



Level 3

Welcome to Digital Nagrik

Teacher Handbook



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Lesson 1

**Welcome
to Digital
Citizenship
Level 3**

01. OVERVIEW

Welcome to Level 3 of the digital citizenship Skills course. By this time, students should already know the basics of good online conduct. They have already learned about topics such as cyberbullying, digital well-being, and how to protect their personal data. In Level 3, we will be spending less time on the basics of being a good digital citizen, and more time exploring the good and bad sides of the internet. We will explore a few new technologies, talk about how to use the internet for good, and prepare for the future as digital citizens.

In this introductory lesson, we will review a few of the basics that the students have already learned in Levels 1 and 2.

1.1. LEARNING OBJECTIVES

By the end of this lesson, students should be able to:

- Recall the key aspects of digital citizenship and apply their knowledge to real-life scenarios
- Enumerate key aspects of digital footprints
- Recall the ways in which they are not fully in control of their digital footprints
- Define the term 'threat modelling'
- List the questions they should be asking themselves about their online information and then examine their digital footprints with these five questions in mind

1.2. PRIOR KNOWLEDGE

Students should already know:

- Definition of 'digital footprint' and 'online privacy'
- The importance of ensuring their online privacy

02. LESSON PLAN

2.1. RECAP: BEING A GOOD DIGITAL CITIZEN

Slide 02

Can you recall what you have learned about being a good digital citizen in Levels 1 and 2 of this Skills course? Have you been practicing these principles and working on being kinder, safer, and more secure online?



Play this video on [what it means to be a good digital citizen](#).



ACTIVITY: WHAT WOULD YOU DO?

DURATION: 10 MIN

Let's read through a few different scenarios and think how a good digital citizen would respond.

Slide 03

Scenario 1

Your teacher Ms. Pinky creates a class blog for the English class. She grants everyone permission to compose, edit, and post comments on the blog. This is meant to inspire creative story-writing.

One day, Ms. Pinky is absent from school and Mr. Rahul is taking the class instead. Mr. Rahul is unaware of the blog and, hence, does not check it as Ms. Pinky would. Someone in the class has been posting mean comments about a student in the class.

You...

- Comment on the mean posts by saying: *This is not at all cool! I am his friend, what you are saying is not true!*
- Ignore it until Ms. Pinky returns and can deal with it.
- Get other students to post nice comments and compliments about the targeted student.
- Tell Mr. Rahul that someone is posting mean comments on the class blog and that he should inform Ms. Pinky.

Slide 04

Scenario 2

You have waited until the last minute to write your comparative essay for class. It is due tomorrow, and you are only halfway done. You are only able to start your work at 10:00 PM and you can't be up all night finishing the essay.

You run a few quick internet searches to see what other work is already out there on the subject. You find a great essay on the exact topic that you are writing about. Hooray! Now you won't have to be up all night writing this boring essay.

You...

- a. Insert a few copied paragraphs here and there into your essay.
No one will be able to tell since you are still writing most of it yourself.
- b. You decide to just copy the whole essay into your document.
You quickly go through it and do some basic rephrasing. That's enough, because you need to get some sleep!
- c. You do your research and find a few other sources that enable you to make your own comparisons and write the paper. You only sleep at 1:00 AM but, at least it is your own work.



Slide 05

Scenario 3

When Ila first got her phone, her parents were quite strict and monitored her screen time carefully. Each night, she had to give her phone back to her parents until the morning. It didn't matter to Ila because most of her friends didn't have phones anyhow.

After about six months, her parents began to trust her more and she got to keep her phone at night. At the same time, more of her friends got their own phones. Suddenly, they were messaging each other constantly.

Did you hear what happened today after school?

Who is that new kid in your class? He's kinda cute!

OMG, I'm still doing my homework, I hate school!!

If Ila keeps this up, what do you think some consequences might be?
What do you recommend that she do?

The impact on Ila could include falling grades at school, poor sleep habits, and mental anxiety about what she is missing out on. She should set a time limit for herself to be online, she can discuss with her friends about boundaries on constant chatting, she should look at her phone once she gets in bed to sleep and activate the "do not disturb" option on her phone so as to avoid receiving notifications through the night.



ACTIVITY: DIGITAL FOOTPRINTS

DURATION: 15 MIN

Although we may be aware of our digital footprints, we probably don't think about them or about our privacy settings often enough.

Slide 06



Re-examine the concept of [digital footprints](#) with this video.



KEY QUESTIONS

Slide 07

What is the key message that the speaker wants you to remember?

The speaker's main message was to think carefully when posting online. It is OK to have some fun, but one should also think about one's future self.

Teacher's Note: Pose the following questions. In 10 years, will the students be happy with or proud of what they have posted now? Have they ever spoken to their seniors about this (siblings, cousins, etc) to see if they regret any of their posts from their younger days?

The speaker mentioned how we create digital footprints for others. Have you done this? Do you tag friends in your posts? Do you ask their permission first?

Teacher's Note: Poll the students to determine how many are asking their friends for permission to post their photos. Has anyone not posted something because a friend asked them not to?

What would you do if a friend posted a photo of you that you didn't like? Have you confronted this situation before?

Teacher's Note: Ask the students what they may have done in this situation. Do they ask their friends to take the photos down? If the photo stays up, how do they feel? Have any of them become really upset and had a situation like this impact their friendships?

List three rules that you must follow before publishing anything on social media.

Think before you post. Is the post necessary and will it pass the test of time?
Ask a person's permission before tagging them in a photo or a post. Read through each post carefully before publishing online.



ACTIVITY: THREAT MODELLING

DURATION: 15 MIN

As you have learned already, protecting your privacy online is very important. But, as your digital footprint grows over time, is it possible to keep everything as private and secure as you would like it to be?

Slide 08



Play the video about [threat modelling](#) which can help us manage our digital footprint and keep ourselves secure.



KEY QUESTIONS

Slide 09

What are the five important questions to ask about managing data that is already “out there” online?

1. What do you want to protect?
2. Whom do you want to protect it from?
3. How likely is it that you will need protection?
4. How bad will be the consequences if you fail?
5. How much trouble are you willing to go through to avoid those consequences?

What were some suggestions given in the video to help you protect your privacy?

Use messaging apps that support end-to-end encryption. If you have a device given to you by an organization like your school, you should make sure not to search for things that the school would not allow. Use a VPN (Virtual Private Network) to log in when using an open Wi-Fi spot. Do not share passwords and use a strong password always.

What were some recommendations about passwords?

Use a string of random words. Simple changes like using “\$” for an “s” is relatively common as is using multiple exclamation points at the end of your password. The other main point was to make sure not to give out your password to anyone. Since this is the main way to keep your accounts safe, you should not be giving the information out so easily.

What are the key accounts or data that you would like to keep safe from online predators?

Information such as your full name, your date of birth, your home address, any account details like a bank account.

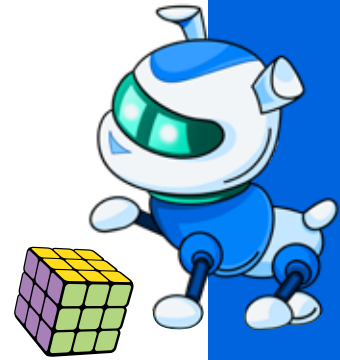
What are some consequences you might face if you fail to keep this data safe?

Teacher’s Note: Ask the students how likely they think it is that they might fall victim to online fraud. Do they think it possible that a hacker would start collecting data on them over time? What about if in 15 years the student becomes famous? What about the accounts that they are setting up now? Would that data be available in 15 years? Do they think about their digital footprint in those terms?

TAKE-HOME ACTIVITY: REFLECTION

Slide 10

Think deeply on the five key questions outlined in the video about threat modelling and record your thoughts. Write what actions you feel you can take to help keep your data as safe as possible.



KEY QUESTION	YOUR REFLECTIONS
What do you want to protect?	Accept all answers.
Whom do you want to protect it from?	Accept all answers.
How likely is it that you will need protection?	Accept all answers.
How bad will be the consequences if you fail?	Accept all answers.
How much trouble are you willing to go through to avoid these consequences?	Accept all answers.

Based on my reflection, I will take the following actions:

Accept all answers.

Teacher's Note: The point is for students to focus on the bigger items and ensure that data is safe. For example, if they have a bank account that they are accessing online, then the password for that account should absolutely be strong and they should guard that information carefully. The consequence is that all the money in their account could be stolen if they are hacked. In a case like this, the trouble to protect this information is warranted.

03. ADDITIONAL RESOURCES



1. Video | [“Human Rights in the Digital Age”](#), UN Human Rights, 21 November, 2018



2. Article | [“Digital Privacy Comes at a Price. Here's How to Protect It”](#), Robert Muggah, World Economic Forum, 8 September, 2021



3. Video | [“Think Your Email's Private? Think Again”](#), TED Global, October 2014

Lesson 2

**Online
Friendships
- Safe or
Unsafe?**

01. OVERVIEW

The digital world has become increasingly real over the last decade. In addition to the relationships that students have in real life, they also have online ones, sometimes with the same people. However, they may also form friendships with people they have never met in real life or people that they have met only once. Being aware of the situation and their comfort level is important, as is giving these new friendships time.

How much do students share, what information or feelings do they wish to keep private, and how do they draw boundaries? These are all critical questions to reflect upon.

1.1. LEARNING OBJECTIVES

By the end of this lesson, students should be able to:

- Analyze their online friendships from a safety perspective
- Explain whether information is safe or not safe to share with an online friend
- Recognize 'red flag feelings', think through different options, and respond appropriately to a situation

1.2. PRIOR KNOWLEDGE

Students should already know:

- The basics of social media platforms and their usage
- Safety precautions to navigate websites and common applications

02. LESSON PLAN

2.1. EXPLORING ONLINE FRIENDSHIPS

Slide 02

Ask how many students use texting to communicate with their friends. Which apps do they normally use for texting or when they are online?

Potential responses: WhatsApp, Instagram, DMOnline, Snapchat, Discord, Google Chat.

