

Computers and Video Games

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Unit Overview

Over 3.24 billion people in the world play video games of some kind. That's over half of the global population! Video games and the culture surrounding them are important to understand since they're so embedded in our daily lives. There are plenty of debates about whether video games are "good" or "bad" for young people and society. In this unit, we'll explore some of those debates, the arguments that have been made historically and still persist today, and some specific aspects of video games like violence and monetization.

With increasing trends toward gaming with others online, streaming, and advertising with gamers, it is important for young people to be able to think critically about the games they play, how those games are made, and what kinds of impacts playing has on them. We'll explore the mental, physical, social, and emotional effects that video games have on young people. We'll also get to know some of the hardware that impacts gaming, from devices to consoles to computers and online communities.

Learning Goals + Objectives

- Understand some of the debates about video games historically and today
- Describe the video game industry and the related industries that influence it
- Critically assess and form arguments about the impacts of video games on young people - mentally, socially, emotionally, and physically
- Gather evidence and practice research skills
- Write a short paper or create an infographic about an ethical dimension of video games and the industry



Family Matters



KAPOR CENTER

Day 1 - Playing Video Games + the Gaming Industry

Learning Goals

- Learners should be able to:
 - Talk about what motivates people to play video games, how people play today, and what kinds of platforms and devices exist for video games
 - Describe aspects of the video game industry and related industries
- Learners will also practice conducting research

Essential Questions

- Why do people like gaming?
- How do video games get made? How do they get popular?
- What roles do other industries (like professional sports) play in the video game industry?

Materials + Prep

- Means of playing a video from the internet
- Means of writing (like a computer and digital document or pen and paper)

Lesson Procedure

Introduction

Group Discussion - To kick off a whole-class opening circle conversation, start by inviting learners to share their experiences with and opinions about video games.

20 mins

Example prompt questions:

What games do you play? Where do you play them?

Do you play online with friends? With strangers?

What do you know about the video game industry and how games get made?

Main Activity

Video games make up a big, complex industry—from design and development to professional playing and eSports, to streaming and merchandise. We want to understand the way these industries interact to shape what games get made, how they get made, and how we as players get to engage.

60 mins

Conducting research - Using digital documents or pen and paper to take notes, learners will conduct

their own research into these questions:

- What's the video game industry like today? How do things like smartphones, streaming, and game consoles factor in?
- What industries (or institutions, like the military) influence video games?
- Who are some of the big industry players?
- What about smaller game studios or player communities?

Allow students to research online in small groups or individually. Learners can organize their research findings with the following pieces of info:

Source - What I Learned - Connections to Other Industries or Topics

**Closure
+ Reflection**

Group discussion and share out -Come together again as a whole group and share out responses to the day's material. Prompting questions:

30 mins

- *What other industries or institutions do you think influence gaming?*
- *What kinds of factors do you think to influence the development, design, and success of a video game? What have you noticed in games that you or your friends have played?*

Here are a few examples to help your conversation if you get stuck:

Console and device manufacturing, professional sports leagues, movies and other pop culture, the military, education, arts

K-12 CS Framework Connections

- Impacts of Computing: Culture
- Impacts of Computing: Safety, Law, and Ethics
- Impacts of Computing: Social Interactions
- Computing Systems: Devices
- Crosscutting Concept: Human-Computer Interaction

Day 2 - This is Your Brain on Video Games

Learning Goals

- Learners should be able to:
 - Describe some of the mental, emotional, physical, and social impacts of playing video games
 - Understand the ethical complexity that arises when trying to determine if playing games is “good” or “bad”

Essential Questions

- What effect does playing video games have on young people’s brains?
- In what ways might playing video games impact a person’s behavior or thinking or social relationships?

Materials + Prep

- Means of playing a video from the internet
- Means of writing (like a computer and digital document or pen and paper)

Lesson Procedure

Introduction

Day 1, we talked about the video game industry and some of the trends related to video games today. Today, we’ll dig deeper into a very common debate about video games:
Are video games good or bad for you? And is it really that simple?

