutes	Access the repository, connect with follow-up support, and address questions

Session outcome: You leave with complete access to 12 lesson plans (3 activities $\times$ 4 grade bands), assessment rubrics, printable materials, and implementation guides—all ready for immediate classroom use.

What's Included

Lesson Plans (`/activities/`)

Three complete activities, each developed with four grade-band versions:

Activity 1: Security Detective Teams

Students investigate security incidents alongside an AI partner, discovering through direct experience that AI demonstrates strength in pattern recognition while humans bring irreplaceable contextual understanding. Together, they solve mysteries that neither could resolve independently.

Grade Band	Version Name	Duration	Key Features
K-2	"Mystery Helpers"	20-25 min	Picture-based clues, teacher-led AI voice
3-5	"Locked Library Computers"	30-35 min	School scenario, guided AI prompts
6-8	Security Detective Teams	45-50 min	Full investigation, student-AI partnership
9-12	Threat Investigation	50-60 min	SOC simulation, technical indicators

Activity 2: AI-Assisted Incident Response

Students assume team roles during realistic security incidents, experiencing how cybersecurity professionals coordinate with AI systems when rapid response matters.

Grade Band	Version Name	Duration	Key Features
K-2	"Fix It Team!"	20-25 min	Simple role-play, classroom tech problem
3-5	"Computer Problem Solvers"	35-40 min	Investigation teams, malware scenario
6-8	AI-Assisted Incident Response	50-60 min	NICE work roles, multiple scenarios
9-12	SOC Analyst Simulation	55-60 min	Enterprise breach, technical depth

Activity 3: Ethics in Automated Security

Students develop governance rules for AI security systems, confronting the reality that AI requires careful human guidance and that these policy decisions carry genuine difficulty.

Grade Band	Version Name	Duration	Key Features
K-2	"Robot Helper Rules"	20-25 min	Sparky the Robot, yes/no decisions
3-5	"Computer Rules Committee"	35-40 min	SchoolGuard policies, trade-offs
6-8	Ethics in Automated Security	45-55 min	Policy design, AI perspective
9-12	AI Governance Workshop	50-60 min	FERPA, stakeholder roles, real frameworks

Assessment Materials (`/assessments/`)

The assessment package includes a Human-AI Collaboration Rubric using a four-point scale, a Decision-Making Quality Rubric with the same structure, a NICE Framework Application Rubric, and a Student Self-Reflection Template designed for learners to articulate their developing understanding.

Technical Guides (`/guides/`)

The guides section provides an AI Platform Setup Guide covering ChatGPT, Claude, Copilot, and Gemini, alongside Low-Resource Implementation Strategies that prove essential for many school settings.

Quick Start Guide

Begin by selecting the grade band appropriate for your students, since all activities include versions spanning K-2 through 9-12. Next, assess your classroom's AI access level, whether full, limited, or none, and review the corresponding technical guide for your resource situation. Prepare materials for printing or digital distribution, and take time to experience the activity yourself before teaching it. Personal familiarity with the flow significantly improves facilitation.

Implementation by Resource Level

Resource Level	What You Need	Recommended Approach
Full access	1:1 devices, student AI accounts	Students partner directly with AI
Limited access	Shared devices, class AI account	Rotation stations + demonstrations
No AI access	No devices or AI available	Pre-generated response cards, teacher as AI voice

Each approach produces meaningful learning. The low-resource options frequently generate richer discussion because students cannot simply defer to AI for answers.

Suggested Sequence

While each activity functions independently, running them in sequence builds progressively sophisticated understanding:

1. **Security Detective Teams** introduces the partnership concept
2. **AI-Assisted Incident Response** applies partnership dynamics to crisis situations
3. **Ethics in Automated Security** explores the governance implications that follow from widespread AI deployment

What Makes This Different?

Old Thinking	New Thinking
Humans **use** AI tools	Humans **and** AI work as teammates
AI is either adversary or tool	AI serves as a collaborative partner
Individual competency matters	Partnership capability matters

Why This Works

The activities reflect genuine complementary strengths. AI excels at pattern recognition, identifying anomalies that humans routinely miss, processing large volumes of data with speed humans cannot match, and drawing on vast threat databases. Humans, meanwhile, bring irreplaceable capabilities: understanding context and significance, exercising judgment about appropriate action, and communicating effectively with stakeholders.

Together, humans and AI achieve outcomes that neither could reach alone. This is not merely aspirational rhetoric but an accurate description of how contemporary cybersecurity work actually unfolds.

Framework Alignment

NICE Workforce Framework (Primary)

Each activity connects explicitly to NICE Framework Work Roles, providing students with authentic exposure to professional cybersecurity pathways:

Activity	Primary Work Roles
Security Detective Teams	Cyber Defense Analyst, Vulnerability Assessment
AI-Assisted Incident Response	Incident Responder, SOC Analyst, Threat Intelligence
Ethics in Automated Security	Cyber Policy Planner, Privacy Officer, Security Manager

CYBER.org K-12 Standards (Supplemental)

Activities align with grade-band standards across the K-12 spectrum. The K-2 versions address digital citizenship foundations and basic safety concepts (K-2.DC/K-2.SEC). Grades 3-5 versions engage technology ethics and privacy concepts (3-5.DC/3-5.SEC). The 6-8 versions develop security concepts alongside ethical considerations (6-8.SEC/6-8.DC), while 9-12 versions tackle advanced analysis and policy development (9-12.SEC/9-12.DC).

Low-Resource Implementation

Classrooms without AI access can still deliver powerful learning experiences through several proven strategies.

In the **Teacher as AI Voice** approach, you embody the AI role, fielding student questions and providing AI-style responses. This method offers the distinct advantage of letting you intentionally demonstrate AI limitations at pedagogically appropriate moments.

Pre-Generated Response Cards provide another effective option. Print the response cards included with each activity and have students draw cards rather than querying live AI, preserving the investigative dynamic without requiring technology access.

The **Rotation Stations** approach works well when you have one or two devices available. Groups rotate through the AI station while others work on evidence analysis, maximizing limited technology resources.

Think-Aloud Demonstration involves projecting a single AI interaction for the whole class, with everyone participating in analyzing the exchange. This strategy ensures all students engage with the AI partnership concept simultaneously.

Finally, **Homework Preparation** leverages home AI access when students have it. Students run queries at home and bring their results to class, where the focus shifts to synthesis and discussion.

Questions & Support

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Share Your Experience

I welcome feedback about how these activities work in your classroom. What adaptations did you make? How did students respond to framing AI as a teammate? What challenges emerged? What would you change? Your insights help improve these materials for educators everywhere.

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Preparing students for a future where human-AI collaboration is standard practice rather than exception.