Let's now talk about our online community and the different people we interact with through our phones. Ask: *Who are the people you interact with online? Do you personally know all of them?*

Potential responses:

- Friends or "followers". Some they know personally; others they don't. For example:
 - Some are friends, or friends of friends, whom the students might have met once or might only know through mutual online friends.
 - Some can be complete strangers (this is a possibility but it's unlikely that a student would admit to this).
 - People who participate in a common online activity like fellow gamers.
- Celebrities whom the students might follow. They may send DMs, react to stories, comment on posts, etc.

Slide 03



Play the video exploring [who we talk to online.](#)



KEY QUESTIONS

Slide 04

What are the pros and cons of online communications with your friends?

Pros: Sometimes it's easier to talk to someone about your challenges or share things when you are not face-to-face. You may be able to reach someone quickly as they are likely to check their messages.

Cons: You can end up oversharing or wishing that you had not written things down which could more easily be shared with others. You cannot see someone's body language or facial expression to get a good understanding of their reactions.

What are the positives and negatives of having online friends that you have not met face-to-face?

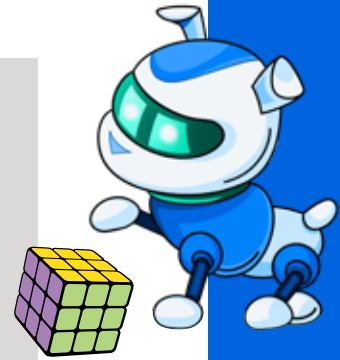
Pros: You can meet people with similar interests. You can expand your social network.

Cons: You don't really know who you are talking to so it's difficult to trust them completely. You are unsure about their intentions or motivations. You run a risk if you share too much information, and that they might not be who they say they are.



Teacher's Note: Ask the students if any of them would like to share an experience—whether positive or negative—of an online friendship with someone they have not met face-to-face or maybe only met once.

Ask: How has online schooling impacted their ability to meet people face-to-face and become friends with them? For example, during online school, were there any new students who joined their class? Did they befriend these new students? What was their experience?



ACTIVITY: SCENARIOS: TWO ONLINE FRIENDSHIPS

DURATION: 15 MIN

Ask: *Is it important to consider how well you know a person before you share information about yourself? What would you share with someone you just met in real life?*

If students answer that they would not share such personal information in real life but feel comfortable doing so in online relationships with people who they barely know, explore the reasons.

Potential responses:

- *We feel that we are understood*
- *To connect*
- *As the person is a stranger, we feel that they won't judge us*

Ask: *What is private information?* Remind them that they have learnt about this in Level 1.

Desired response: **Private information** is information about you that can be used to identify you because it is unique to you (like your full name, your student ID, your phone number, or your physical address).

Let's explore the situations described below and consider how we would handle them.

Teacher's Note: Ask students to read aloud the scenarios below.

Slide 05

Scenario 1

Priya loves taking pictures and posting them on Instagram. A few months ago, she noticed Rahul_chat had liked several of her photos and commented: *You are so talented!*

Priya was flattered. Then she received a private message from Rahul_chat asking whether she was a professional photographer or if she wanted to be one someday. Priya responded that it was her dream to be one when she grew up.

Now they talk a lot through private messaging. Priya also posts comments on Rahul_chat's photos, which are mostly of random objects and nature scenes. Last week, Rahul_chat asked if she would post more selfies because: *I think u r pretty*. Rahul_chat also messaged her a mobile phone number so that she could send more pictures. He then texted: *Just don't tell anyone I gave you this*

Slide 06

Scenario 2

Priya's basketball coach connected her with Neel, a player he coaches from another school. Priya and Neel have other common interests, like music and gaming. They have been chatting off and on for about a month through a social media messenger app.

They talk about games and problems they are having at school with friends. They have also told each other their favourite teams and players. Last week, Neel sent Priya some memes of basketball players that included some bad language and inappropriate images. He mentioned that she should probably make sure her parents don't see it.



KEY QUESTIONS

Slide 07

Which of the two situations is riskier? Why?

Teacher's Note: Clarify that the friendship involving Rahul_ chat would be considered riskier because Priya doesn't know him in person. She doesn't know anything about who this person is or how he interacts with others. Neel was introduced to her through someone she knows. While this does not eliminate the risk that this person is not real, it does lower the risk somewhat.

Have you ever had an uncomfortable or awkward interaction with someone online? What did you do?

Teacher's Note: Call on volunteers to share their experiences. Point out that these sorts of interactions are often the result of someone doing or saying something inappropriate, which is not acceptable.

Tip

- Always be careful when sharing information online, especially if you do not have any real-life connections with the people who will be viewing the information.
- Never share private information online, even if you know the person in real-life.
- When in doubt, ask a parent or trusted adult.



2.2. FEELINGS AND OPTIONS

ACTIVITY: GROUP DISCUSSION

DURATION: 15 MIN

Divide the class into smaller groups, half of which can work on Scenario 1 while the other half focuses on Scenario 2. Ask them to discuss the following questions and write down their answers in their student handbooks.



KEY QUESTIONS

What is Priya feeling?

Accept all answers. See below for more detail on each scenario.

Why is the situation challenging for her?

Accept all answers. See below for more detail on each scenario.

Possible answers:

Scenario 1:

- Priya may feel anxious or uncomfortable. She doesn't know Rahul well and would not be able to trust him.
- If she does share the pictures, Rahul may continue to ask for more pictures or share them with other people whom Priya may or may not know. He may also share her phone number with others.
- If she doesn't share her pictures, then Rahul may get upset, stop talking to her or do something to embarrass her publicly.

Scenario 2:

- Priya may feel anxious or uncomfortable with the pictures and the bad language.
- If she does not say something, Neel may continue sending her inappropriate memes, which she is quite sure her parents won't approve of.
- If she tells Neel that she feels uncomfortable, he may get upset, or stop talking to her.

How could Priya handle this situation? Write down the different options available to her. Come up with as many ideas as possible! Then circle the option you think will have the most positive outcome.

Accept all answers. See below for more detail on each scenario.

Possible responses:

Scenario 1:

- Priya could send a few selfies.
- She could ignore or block him.
- She could change the subject.
- She could ask a trusted adult for advice.

She could say: *No I don't share photos privately.* Or she could say: *No, I don't know you.*

Or: *You are silly, why would I do that?*

Scenario 2:

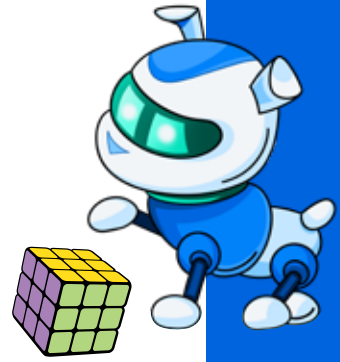
- Priya could stay silent and continue to feel uncomfortable while Neel continues to send stuff that makes her even more uncomfortable.
- She could block him.
- She could ask a trusted adult for advice.

She could say: *I am uncomfortable with the pictures and language in the memes, can you stop sending me such stuff?* Or: *My parents can access my phone so it's not possible for me to keep this from them.*

Which option did your group choose from all those you brainstormed? What were the reasons for choosing it?

Teacher's Note: Ask the different groups to share their considered options along with the one that they chose and the reason for their choice.

Accept all answers.



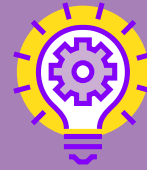
Review the below definition of a red flag feeling.



Did You Know?

A red flag feeling is when something happens to make you feel uncomfortable, worried, sad, or anxious. A red flag is a warning of a possible problem—a “gut feeling” that something is just not right.

An example of this might be when you feel that someone should not ask you such a thing or when you are asked to do something that you should not be doing.



Ask if students can give an example of a situation that might cause a red flag feeling. Possible responses:

Someone is...

- *Asking me about something private (phone number, address, school I attend)*
- *Making me feel pressured to do something*
- *Asking to meet me in person*
- *Inviting me to chat but asking me to not tell anyone else*

When you have a red flag feeling, it's important to slow down, pause, and think about how you're feeling. Taking these steps will help you think through the options you have for handling the situation.

ACTIVITY: REFLECTION

DURATION: 2 MIN

Consider each of the questions below and write down your responses.



KEY QUESTIONS

Slide 10

How will you use what you have learned today in your own online friendships?

Students should be encouraged to evaluate their online friendships. If they are making friends just to have a higher friend count on social media or because someone requested to follow them, they should think about whether those are safe and healthy friendships. They can consider relooking at their friend lists on social media and deleting those of people who they don't really know that well.

If you could give Priya one piece of advice for her online friendships, what would it be?

Accept all answers. Priya should learn to be more cautious and not to trust people just because of their appearance or because they say nice or flattering things. She should examine friend requests more critically, especially from people she does not personally know.

03. ADDITIONAL RESOURCES



1. Article | [“Online Safety”](#), KidsHealth, April 2018



2. Article | [“Teens, Friendships and Online Groups”](#), Monica Anderson, Jingjing Jiang, Per Research Center



3. Article | [“Things to Watch Out for with Online Friends”](#), eSafety Kids, eSafety Commissioner, Australian Government



4. Article | [“ Making Online Friends the Safe Way”](#), Get Safe Online



Lesson 3

Relationships and Boundaries

01. OVERVIEW

Relationships are important to us all—whether friends or family. But at times, it can be a challenge to keep everything balanced. The teen years are marked by a distinct desire to be one’s own person with the freedom to pursue and explore one’s interests independently. Friendships become increasingly important as they provide teens with a safe space to share, confide, and derive support from each other. However, it’s also possible that the constant presence of digital devices and social media make a complicated mix, and these same relationships can sometimes become overwhelming and get in the way of self-care and mental well-being.

1.1. LEARNING OBJECTIVES

By the end of this lesson, students should be able to:

- Identify the similarities and differences in dealing with relationships in person and online
- Reflect on how their relationships are affected by always-on connected devices
- Identify the qualities of healthy and rewarding relationships
- Brainstorm strategies for navigating challenging relationships

1.2. PRIOR KNOWLEDGE

Students should already be familiar with:

- Common texting and messaging apps

02. LESSON PLAN

2.1. CONDUCTING OUR RELATIONSHIPS IN PERSON AND ONLINE



ACTIVITY: DISCUSSION

DURATION: 5 MIN

Ask students how often they chat or text with their friends. Invite learners to share their responses. Follow up by asking them how messaging and in-person conversations are different. Are the conversation topics different depending on the online or offline nature of the discussion?