30 mins

Read and discuss -

Blog post: [Video Games Make You Smarter: Backed up by Research | Healthy Gamer](#)

Main Activity

Since the start of video games with large arcade machines and the first home game systems like Atari, NES, SEGA Genesis, etc, people have had debates about whether video games are “good” or “bad” for young people and society more broadly.

90 mins

Of course, it is more complicated than that! Let’s get into some of the historical and current debates about video games and their impacts.

Collaborative work -

In a class-wide digital document* (like a Jamboard, for example), invite students to **think, pair, and share**(on the document) their ideas about the controversies that come up around video games.

**Note:* This activity can be adapted without computers too! If you have a large board and things to write with, or index cards, tape, post-its, etc, learners can write down their ideas and put them together on the board.

Some prompting questions -

- What do people say are bad outcomes of playing video games?
- What do people say are good outcomes of playing video games?
- Does it depend on the game, the platform, or the amount of time spent playing? What else might this depend on?
- What about friendships and social life?

The class-wide document can be structured to include the following dimensions of video games' impact on young people:

Mental - Social - Physical - Emotional

Closure + Reflection

Group discussion and share out -

30 mins

- What are some historical and current debates about video games and their impact on young people?
- What arguments do *you* personally find most compelling, or not?

K-12 CS Framework Connections

- Impacts of Computing: Culture
- Impacts of Computing: Safety, Law, and Ethics
- Impacts of Computing: Social Interactions
- Crosscutting Concept: Human-Computer Interaction

Day 3 - Debates about Violence in Video Games

Learning Goals

- Learners should be able to:
 - Describe how violence in video games impacts mental health
 - Practice research and debate skills

Essential Questions

- What are some of the ethical, social, and/or mental health issues related to violence in video games?

Materials + Prep

- Means of playing a video from the internet
- Means of writing (like a computer and digital document or pen and paper)

Lesson Procedure

Introduction	Group discussion - Recap together some questions and concepts that came up on Day 2 – <i>How might playing video games affect your brain?</i>	15 mins
Main Activity	<p>For decades, one of the most common debates about video games has centered on this question:</p> <ul style="list-style-type: none">● <i>Are violent video games bad for young people?</i> <p>Today, we're going to dig into this question and debate the different arguments about it.</p> <p>Watch one or more of these videos to introduce learners to some of the arguments that are commonly made about violent video games:</p> <ul style="list-style-type: none">▶ Are Violent Video Games Bad For You?▶ Game Theory: Do Video Games Cause Violenc...▶ Video Games Don't Cause Violent Behavior	30 mins
	Group debate - Split the group into an even number of smaller groups (4 might be a good number to aim for). Two groups will start by debating <i>in favor</i> of the argument that violent games are bad for young	90 mins

people. The other two groups will start by debating *against* that argument.

Let learners spend ~20 minutes researching and gathering evidence for their argument. Then, let both sides debate the issue.

Team 1 - In favor of the argument

Team 2 - Against the argument

Team 3 - In favor of the argument

Team 4 - Against the argument

Each team should make a Google Slide presentation outlining their arguments.

Closure
+ Reflection

Group discussion -

30 mins

Come together as a whole group again to discuss how the debates went:

- What were some of the most compelling arguments?
- What kinds of evidence did people find and share? Did that evidence successfully support their position?
- What did it feel like to have to debate for the side you personally did not agree with?
- Did anything that came up today complicate your opinion or change your mind?

K-12 CS Framework Connections

- Impacts of Computing: Culture
- Impacts of Computing: Safety, Law, and Ethics
- Impacts of Computing: Social Interactions
- Crosscutting Concept: Human-Computer Interaction

Day 4 - Gaming Gets Monetized \$\$\$

Learning Goals

- Learners should be able to:
 - Describe what a *microtransaction* is
 - Describe how game companies use *microtransactions* to make money
 - Talk about how the design of games might funnel people into making these microtransactions
- Learners will also practice research and drafting an essay outline making an argument about some of the debates/controversies this unit covers

Essential Questions

- What is a microtransaction?
- What is monetization in video games?
- What kinds of design features influence people's behavior when playing video games?

