Worksheet: Deepfake Detective — Spotting Video Manipulations

Objective: Build awareness of deepfake warning signs and the underlying technology.

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1. Crash-Course Sidebar

A one-page primer on how deep learning generates deepfakes: - **GANs (Generative Adversarial Networks):** A Generator creates fake frames while a Discriminator learns to spot them. - **Pipeline Steps:** Data collection ⟶ Model training on facial mappings ⟶ Frame-by-frame synthesis ⟶ Post-processing. - **Common Artifacts:** Unnatural blinking, blurred edges, inconsistent lighting.

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2. Frame-by-Frame Analysis

Watch the provided video clip. Pause on four key frames and annotate potential tampering signs:

Frame #	Timestamp	Warning Signs (e.g., blinking, shadows, lip-sync issues)
1		
2		
3		
4		

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3. Tech Comparison Chart

Match each deepfake detection tool with its pros and cons:

Detection Tool	Pros	Cons
FaceForensics		
Microsoft Video Authenticator		
Deepware Scanner		

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4. Creative Exercise

Imagine you need to warn your social media followers about a trending deepfake. Draft a 140-character alert tweet highlighting key red flags:

Tweet: _____

Instructions for Teachers/Facilitators: - Provide a short deepfake video link for analysis. - Allow 20–30 minutes for students to complete all sections. - Conclude with a discussion comparing which warning signs were most reliable.

Adapt sample clip links and tool list to the latest available resources.