Ask students to highlight similarities and differences in how learners communicate with friends using devices and in person, particularly any differences related to frequency.

Slide 02

In the table below, list the ways in which texting or messaging is similar to and at the same time different from speaking to your friends in person (face-to-face).

Is there a difference in what you talk about and how? Explain.

SIMILARITIES	DIFFERENCES
<p>Possible answers:</p> <p>They enjoy spending time conversing with friends.</p> <p>They like to discuss common interests, school, and activities.</p> <p>They have developed a sense of connection.</p>	<p>Possible answers:</p> <p>Sometimes conversations feel more real when done face-to-face rather than over text.</p> <p>Frequency of communication is higher on the phone.</p> <p>Phone interactions can be continuous even in the middle of the night.</p> <p>In person you can do other things besides chatting.</p>

2.2. FRIENDSHIPS, DIGITAL DEVICES, AND SOCIAL MEDIA

Slide 03



Play the video on [friendships and boundaries](#).



KEY QUESTIONS

Slide 04

Which are the apps that you use to stay in touch with friends?

Possible responses: Facebook, Instagram, WhatsApp, Snapchat, Telegram, Discord.
Accept any other responses as well.

How often are you texting or messaging with your friends? Do you think it is too much, not enough, or just right?

Accept all responses.

Note down how devices and social media affect your friendships. Is it more positive or negative?

Possible responses:

- The teens shared both benefits and drawbacks of using devices and social media to connect with their friends.
- Positive aspects: Feeling connected to one another and being able to get support from friends more easily.
- Negative aspects: Invasion of privacy and over-communicating, which can be irritating and overwhelming if there are no boundaries.

What boundaries have you created when communicating with friends online? Would you like to set boundaries?

Desirable responses:

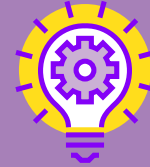
- *I would like to monitor the online time I spend and probably limit it.*
- *I would also like to explore new things in addition to generally chatting.*
- *I could try substituting some of my 'online time' with real time (face-to-face).*
- *We could consciously meet without our devices or schedule activities which are device-free (e.g., sports, any other physical activity like dance or a walk).*

2.2. SETTING BOUNDARIES

Slide 05

Boundaries

Limits and invisible lines that we set for ourselves. They are guidelines on what we feel comfortable with and the expectations we have of the people we interact with.



Discuss with students that there are boundaries in all of our everyday lives. For example, in school, they would not text with their friends in the middle of a class. Or, they may not take their phone into the bed and text all night long. Boundaries are a way of establishing rules or modes of operating with one another. Just as you would not utter swear words in front of your parents or grandparents, you can create communication boundaries with your friends as well.

ACTIVITY: TWO FRIENDS: A SCENARIO

DURATION: 10 MIN

Slide 06

Break the class into small groups of 2-4 students. Ask students to read the scenario and discuss the key questions.

Arin and Gaurav are classmates and close friends. Gaurav's father recently gave him his old phone and Gaurav immediately joined the social media world. Both Gaurav and Arin are sports enthusiasts and they love to follow their favourite football teams online.

Since Gaurav got his phone, Arin wanted one too. He worried that he was missing out, not knowing what was happening outside of school. His joy knew no bounds when his grandparents gifted him a phone on his birthday. He quickly joined social media and started messaging Gaurav every day. At first, Arin was happy to stay in touch with friends after school.

However, lately, Gaurav has made many new friends who regularly get together for online gameplay. Arin finds it hard to make time for gaming, which annoys Gaurav. Arin feels bad for letting his friend down.

Every time Gaurav has a disagreement with one of his gaming friends, he sends long messages to Arin or even calls him late at night. This takes up a lot of Arin's time, but as he wants to be supportive, he doesn't complain to Gaurav. The constant calls and messages have become overwhelming. He is also worried about his friend. Arin feels that he needs to set boundaries but he isn't sure how.



KEY QUESTIONS

Slide 07

Who are the people involved in the above scenario? Why might the situation be challenging for each of them?

Arin and Gaurav. They are feeling challenged because Gaurav is fighting with his online friends while Arin is getting pulled into the drama as a friend to Gaurav. Arin is feeling bad because his studies are being impacted by the amount of time he is now spending counselling and advising Gaurav.

How could this situation be handled? Come up with as many ideas as possible. Choose one option that might lead to a positive outcome for both boys.

Teacher's Note: Ask each student group to share their options and why they chose them. Ask them to share what Arin could say to Gaurav. What would be the best possible way to convey his feelings to Gaurav? Over a text, phone call, in person or an email. Why?

Remember

- Label your feelings. It's important to first understand your own feelings to set effective boundaries. Is it anger, frustration, disappointment, or hurt that you are feeling?
- If you have a feeling that something is not quite right in a friendship, listen to your gut feeling.
- It is perfectly OK to say "no" to a friend.



ACTIVITY: ROLE PLAY

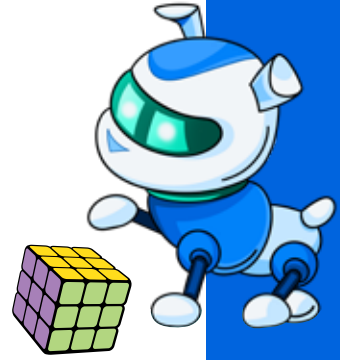
DURATION: 5 MIN

Slide 08

Create a short script in which Arin shares his concerns with Gaurav in an assertive manner.

Teacher's Note: Ask students to think about how Arin might speak to Gaurav to set some boundaries on topics like frequency of texting or time of day or night when Arin will not respond to a text message. How can Arin let his friend know that although he wants to support his friend, he also needs some space and time to do other things like interact with other friends, time for studies and school work, etc.?

Ask a few of the students to share their work with the class.



03. ADDITIONAL RESOURCES



1. Article | [“Social Media Use May Affect Teenagers’ Real Life Relationships”](#), The New Indian Express, 22 February, 2018



2. Video | [“The Problem with Parents, Kids, and Social Media”](#), The Atlantic, 10 September, 2018



3. Article | [“5 Ways to Help Teens Set Boundaries with Friends”](#), Barbara Greenberg, US News and World Report, 13 February, 2018



4. Article | [“Resisting Peer Pressure: How to Set Healthy Boundaries with Friends”](#), The Social Impact Firm



Lesson 4

**Fear of Missing
Out (FOMO)
and Your
Mental Health**

01. OVERVIEW

In this digital age, exploring one's identity, pursuing different interests in addition to school and nurturing friendships can often mean that students are connected 24x7. They may think that they are multitasking efficiently, but all this can take a toll on their physical and mental health. By knowing how to spot the warning signs and create strategies for change, students can learn how to take good care of themselves and their mental well-being.

1.1. LEARNING OBJECTIVES

By the end of this lesson, students should be able to:

- Define 'FOMO' (fear of missing out) and explain how it might drive increased screen time
- Critically analyze the reality of their social media feeds
- Explain the impact of excessive screen time on physical and mental health
- Evaluate their screen time habits and decide if they need to make changes to them

1.2. PRIOR KNOWLEDGE

Students should already know:

- The culture of social media posting and photo sharing
- Their personal habits regarding screen time and social media usage

02. LESSON PLAN

2.1. DISCUSSION

DURATION: 5 MIN



KEY QUESTIONS

Slide 02

What is your average screen time in a day, not including schoolwork? Do you know?

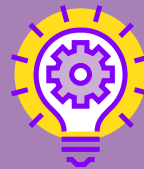
Accept all answers.

What do you spend most of your online time on?

Teacher's Note: Students may say entertainment like YouTube or movies or shows, gaming, messaging with friends. Probe if there are any students who are constantly checking what others are doing or checking their likes or views on posts and stories. This could be due to FOMO.

Did You Know?

US teens spend an average of more than seven hours per day on screen media for entertainment, and tweens spend nearly five hours—not including time spent using screens for school and homework.



Teacher's Note: Based on the class average answer, what do they think that the India number might be? What is the basis of their estimation? Many teens might be underestimating their screen time. Try sharing your own experience on this to encourage honest disclosure.

2.2. FOMO – “FEAR OF MISSING OUT”

DURATION: 5 MIN

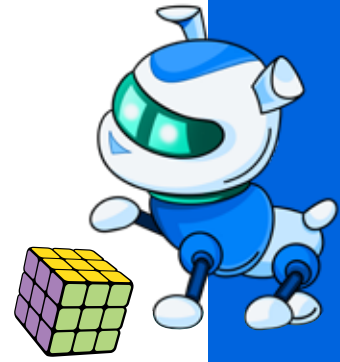
Have you heard the expression ‘FOMO’ before? What does it mean to you?

Slide 03



Play the video
about [FOMO](#).

Refer to the line from the video: *Your social media activity is not your life per se.*
Ask the students what this might mean to them.



ACTIVITY: CASE STUDY

DURATION: 10 MIN

Slide 04

In small groups, read and discuss the case study given below.

Ananya and Teena

When they were growing up, Ananya always looked up to Teena, the older girl from the flat just opposite hers. They were often together, riding bikes, having sleepovers, laughing, and having a good time. The older Teena got, the more Ananya could see her personality changing. She often seemed stressed about becoming popular at school, something that had never bothered her when they were younger.

They spoke less and less as time went by. Ananya would often see Teena’s social media where she was constantly posting pictures and selfies claiming to have been to fabulous parties or gone on shopping sprees, events that Ananya knew never happened.

One day, Ananya decided to go see Teena as she was worried about her friend. Teena looked so tired and worn out, not at all how she looked even two years back. After a long conversation, Teena admitted that she was suffering. She wanted to be popular, to keep up with the others at school who do these fabulous things. She didn’t want to feel left behind but she was more miserable than ever. She could barely sleep at night and her grades had been suffering too.



? KEY QUESTIONS

Slide 05

**Why would Teena make up stories to post on social media?
Is she suffering from FOMO?**

Teena is interested in portraying a certain lifestyle to others. She is mainly interested in trying to seem like she is just like the popular students. She certainly seems to be obsessed by this goal and has FOMO.

What advice should Ananya give to Teena to improve her mental health?

Teena needs to really think about the people that she is trying to emulate. Is it worth it to act like someone who you are not? Would she be much happier just being herself? She should also consider if she should take a step back from social media for a while. She can rekindle her friendship with Ananya.