Materials + Prep

- Means of playing a video from the internet
- Means of writing (like a computer and digital document or pen and paper)

Lesson Procedure

Introduction

So far we've talked about a few different debates and controversies surrounding video games. Today, we're going to add another ethical issue to our exploration: *monetization* and *microtransactions*.

10 mins

Group discussion - What do you think about video games where you can buy things with actual money? What about streamers and the way they are able to make money playing video games for others to watch?

Main Activity

What are some ways where the video game world might spill out into the real world? What do you think of these instances?

60 mins

Here are a few examples to get your conversation going:

- Games that leverage social media, maybe automatically posting for you

- Games with special features, items, or experiences that cost real money
- Games where streamers have massive viewerships, sponsorships, and partnerships with companies or products

Individual research -

Using digital documents or pen and paper to take notes, learners will conduct their own research into one of these questions:

1. What is monetization in video games?

How do social media companies play a part in this? Who gets to participate in the parts of gaming culture that involve monetization of streams or microtransactions like lootboxes? Who gets shut out of those experiences?

2. What is a microtransaction?

Think again about how we talked about design choices that might influence a player’s behavior or thoughts. What do you think are some ethical arguments related to microtransactions in games?

3. Are loot boxes a form of gambling?

Loot Boxes are a special type of microtransaction that allow players to purchase a mystery box in hopes of getting a particular item (or some other feature of the game). Some critics think lootboxes function a lot like gambling. What do you think?

Allow students to research online in small groups or individually. Learners can organize their research findings with the following pieces of info:

Source - What I Learned - Connections to Other Industries or Topics

**Closure
+ Reflection**

Group discussion and share-out -

20 mins

Let’s dig in again to the ethical complexity that these questions bring up.

- Do you think loot boxes are a fair way for game developers to make money?
- Do you think monetization is a fair way for game players to make money?
- What roles have monetization and microtransactions played in video game culture? Or the development of new games and trends within games?

Homework

Outline a short essay or create an infographic -

1 hour

Taking the ethical questions we've been talking about today and this week (like in Days 2 and 3 when talking about violence in video games or impacts on behavior and social life), start a draft outline to lay out your ideas about this question:

- *What elements of video games or video game culture cause controversy and debate?*



Think about your own personal responses to these debates, and use a 5-paragraph structure to craft your argument.

Introduce what the debate/controversy/question is, *and* what your personal opinion is, using the evidence you've gathered during your research time.

K-12 CS Framework Connections

- Impacts of Computing: Culture
- Impacts of Computing: Safety, Law, and Ethics
- Impacts of Computing: Social Interactions
- Crosscutting Concept: Human-Computer Interaction

Resources

-  [The Rise & Fall of Loot Boxes](#) - 25min
-  [The History Of Video Game Monetization](#) - 16 min

Day 5 - Computers, Hardware, and Devices

Learning Goals

- Learners should be able to:
 - Describe characteristics of some of the devices for playing video games, like computers and consoles
 - Describe some specific components of computers and their role in playing video games

Essential Questions

- What kinds of hardware are inside computer and gaming consoles and how do they function?
- What impact do particular hardware features have on the game-play experience?

Materials + Prep

- Means of playing a video from the internet
- Means of writing (like a computer and digital document or pen and paper)


Lesson Procedure

Introduction

We've talked about some of the more abstract parts of the video games world, but what about the actual material things that make gaming possible?

10 mins

Today we'll explore what kinds of hardware and devices are used in video games, and what broader implications they might have on the planet and for people.

 What does what in your computer? Computer p...
- 7 mins

Main Activity

Sustainability in Video Gaming and Computers

10 mins

Today, we'll explore ways that trends in video games might impact things like e-waste and recycling.