Is there a difference between your real life and what you choose to post on social media? Explain.

Accept all answers.

Teacher's Note: Students might not be willing to discuss these differences and expose themselves. Share stories of your own experiences of these differences between the offline you and the online you. Have you seen any examples from friends or family members?

ACTIVITY: PAIR UP AND REFLECT

DURATION: 15 MIN



Play the video about [social media and friendship](#).

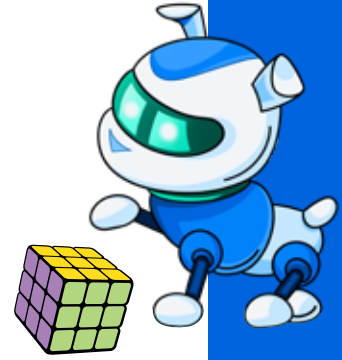
Slide 06

Have students watch the video and then put them in pairs and ask them to go through the key questions. Once they have shared with each other, lead a discussion on consequences of FOMO and always staying connected by asking the following:

- What happens when you are always connected or trying to keep up with your friends or the latest trend?
- How does it impact your own moods, mental health?
- How does it impact your day-to-day life, school, friendships, and other commitments?

Possible responses:

- *We feel anxious and stressed.*
- *We are distracted and cannot focus.*
- *Our sleep patterns get affected and that makes us even more exhausted.*
- *It impacts our relationships (family and friends) adversely.*



? KEY QUESTIONS

Slide 07

One of the students in the video mentioned that even when he and his friends are spending time together, they tend to be on their phones. Does that happen to you?

Explain.

Possible answers: *We are multi-tasking because we are also getting messages from other friends that are not with us. We don't have much to talk about because we have already been exchanging messages prior to meeting face-to-face. My phone is a place that I can go when I don't know what to say to someone or there is an awkward pause in the conversation.*

What kinds of stories are you posting on social media? Do you try to make your story seem exciting, even if it is only a study session?

Possible answers: *We want others to feel jealous that they are not with us. We want to make ourselves feel better about having to study. We don't think that deeply about it and in a study break, we just want to have fun and reach out to our friends online to see what they are up to.*

Do you always tag all the friends who are in your photos or posts? Have you ever not tagged someone who was with you in the photo?

Possible answers: *Sometimes I am in a hurry, and I forget to tag someone, especially if they are not in the photo. Sometimes, I want to make sure that a certain person sees the photo, so I will tag them so that they can see it, even if they are not in the photo.*

Slide 08

Think about the last time someone said to you: *You totally missed out that day! You should have been there!* How did it make you feel? How did it make your friend feel?

Possible answers: *It makes me feel bad when I am left out and then something fun or exciting happens. It can be especially hurtful if I was not invited to begin with and then my friends ask me why I was not there.*

Teacher's Note: Probe if any of the students have ever lashed out at their friends when they were not invited and then later told how fun an outing was or asked why they didn't attend.

What are some activities or events that you would hate to miss out on? Why?

Accept all answers.

Do you think FOMO can be stressful? Can it affect your friendships or your mental health? How?

Teacher's Note: Students might constantly be worried that their friendships are changing and that they are being abandoned by their friends. This might be more acute if they have been left out of activities in the past. They might also worry that if there is a gathering that they are not invited to that their friends might be gossiping about them behind their back. The desire to belong is strong in the early teen years and the constant FOMO can only aggravate the situation and make the students feel uneasy.

Slide 09

Discuss the factoid below. Are students who express FOMO mainly on apps with their friends or with strangers? Do they see or acknowledge a performative aspect to these platforms? Have they taken any steps to allay their fears?

Did You Know?

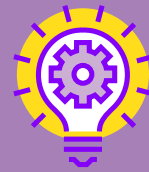
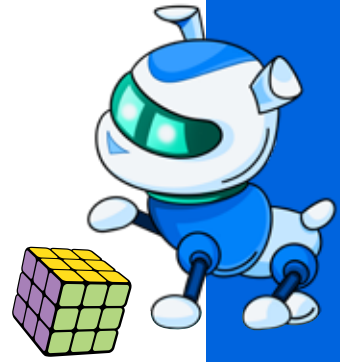
Several studies have confirmed that FOMO can be experienced by people of all ages.

One study found that FOMO was greater on social media platforms where there is a high degree of overlap with your offline friends.

In other words, if most of your friends are regularly posting on Instagram or Snapchat, you might have higher levels of FOMO and check those accounts often to see what you are missing.

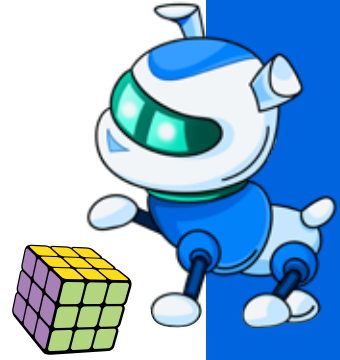
But, if you mainly use Twitter or YouTube, where your offline friends are not your primary connections, then your FOMO may be lower.

The National Stress and Well-being Survey in Australia found that teens who checked their social media more frequently (five or more times a day) are significantly more likely to experience aspects of FOMO. Worries range from missing get-togethers to being left out of inside jokes.



ACTIVITY: TACKLING OUR FOMO

DURATION: 5 MIN



? KEY QUESTIONS

Share two things that you can do to deal with the fear of missing out.

Accept all answers. Refer to the below box for some ideas on how to tackle FOMO.

Slide 10

Tips to Tackle FOMO

- Escape the fast-paced world of social media by taking a break from logging in.
- Remain more mindful of important human relationships. Live in the now, engage in person.
- Reclaim the time otherwise spent on social media. Spend time with your pets, pick up that favourite hobby again, speak to or visit an elderly family member, or volunteer for a good cause.
- Find comfort in your own life and celebrate what and who you have around you. Practice gratitude.
- Accept that we all have limited time, and that we can't possibly participate in everything.



ACTIVITY: SELF-ASSESSMENT

Take this short quiz to help evaluate your screen time on social media.

1. How much time do you usually spend on social media daily?

- A) Less than an hour
- B) 1-2 Hours
- C) 3-4 Hours
- D) 5-6 Hours

2. You've taken a photo. How long does it take you to edit and upload it?

- A) About a minute
- B) A couple of minutes
- C) 5-10 minutes
- D) Half an hour

3. When are you most often distracted by social media?

- A) Very rarely
- B) When I'm eating
- C) During conversations
- D) When I'm supposed to be doing work
- E) All the time

4. Do you feel your social media use is negatively impacting your relationships?

- A) Absolutely not
- B) I don't think so
- C) I've been told off a couple of times
- D) Only with certain people
- E) Yes, quite a bit

5. Has anyone close to you ever complained about your time on social media?

- A) Never
- B) Maybe once or twice
- C) My parents
- D) My teachers
- E) Yes, every time I go on my phone

6. Do you scroll through social media near bedtime or when you are in bed?

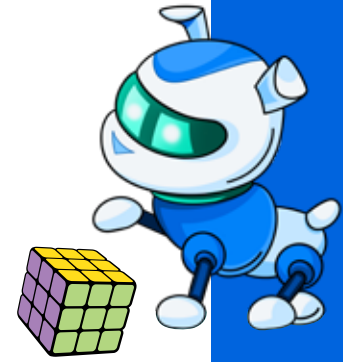
- A) Never
- B) I only answer text messages
- C) I have a little scroll
- D) I try to limit it to around 30 minutes
- E) Definitely!

7. How often do you check social media notifications?

- A) Once a day
- B) A couple of times throughout the day
- C) Every couple of hours
- D) Probably once an hour
- E) Every 10-20 minutes

8. When you do not have access to social media, how do you feel?

- A) It doesn't bother me
- B) Relaxed
- C) Bored
- D) Like I'm missing out
- E) Anxious



9. How would you feel if you got no likes on a post?

- A) I do not care
- B) Meh. It probably wasn't a great post!
- C) Must. Try. Harder.
- D) I'd ask friends to like it
- E) Embarrassed, I'd delete it

Show the results slide only after the students have taken the self-assessment.



RESULTS

Now, tally your responses and check them against this key.

Mostly As – Off the Grid

You really don't care about social media. You post maybe once a month so that distant relatives know you're around. You like to communicate with friends face-to-face.

Mostly Bs – Casual Browser

You love to scroll through Twitter and garner all of your inspiration from Instagram. It's not a bad thing to take inspiration from others, but you make sure to look at a variety of accounts to hone in on your own style and preferences, rather than just following the crowd.

Mostly Cs – Timeline Trapper

Neither one extreme nor the other, you can embark on an hour-long scroll, but you also know when to put the phone down. Work on asking yourself whether your time spent on social media is adding to or detracting from your life, and answer honestly.

Mostly Ds – Super Social

You often find yourself in a social media hole. You post every day across all accounts and have to document your every move. When you're out, try challenging yourself to keep your phone away so you aren't tempted to update your location or post your #favenewdish.

Mostly Es – Can't Stop Scrolling

You've probably got RSI (repetitive strain injury) in both thumbs and are overcome with anxiety and FOMO when separated from your phone. You show no signs of slowing down though. Try turning off notifications and use your phone's screen time settings to restrict your use.

03. ADDITIONAL RESOURCES



1. Article | [“How to Deal with FOMO in Your Life”](#), Elizabeth Scott, Verywell Mind, 25 April, 2021



2. Article | [“How FOMO Impacts Teens and Young Adults”](#), Sherri Gordon, Verywell Family, 6 January, 2022



3. Video | [“Are You Living an Insta Lie? Social Media vs. Reality”](#), Ditch the Label



Lesson 5
**Civil
Discourse
Online**

01. OVERVIEW

Controversial topics often lead to passionate feelings either for or against the topic. Some people take to social media to express their views, often in response to a news article, a statement from an official, or even a TV show or movie's portrayal of the topic. Due to the nature of social media, it is possible that things could get out of hand. By understanding the concept of civil discourse, students can avoid the headache that comes with being drawn into a flame war with someone.

1.1. LEARNING OBJECTIVES

By the end of this lesson, students should be able to:

- Understand how a flame war could get started
- Identify characteristics that will cause a flame war to escalate
- Define the terms 'internet troll', 'flame war', and 'civil discourse'
- Identify tips to avoid a flame war

1.2. PRIOR KNOWLEDGE

Students should already know:

- The basics of netiquette and golden rules about internet civility
- Social media basics

02. LESSON PLAN

2.1. DEBATE



ACTIVITY: CLASS DEBATE

DURATION: 25 MIN

Slide 02

In this activity, your class will be debating whether there should be homework assignments in your school.



Play the video about the [pros and cons of homework](#).

Notice how the arguments for or against homework are being discussed.

Teacher's Note: Ask the students to share their thoughts about homework. Ask: *How much homework do you have each night? Do you like homework? Do you feel that it helps you learn more? Do you also go for tuitions after school to improve your scores in school or board exams?*

The purpose of the below activity is for students to see how easily a flame war or uncivil conversation can be started online. We are using a Twitter-style debate because it limits the number of words which can be used. Ideally, if the students can be physically separated it will also help in the concept of "dehumanization" of the other group. For this reason, the students should not use their names but will be assigned generic names like Student A or Teacher A.

Assign one or two students in each group to be instigators who will push the whole team to respond in a more negative or combative style. (These students should not be known to the group, or their actions will be less effective.) Use the below example tweets as the starting point of the tweets.

Each team will need supplies of paper, pens, markers, and tape or pushpins. The tweets will be written on a paper and then posted to the board for the whole class to see and respond to. As many tweets as possible can be generated within the time limit.

This debate will take the form of a Twitter-style chat. There will be no spoken words between the teams. Everything will be communicated using the Twitter style of chatting (tweets).

Team 1 will be students: The students hate homework because it creates too much work. They want it stopped.

Team 2 will be teachers: The teachers love homework and use it to teach students. They do not want it stopped.



Note

This will be done in real life using pen and paper. No use of Twitter will be allowed for this activity.

No profanity or swear words will be tolerated in this debate. If any "tweet" uses a swear word, it will automatically be thrown out and your "account" will be suspended.



Slide 03

Tweet Debate Rules

- A tweet can be no more than 20 words long. This includes abbreviations or chatspeak.
- Use no more than 3 emojis.
- There must be no profanity or swear words in any tweet.
- Each team can generate as many tweets as possible in the allotted time.
- Each team member should have a Twitter name. Names will be Student A, Student B, Student C or Teacher A, Teacher B, Teacher C, and so on.
- All tweets should be labelled either as "new tweet" or "responding to student A". This starting phrase will not count in your word count.
- All tweets should be written on a piece of paper which will be displayed on the board for all to see. Please write your tweets large enough to be read from a distance.
- Your teacher will decide the time limit.

Slide 04

Examples

Student A: New Tweet: *HW is soooo lame! and Mrs Jones gives the worst HW, I hate her class*

Student J: Reply to Student A: *Lucky you don't have Mr Smith, 1000% worse than Jones. up til 12 last night for no good reason*

Teacher C: New Tweet: *These kids always CRY about HW, they need to buckle up, get it done and learn someth🤔!!*

Teacher F: Reply to Teacher C: *Seriously! We didn't even have the internet and we got it done! #oldschool #snowflakes #teachersrock*

Teacher's Note: Divide the class into two groups. One group will be the students and the other group will be the teachers. They can coordinate their tweets as a team or they can tweet individually (preferred because there will be more action).

Each team is given 1-2 minutes to get settled and assign the names for everyone in their group. Once settled, the tweet war can begin. Give the students a time limit of 5-7 minutes as you see fit. Ensure enough time is given for them to get into the flow of sending out tweets.



ACTIVITY: REFLECTION

DURATION: 15 MIN

Lead the debrief on the Twitter chat. The students should understand that these kinds of interactions online are rarely about changing people's minds or having a civilized debate. These interactions are more about just pushing your ideas out there and in some cases, trying deliberately to get people to react. There will not be a "winner" or a "loser" in this kind of communication.

Also get the students to think about the previous lessons about digital etiquette. Were they using those lessons during the debate?



KEY QUESTIONS

Slide 05

What happened in your Twitter debate? Which side won?

Accept all answers and inputs.

Teacher's Note: Challenge the students as to whether there was really a "winner" and whether that was the objective in the first place. Is social media a place where you create winners and losers or a place where you can express your ideas with expectation to be the winner? What do the students think about this?

Were there any tweets or responses which made you angry? How did you respond?

Are you still angry?

Accept all answers and inputs.

Teacher's Note: If the students got upset or angry, what was the reason? What did the opposite side say which made them get upset? How did they respond to this tweet? Did they go back with any response to make the other team angry as well?

Do you think that using names like Student A and Teacher B helped or hurt the debate?

Teacher's Note: The idea behind using these names was to dehumanize the other people so that students realize that it is easier to get into a "fight" when they don't see the opposite side as a person. This is more likely on a platform like Twitter where your followers are more likely to be people that you do not know.

Have you ever gotten into this kind of back-and-forth argument on social media before?

Share your experience.

Teacher's Note: Many students may not have had this experience before so share any personal experiences or even famous incidents in the news.

Do you think that this was really a debate? Did any of you change your mind about the topic based on the tweets from the other group?

Debate implies a reasoned, well thought-out and well-researched activity in which both sides present their perspectives and data. A back-and-forth exchange on a platform like Twitter is not usually a debate.

Teacher's Note: Review the definitions below to ensure student understanding. Afterwards, ask the students to read the brief article which outlines five steps which can be taken for healthier and more civil discourse online. Review the steps with the students to finish the class.

Slide 06

Definitions You Should Know

Internet Troll

An individual who posts false accusations or inflammatory remarks on social media to promote a cause or to harass someone.

Flame War

An ongoing tirade of contrasting opinions about a topic in a Twitter feed, blog, internet forum, newsgroup or multi-user chat session.

Empathy

The ability to understand and share the feelings of another person.

Civil Discourse

A conversation in which there is a mutual airing of views without hate. It is not a contest, but it is intended to promote greater understanding.



Slide 07



Let's learn the five tips to [helpful tips for healthier online interactions](#).

Slide 08

Recap the Five Tips

1. Stay calm.
2. Don't get personal.
3. Use "I" statements.
4. Listen to their point of view.
5. If things go too far, step back.

ACTIVITY: WORKSHEET

DURATION: 10 MIN

Slide 09



Complete pages 2 and 3 of the [Disconnected Discourse worksheet](#).



Download the [teacher's version of this handout](#).

03. ADDITIONAL RESOURCES



1. Video | "[Civil Discourse Online: A Conversation with Cameron Kasky](#)", Common Sense Education, 12 August, 2019



2. Video | "[Internet Trolls: Born That Way?](#)", Above the Noise, 25 January, 2018



3. Article | "[What is Civil Discourse?](#)", American University School of Public Affairs



Lesson 6

**Hacking -
The Good and
Bad of It!**

01. OVERVIEW

Most of us toggle between search engines, websites, digital platforms, and apps without giving it a second thought. Our multiple online identities (email IDs, social media pages, user IDs for different sites) help us to work, study, play, and shop. It is critical to be aware of dangers like identity theft, phishing scams and malware. At the root of all these threats lies hacking. But hacking isn't always a negative thing. Depending on the situation, hacking can be malicious or it can serve a higher ethical or legal purpose.

1.1. LEARNING OBJECTIVES

By the end of this lesson, students should be able to:

- Define the term 'hacking' and understand its positive and negative aspects
- Define 'ethical hacking' and its importance
- Explain the variety of roles that hackers play
- Differentiate between the types of hackers

1.2. PRIOR KNOWLEDGE

Students should already know:

- Digital security basics
- Basic definitions of the terms 'hacking', 'phishing', and 'spam'
- Ways to keep personal data safe
- Implications of personal data being used by thieves

02. LESSON PLAN

2.1. HACKERS AND HACKING



ACTIVITY: WHO IS A HACKER?

DURATION: 8 MIN

Have you heard the term 'hacking'? What do you know about it and the people who do it?

Teacher's Note: Introduce the subject of hackers. The topic of hacking was briefly introduced in Level 1 so, probe to see what the students remember about this term. Have any of the students seen any news stories about hacking?

Slide 02



Play the video to introduce [different types of hackers](#).

Slide 03

Now that you have watched the video and learned a bit more about hackers, mark the statements below as either "True" or "False".

- Any activity that seeks to compromise a digital device, computer system, or a network is defined as hacking. **True**
- Hacking is always illegal. **False**
- Malware and scams are examples of malicious cyber activity that can affect anyone. **True**
- All hackers are cyber criminals. **False**
- Hackers can be employed by companies and organisations to help make their data secure. **True**

Slide 04

Definitions You Should Know

Hacking

The activity of identifying weaknesses in a computer system or a network to exploit its security and gain access to personal data or business data.

Hacker

A person who uses computers to gain access to data.



2.2. DIFFERENTIATING THE DIFFERENT TYPES OF HACKERS

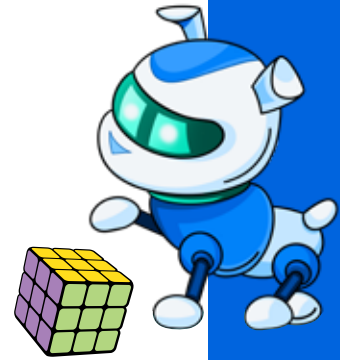
Which kinds of hackers are legal and which ones illegal? What do the different kinds of hackers do once they have hacked into a system?

Slide 05



Play this video to explain more about the [varied motivations that drive hackers to do what they do](#).

Teacher's Note: Recap the key points from the video. What is the goal of a black hat hacker? They are the “bad” guys, and they are hacking to try to gain money or fame. What is a white hat hacker? They are the “good” hackers. They are employed by companies who ask them to try to hack into their systems. This helps to keep the company and its data safe.



KEY QUESTIONS

Slide 06

Have you ever heard or read about a company being hacked? What do you remember from these stories?

Examples:

- The 2014 hack of Sony Pictures where hackers stole 100 terabytes of employee data like salary, social security number (like Aadhar), and emails as well as copies of unreleased films. The hackers demanded that Sony not release a movie called “The Interview”. This hack caused Sony’s network to be offline for weeks, cost the company USD 35M, and many senior managers resigned their jobs.
- In 2021, a team from the National Basketball Association (NBA) in the United States was hacked by a group which claimed to have stolen 500 gigabytes of their internal business data.
- In 2021, Air India’s network was hacked and the data of 4.5M passengers was stolen by the hackers. Data of the passengers included name, date of birth, contact details, and passport numbers. At least one impacted passenger has sued the company for INR 30L.