Group discussion -

Do you think a shift toward online gaming on computers, which people use for other things like work or school, signifies a "greener" way to play video games since new devices/consoles aren't necessary?


We're going to explore two dimensions to this question: e-waste recycling and "planned obsolescence."

E-Waste and Recycling -

30 mins

What happens to old tech when it dies? Lots of types of electronics need to be disposed of in special ways. This is because some of the materials that make up these computer or device parts are toxic to the environment and to humans. But what happens after those old broken tech dinosaurs are gotten rid of?

Together, watch this video:

 [The dark side of electronic waste recycling](#) - 10 min


Group discussion -

Does this change what you think about the purpose of learning about what's inside your devices and computers? What if you could repair broken and old devices, or remix them somehow? What would you need to know, and what kinds of skills and materials would you need?

Planned Obsolescence -

20 mins

Together, watch this video:

 [Planned Obsolescence Sucks. Here's Why It Still...](#) - 10 mins

Group discussion -

Why do you think that changed? Do tech companies stand to benefit from designing their products in ways that prevent people from making simple repairs? How might this change in the future?

Closure + Reflection

Group discussion -

30 mins

- What are some of the positive outcomes of learning about hardware and how to do your own repairs?
- Are repairs even feasible for some types of consoles, computers, or pieces of hardware? Why or why not?
- In the current moment, are devices and computers designed to allow people to easily make repairs? Why or why not?
- What might you envision for a sustainable tech future?

Homework

Continue working on your essay outline from the last class session. In the next class, we will workshop your outlines toward writing a final paper, or sharing an oral presentation about your argument.

1 hour

K-12 CS Framework Connections

- Impacts of Computing: Culture
- Impacts of Computing: Safety, Law, and Ethics
- Impacts of Computing: Social Interactions
- Computing and Systems: Hardware and Software
- Computing and Systems: Troubleshooting
- Computing and Systems: Devices
- Crosscutting Concept: Human-Computer Interaction
- Crosscutting Concept: System Relationships

Day 6 - Ethical Complexities of Video Games and Computers

Learning Goals

- Learners should be able to make an original argument about the ethical considerations of one of the topics they explored in this unit
- Learners will practice persuasive writing

Essential Questions

- What are some of the ethical questions, controversies, and debates related to video games and computers currently?

Materials + Prep

- Means of playing a video from the internet
- Means of writing (like a computer and digital document or pen and paper)

Lesson Procedure

Introduction

Today, we are going to wrap up and share what we've learned in the last week about the current debates and ethical questions related to video games. You'll need the essay or speech script you worked on for the last two days' homework.

5 mins

Main Activity

Sharing out in two groups -

Split the class into two groups: those who opted to write the essay and those who chose to write a speech instead.

90 mins

Allow learners to workshop their essays and speeches together. This might look like sharing online documents and writing comments, sharing printed copies, or actually talking through their writing.

Suggestions for collaborative feedback -

What is the argument they are making?
What did you find persuasive about their argument?
What kinds of evidence did they draw on?
What did you find not so persuasive about their argument?

Do you agree or disagree, and why?
How does this relate to the argument you're making
in your own essay or speech?

Closure
+ Reflection

Group discussion -

20 mins

We've talked about a lot of ethical quandaries related to video games, video gaming culture, and particular features of games. Finally, let's revisit what we thought at the beginning of our exploration.

- *Have any of your opinions changed at all since Day 1? About what specifically? Why or why not?*
- *What other questions has your research and your learning on this topic made you think about?*

K-12 CS Framework Connections

- Impacts of Computing: Culture
- Impacts of Computing: Safety, Law, and Ethics
- Impacts of Computing: Social Interactions
- Computing and Systems: Hardware and Software
- Computing and Systems: Troubleshooting
- Computing and Systems: Devices
- Crosscutting Concept: Human-Computer Interaction
- Crosscutting Concept: System Relationships