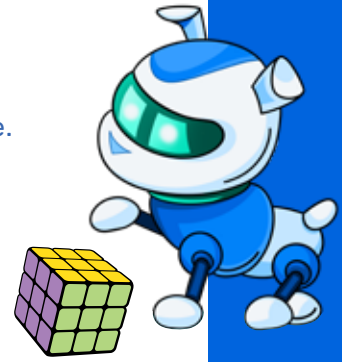
Who is an “ethical” hacker and why are they called ethical? Do you think ethical hacking is important?

A white hat hacker is considered an ethical hacker. This is someone who works for a company and tries to hack into their systems to help the company find weaknesses in their systems or their software. They are called ethical because they hack to help people stay safe and not to steal from them. Ethical hacking is important because it helps all of us stay safe

Give one example each for the kind of work a white and black hat hacker would perform.

A white hat hacker will try to hack a system with the purpose of making the system stronger and less prone to being hacked. They will spend their days trying various methods to hack a company’s system. Once they find a vulnerability, they will work with

the computer programmers to develop a “patch” or a change to the software which makes the known hack more difficult or impossible to execute in the future. A Black hat hacker is a thief who will try to hack a system or network to steal money or data. They will spend their days trying to come up with a specific plan to break into a company to steal their data. They may regularly send out small executable programs to test the vulnerability of certain high target companies like banks, governments, etc. to find out which ones do not have good cybersecurity. Once they find a vulnerability, they will work further to break into the system to steal data.



Slide 07

Believe It or Not

Kevin Mitnick is the world’s most famous hacker. He was once on the FBI’s “Most Wanted” list (USA) for hacking into 40 major corporations and even served five years in an American prison in the mid 1990’s.

He now works as security consultant to some of the biggest corporations, organisations, and governments worldwide.



ACTIVITY: HOW VULNERABLE ARE WE TO HACKING?

DURATION: 10 MIN

Slide 08



Play the video introducing the [Cyber Ninja](#).



KEY QUESTIONS

Slide 09

What is the key security tip that you learnt from the Cyber Ninja? What was the reason for his security tip?

Don’t log into a public Wi-Fi Network that you do not know. He said that it is easy to hack into people’s accounts when they are on the public network.

The Cyber Ninja mentioned a few examples of products which can be hacked. What was the main product that he discussed and are there any other products that you can think of which might be easily hacked?

In the video he mentioned autonomous cars, autonomous drones, medical devices. The main product which he shared was a child’s toy bear that could easily be hacked. He also demonstrated how your phone could be hacked when you sign onto a public network.

Teacher’s Note: Let the students come up with ideas for other devices which can be hacked. Most digital devices which connect through unsecure networks can easily be hacked, for example, digital assistant devices like Alexa, a web camera on your PC, digital toys, digital appliances, etc.



ACTIVITY: GROUP DISCUSSION

DURATION: 8 MIN

Some of the strategies will be pulled from previous lessons. Check how well students have remembered and understood past lessons.

Slide 10

Form pairs or small groups and discuss the below question. Be ready to share your ideas with the class.



KEY QUESTION

How can you protect your identity and data online? Share three key strategies.

- Do not sign into public Wi-Fi connections unless you know that they are safe.
- Do not click on links in spam messages.
- Do not share your password with others.
- Do not use the same password for all your logins.
- Use a strong password with symbols, numbers, and capital letters.
- If you have a Wi-Fi network at home, make sure to install a firewall.

Slide 11

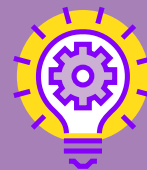
What Do You Think?

Edward Snowden was an intelligence contractor at the National Security Agency (NSA) in the USA when he leaked sensitive documents to the media. These documents revealed the full extent of the NSA's surveillance of American citizens and international partners.

The leak included information that the NSA had access to the accounts of its citizens' Google, Yahoo, Apple, and other private accounts. The NSA, and therefore the US Government, was secretly collecting millions of emails and chat content lists, which can be considered as abuse of the privacy of US citizens.

Snowden is quoted as saying: *All I wanted was for the public to be able to have a say in how they are governed.*

Some believe that he is a hero while others think that he violated the law in his country and should face the consequences.





ACTIVITY: KNOWLEDGE RECAP

DURATION: 5 MIN

Ask the students to mark the answers individually. Review the answers together.

Slide 12-13

How cyber-safe are you?

1. You have the responsibility to keep:

- A. Yourself safe
- B. Your stuff safe
- C. Your cookies safe
- D. Both A and B
- E. Both B and C

2. Whom do you tell if you see something harmful online?

- A. Your parents
- B. Your teachers
- C. A trusted adult
- D. All the above

3. What is personal information you should keep safe?

- A. Your shoe size
- B. Your address
- C. The pizza restaurant's phone number

4. You can totally share your password with your best friend, you trust them!

- A. True
- B. False

5. Which of the following is an online threat?

- A. Identity theft
- B. Phishing
- C. Surfing
- D. Both A and B
- E. Both A and C

6. What should you do if you are online and someone you don't know messages you claiming to be a student at a nearby school?

- A. Do not accept their invitation to chat (it could be someone trying to trick you)
- B. Accept the invite and make a new friend

7. Whatever you post online will stay there forever even if you delete it.

- A. True
- B. False

8. What do you do if someone is bullying you online?

- A. Ask them to please stop
- B. Say you will tell on them
- C. Stop, block, tell an adult

03. ADDITIONAL RESOURCES



1. Article | ["Cybersecurity in Education: What Teachers, Parents and Students Should Know"](#), Berkeley Extension



2. Article | ["White Hat, Black Hat, and Grey Hat Hackers: What Do They Do, and What Is the Difference Between Them?"](#), Tripwire, 7 February, 2021



3. Article | ["Kids/Teens Cyber Security Do's and Don'ts"](#), Gabriel Friedlander, Wizer



Lesson 7

New

Technology -

Facial

Recognition

01. OVERVIEW

Rapid advances in technology have ushered in developments like location services and smart devices which have made our lives easier than ever before. However, these come with hidden threats to our privacy and security. Facial recognition is one such technology. On one hand, concerns are being raised over its increasing usage and, on the other hand, there are legitimate doubts about its accuracy. It is important to know that, as citizens, students have the right to privacy in public places. Yet, so far, no one is asking for their permission to track their faces in this way. Strict regulations may be helpful to prevent misuse of these systems but those are yet to be put in place.

1.1. LEARNING OBJECTIVES

By the end of this lesson, students should be able to:

- Define 'facial recognition' and explain how it is currently being used
- Identify the benefits and privacy risks that facial recognition technology entails
- Evaluate whether the benefits outweigh the privacy risks

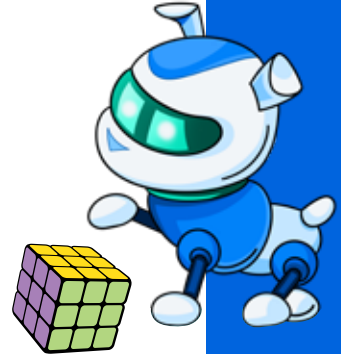
1.2. PRIOR KNOWLEDGE

Students should already know:

- How phones or other devices use fingerprint or face recognition to unlock the device
- The concept of privacy, especially with regard to law enforcement or governments

02. LESSON PLAN

2.1. FACE RECOGNITION



ACTIVITY: DISCUSSION

DURATION: 15 MIN

Slide 02

Ask: *How many of you have or know of someone who has a device that you can unlock with your face? What type of device is it?*



KEY QUESTIONS

Share examples of devices that you can unlock with your face.

Potential responses: Phones, tablets. Laptop computers can be unlocked with a fingerprint and likely facial recognition soon.

Teacher's Note: Explain that these devices use facial recognition technology. Review definitions.

Have you ever used this to unlock a device? What about your friends or family?

Teacher's Note: Ask students their experience on using such devices. Do they find it convenient? Do they feel that it provides an additional layer of protection for their device?

Slide 03

Definitions You Should Know

Facial Recognition

A way of recognizing a human face through technology. It uses biometrics to map facial features and compares the information with a database of known faces for a match.

Faceprint

A digital scan of a human face used to identify people using the unique characteristics of their facial structure.

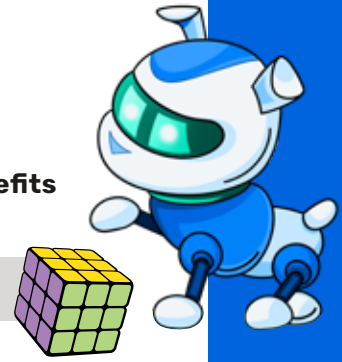


Slide 04



Play the video to find out whether [facial recognition is invading our privacy](#).

Now that you know a bit more about the technology, share below all the benefits and risks associated with facial recognition.



Teacher's Note: Desired responses are given below.

Slide 05

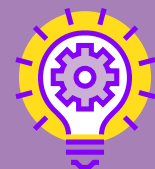
BENEFITS	RISKS
<ul style="list-style-type: none">• You can use it for fun things like Snapchat or Instagram filters.• It makes unlocking your phone more convenient and more hack-proof.• It could be a useful tool to help protect people by tracking their movements if they go missing.• It could be used to catch thieves or kidnappers by tracking their movements in public spaces.	<ul style="list-style-type: none">• A government could use it against people who disagree with their policies or who cause problems.• Governments could use it to track your movements.• Companies can use it for targeted advertising.• It could be used to falsely accuse you of something if the technology is not good at recognizing your features. Facial recognition works very well with white men but much less well for people of colour or women.

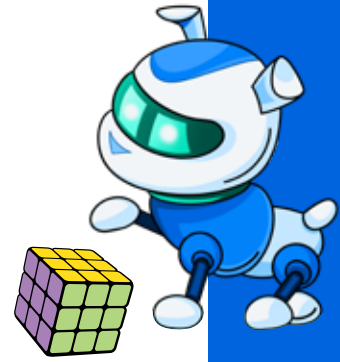
Teacher's Note: Discuss the factoids given below with the students.

Slide 06

Facts on Facial Recognition Technology

- 72% Of hotel operators are expected to deploy facial recognition by 2025 to identify and interact with guests.
- 35% Of facial recognition errors happen when identifying dark-skinned women, compared to 1% for white males.
- By 2023, 97% of airports will roll out facial recognition technology.





ACTIVITY: TAKE A STAND

DURATION: 20 MIN

Introduce the concept of context. Whether a technology is useful or risky depends on the context—who is using it, how it is being used, why it is being used, and how privacy is affected for people involved.

Ask a student to read the below scenario aloud to the class.

Slide 07

Consider the scenario given here and reflect on the questions that follow.

Mrs. Sharma is the Principal of a very prominent and sought-after school in the city. In one of her Board meetings, the subject of streamlining security and attendance systems is raised after an incident of vandalism at the school. A senior teacher suggests the introduction of facial recognition that has been tried in some countries and proved to be helpful.

After some enquiries, Mrs. Sharma receives a proposal from a well-known technology company that specializes in facial recognition. The company promises to design a system that allows students to enter the school using their faces. That way, any unauthorized entry into the school premises can be curtailed. The company informs Mrs. Sharma that the system could be expanded to include parents of the students also.

Do you think Mrs. Sharma should install facial recognition technology to improve security and attendance at the school?

Teacher's Note: The aim of this activity is not to find a "right" answer. Rather, the goal is to slow our reactions down, take time to listen to different perspectives, and be reflective about our stances on this dilemma.

Slide 08-09

Take a stand (Individually)

Think carefully about this issue and tell us if you strongly agree or disagree with the above decision. Explain your reasons for your stand on the subject.

Teacher's Note: Ask the students to individually reflect on the scenario and write down their stand either for or against the implementation of facial recognition. Remind them to revisit the benefits and risks that were discussed in the previous activity.

After all students have taken a stand either for or against, ask all the "pro" students to group together on one side of the class while all the "con" students go to the other side of the classroom.

Ask 4 -5 students from each group to share their thoughts and ensure that all possible reasons are covered.

Stand Back (With the group)

Now that you have heard out those who are opposed to your stand, share with us your thoughts. Was there anything that made you rethink your stand? Even if you didn't change your opinion, perhaps it left an indelible impact on your mind. Briefly explain. (This could be a fact, an opinion, or an interesting piece of information.)

Teacher's Note: Tell the group that they need to listen carefully to the opposing side and if they are convinced with their arguments or explanations then they are free to change their mind and go over to the other side. Mention that it is alright to change their opinion. Those who do can be asked what made them change.

Look Again again (Individually)

Reflect once again on your original response regarding technology and privacy. Maybe there is something that you now "see" differently or something that you had never paid attention to before. How has your thinking shifted after hearing your classmates' perspectives, even if you haven't changed your mind?

Teacher's Note: Ask: What had you not considered that other people brought up? Whether they changed their minds or stuck to their original stance, they were able to consider other views.

The purpose of this step is not to make students change their mind but to help them examine how their thinking can change based on what they heard or learned. They need to recognize that perspectives can evolve, shift, or deepen when we listen to others. Someone may have the same view as them and yet they may point out a consideration or a factor that they hadn't thought about.

Remember, our perspectives can evolve, shift or deepen when we listen to others!

Look Beyond (With the group)

Looking beyond this specific case, how does this dilemma remind you of other situations that we've explored in class or that you have seen, heard about, or experienced?

Teacher's Note: The idea here is to support students in recognizing connections and applying considerations beyond the current abstract situation. Students should not immediately jump to conclusions or start attacking those who disagree with them. They can take some time to make a more considered decision. Share that listening to others' views can help us discover shared beliefs and values, even when we have differing opinions. Understanding why our opinions differ leads to better mutual understanding and can help in fostering productive dialogue about issues in our society. Some examples might be the homework Twitter debate, discussion on whether Edward Snowden made the right decisions, etc.

ACTIVITY: REFLECTION

DURATION: 5 MIN

Slide 10

Take a moment to reflect on the activity and then respond to the following prompt.

I used to think
and now I think

Teacher's Note: Accept all answers.

03. ADDITIONAL RESOURCES



1. Article | [“How Facial Recognition Software Works”](#), Steve Symanovich, Norton, 20 August, 2021



2. Article | [“Survey: 43% of Americans Approve, 33% Disapprove of Facial Recognition Technology in Airports”](#), Runaway Suitcase



3. Video | [“How Does Facial Recognition Work?”](#), Interesting Engineering, 24 July, 2020



Lesson 8

**Big Data
and Targeted
Marketing**

01. OVERVIEW

Prior to the internet age, most product advertisements would run in a newspaper, a magazine, or on TV. It was difficult to target the ads at any specific group because many different people were reading the same newspaper or watching the same TV program. In the 21st century, advertisers are able to target their ads to a specific group of people based on big data. Now with big data, we are all at risk of being overwhelmed with ads based on our digital footprint. We must ask ourselves: *What is big data and how exactly is it used to send ads to me?*

1.1. LEARNING OBJECTIVES

By the end of this lesson, students should be able to:

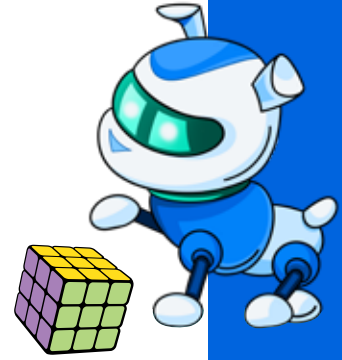
- Define 'big data' and understand how it is used in targeted marketing
- Understand how their digital footprint and actions online are generating big data
- See how a marketer uses big data to create and market new products

1.2. PRIOR KNOWLEDGE

Students should already know:

- Which online actions contribute to their digital footprint
- The fact that ads are targeted to people based on their digital footprint

02. LESSON PLAN



2.1. BIG DATA

Ask the students if they are familiar with the term 'big data'. Gauge what the students already know or whether this is a new term for them. Ask them to define each of the words: 'big' and 'data'. This should give them a clue as to what big data is.

Slide 02



Play the video to explore the term '[big data](#)' and [how it is relevant to us](#).

Slide 03

Review the definitions given below and ensure that these are clear to the students.

Definitions You Should Know

Data

Facts and statistics collected together for reference or analysis.

Big Data

A collection of data that is huge in volume yet growing exponentially with time.

Big Data Analytics

The often-complex process of examining big data to uncover information such as patterns or market trends.



Slide 04

Ask a student to read aloud the quote below.

ACTIVITY BIG DATA AND YOU



Can you write down your name and your age? I am sure you can. Can you write it down for everyone in your class? Or for everyone in your school? Or everyone in your town? Everyone in the country? Everyone in the world? And then write down their age, their favourite colour, their favourite animal, their favourite TV programmes, almost anything you can think of [...] for millions and millions of people?

That's too much, isn't it? You can't do it, and I can't do it. But some computers can do this, and we call it 'big data'. Data is all the stuff we are writing down and you can imagine, for millions, billions, gazillions of people. It is really BIG.

What can we do with all this data? We can find patterns. For example, people making television programs may discover that children who like music really like drawing too, so they could make a new program about music and art. Or hospitals could discover that people who like different foods may get sick in different ways as they get older. That could help families and doctors look after our grandparents better.

Donald Farmer
Vice President - Product Management, Qlik



KEY QUESTIONS

Slide 05

How are you generating big data?

Big data is generated all around us in multiple ways. All of us are generating data. We generate data through internet searches, food or parcel orders and deliveries, watching videos or playing games online, social media, etc.

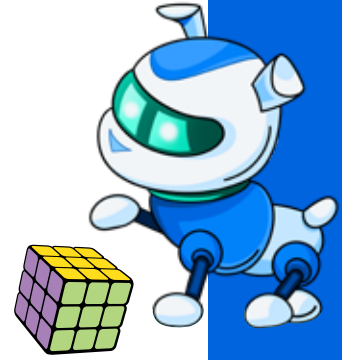
How might big data and big data analytics help you?

Today's faster and more complex computers can analyse data in ways that were not possible even 10-15 years ago. Some examples: Researchers can use data to find patterns in areas like cancer research to identify which patients are at risk of developing cancer, streaming services can use big data to predict which movies a user might like based on their previous movie selections, traffic flow data can be used to identify where new roads should be built to allow faster traffic flow, ice cream manufacturers can use big data to match their flavours with the people who eat them so that they can send the right ice cream to the right stores.

How might big data and big data analytics create problems for you?

Big data can also be misused. Some companies will sell their collected data to other companies and then the data may get sold again. That means that even if you did not go to a company website, they might have information about you, including your contact details, and they will send you advertisements. What if the company that is collecting all this data

gets hacked? How will you feel if you receive unsolicited advertisements from companies that you have not interacted with online?



ACTIVITY: LET'S USE BIG DATA LIKE A MARKETER

DURATION: 25 MIN

Slide 06-09

The purpose of this activity is for students to see how big data is collected and analysed by companies to make decisions about product lines, how they should market the products, etc. In today's business world, this is one of the most common uses of big data.

Step 1: Collect the big data

Imagine that you wish to start your own business making some kind of frozen treats, but you are unsure what kind of treats are popular.

You decide to go to a large online grocery chain to buy some data from them. Once you see the data, you will decide what treat to make and sell.



Now, run a [class survey about frozen treats](#) which the students will use as their big data.

Teacher's Note: Explain that the class will run a survey together to gather the data needed. Use the Quizzizz poll to gather data. Once the data is collected, display the results.

Break the class into small groups of 3-5 students. Ask them to examine the data and based on the preference of the class, decide what kind of product they are going to sell. Try to get a variety of product characteristics. If needed, assign some of the less popular characteristics to a few of the groups.

Step 2: Develop a product based on big data

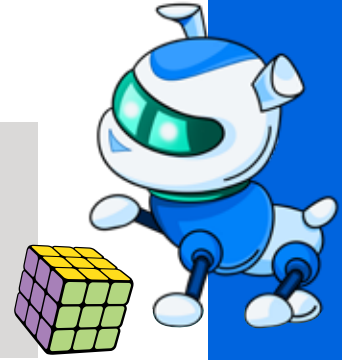
Your teacher will divide you into groups. Based on the data from the class survey (your big data purchase) you must develop a product.

Each group should answer the following questions to define their product's characteristics

- What kind of frozen treat will you sell?
- In what flavour(s)?
- How will your customer eat it? In a cone? On a stick?
- Will you sell it all-year-round or only seasonally?
- Where will you sell it?
- What is the name of your product?

Step 3: Develop your marketing plan

Teacher's Note: Ask students to read through the additional big data that has been received which can influence their company's marketing strategy. Ask them to choose one item from each of the categories below (A, B, C) and create their marketing strategy accordingly. The objective is to get them to understand how a company targets them with marketing. The strategy should be simple.



Now that you have created your product, you must decide on a marketing strategy. You have purchased more data which tells you the below information. This data will help you select your marketing strategy. Select one answer for each category based on your product.

• Category A: Product tie-ins

1. People who like **ice cream**, also like cakes.
2. People who like **frozen fruits** also like to eat salads and soups.
3. People who like **kulfi** also like breakfast cereals like corn flakes.
4. People who like **frozen milkshakes** also like to eat kathi rolls and burgers.
5. People who like to eat **ice lollies** also like to eat pizza.

• Category B: Location

1. People who like to eat frozen treats in the **park** also like to go to the beach.
2. People who like to eat frozen treats at **home** usually search for recipes online.
3. People who like to eat frozen treats at the **mall** usually order food delivery.
4. People who like to eat frozen treats at **parties** also like to shop for clothing online.

• Category C: Social Media Platforms

1. People who like **chocolate** and **vanilla** flavours mainly use Facebook.
2. People who like **pista** flavour mainly watch videos on YouTube.
3. People who like **mango** flavour mainly use Instagram.
4. People who like **coconut** flavour mainly use LinkedIn.

Based on the above categories, select which apply to your new product and create a marketing strategy accordingly.

Here's an example to help you work out your product and strategy:

The frozen treat product that I have developed is vanilla ice cream for people who like to eat it in the park.

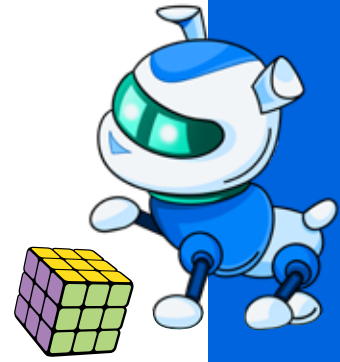
Based on this product, I know that the people who will buy my product also like:

- Eating cake
- Going to the beach
- Using Facebook

My marketing strategy is to...

- Run a promotion together with a popular cake bakery
- Run ads together with a hotel located in Goa near the beach
- Run ads on Facebook

Teacher's Note: Once the groups have developed their product, product name, and their marketing strategy, ask each team to share with the class.



ACTIVITY: REFLECTION

DURATION: 10 MIN



KEY QUESTIONS

Slide 10

After six months of selling your product, how might you use big data to understand whether you should make changes to your product or your strategy?

Accept all answers. They can analyse the company's sales data to see which product tie-ins are creating sales. For example, if they are advertising with a hotel in Goa but their sales in Goa are very low, they might want to understand why. Should they change their product flavour or type of product? Should they advertise with a different company in Goa, should they shift their focus to a different beach location?

How much data do you think businesses would like to collect about you to target products directly to you?

Accept all answers. The reality is that most companies would like as much data as possible, hence we see companies like Facebook or Instagram that have huge revenues from advertising. This is the primary way in which these companies make money by providing advertising space to other companies.

Given what you now know about big data, can you identify steps to reduce your exposure to targeted marketing? Think about what you have learned in previous lessons on topics like digital footprints and cybersecurity.

Accept all answers.

Teacher's Note: Students should understand that while it will be practically impossible to eliminate all targeted marketing, they can limit their exposure by limiting the amount of information that they share with others online and managing their digital footprints.

TAKE-HOME ACTIVITY: CRAFT YOUR PRODUCT BRAND IMAGE

Slide 11

Most brands will have an image that expresses something about them. They want customers to see their image and instantly think of the product. Think of the stylized font of the Coca-Cola logo combined with the curved bottle shape, or the Apple logo on the iPad.

Develop a logo which may include an image, a stylized script, and/or a tagline which conveys something about your frozen treat product. You may use any software to develop your logo or you may use coloured paper and pens or paints as well.

03. ADDITIONAL RESOURCES



1. Article | [“Explaining Big Data to Kids”](#), Jyotsna, Jigsaw, 14 November, 2014



2. Video | [“Social Media Data Privacy Awareness”](#), Technology Services at Illinois, 1 April, 2016



Lesson 9

**Machine
Learning,
Algorithms,
and Your Feed**

01. OVERVIEW

In previous lessons, students have learned how advertisers will target them based on their previous search history or the websites they have visited. Likewise, video streaming services will make video recommendations based on their viewing history. Have students ever thought about how this is accomplished? In this lesson, they will learn about machine learning and the algorithms which enable the recommendations that we have come to rely upon.

1.1. LEARNING OBJECTIVES

By the end of this lesson, students should be able to:

- Define the terms 'algorithm', 'machine learning', 'K-nearest neighbour', and 'data void'
- Explain how machine learning is used to recommend similar subjects or topics based upon their past search or viewing history
- Identify tips to minimize the impact of algorithms on their feed

1.2. PRIOR KNOWLEDGE

Students should already know:

- How their digital footprints impact what is known about their online preferences
- How marketers use data to display targeted ads to specific users
- That video streaming services offer suggestions of content that they might like based on their streaming history

02. LESSON PLAN

2.1. RECOMMENDATIONS



ACTIVITY: CASE STUDY

DURATION: 5 MIN

Slide 02

Read Nisa's story and answer the questions that follow.

Finally, exams are over! Nisa cannot wait to get home because she needs to catch up on the Korean drama that she has been hearing about. She rushes home and logs into her video streaming service. The next thing she knows, she has spent 4 hours binging the show. She decides to take a break until the next day so that she can get some sleep.

The next day when she logs into her streaming service, she notices a long list of recommended Korean dramas on the home screen. Not only that. After she started following the lead actor on social media, she keeps seeing recommendations to follow other K-drama stars and she sees a lot more video clips of K-drama and K-pop on her feed.



KEY QUESTIONS

Slide 03

Have you had an experience like Nisa's? What was the situation?

Accept all answers.

Teacher's Note: Ask whether this happened slowly over time or whether it happened overnight as in the case study.

Do you feel that the recommendations you see are helpful? What might be the downside

The recommendations are meant to help the viewers make choices. Students should benefit from the recommendations because the newly recommended show will be similar to the show that they already enjoy. The downside is that the recommendations are designed to keep us on the platform which can lead to binge-watching. Another downside is that it may be the case that the recommendation slots are paid for by movie companies. We may not be seeing a complete list of movie titles but rather a curated list based on companies paying for their movie to be at the top of the list.

Do you understand how you receive these recommendations?

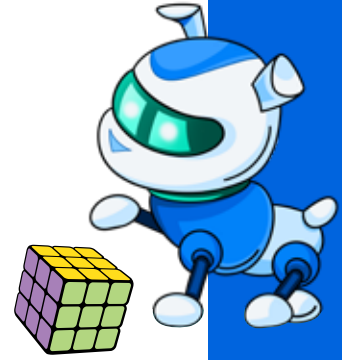
Teacher's Note: Students may say that it is due to their digital footprint, or that it is due to the cookies on their systems. Both are true but, there is another consideration which is the algorithm in the video streaming app.

2.2. WHAT IS MACHINE LEARNING AND WHAT ARE ALGORITHMS?

Slide 04



Play this informative video to introduce the basics of [machine learning](#).



KEY QUESTIONS

Slide 05

What is your understanding of machine learning after watching the video?

Per the video, machine learning is where machines (computer systems) can recognize data patterns and then make predictions based on what they have learned.

What is an algorithm and how do algorithms play a part in machine learning?

Algorithms are rules or a set of instructions for solving a problem. K-nearest neighbour, as explained in the video, is one such algorithm. The algorithms are the way that the recommendations are made by analysing data from both the viewing history and the categorizations of movies or shows. Algorithms can also find patterns from actual users meaning that they do not only have to rely on how a movie might be categorized (comedy, romance, etc.) but, they will have the data of millions of users and they can find very similar matches in profiles for more accurate recommendations.

How about Nisa's story? Is this an example of machine learning?

Yes.

Teacher's Note: Remind the students about Paul and his musical preferences from the video. Paul's music streaming service ran an analysis on two songs and matched them with his previous musical tastes. It used a method called K-nearest neighbour algorithm to predict his song preferences. This is similar to Nisa's scenario above. Based on her past viewing choices, the streaming service is trying to find similar shows to recommend to her.

Slide 06

Definitions You Should Know

Machine Learning

The use and development of computer systems that are able to learn and adapt without following explicit instructions, by using algorithms and statistical models to analyse and draw inferences from patterns in data.

Algorithm

A procedure in machine learning that is run on data to create a machine learning model or output.

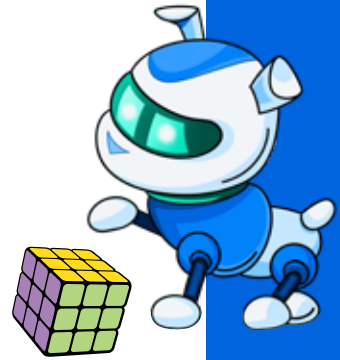
Machine learning algorithms perform "pattern recognition". This is how algorithms "learn" from data. There are many machine learning algorithms such as "K-nearest neighbour".



ACTIVITY: THINK-PAIR-SHARE

DURATION: 10 MIN

Slide 07



Form pairs or small groups. Let's act like a search engine using machine learning:

- Select one of the words provided in the table. If you were a search engine, what types of results would you show for the word you selected?
- What suggestions for further information would you also provide (the K-nearest neighbour information)?

One example has already been done for you.

SEARCH WORD	SEARCH RESULTS	SUGGESTIONS FOR FURTHER INFORMATION
Pool	Definitions, photos, videos, locations of swimming pools and billiard halls	Schools for swim lessons or billiards coaching, where to buy a pool table or billiards equipment, where to buy a swimming costume
Pizza		
Diwali		
Dance		
School		

When you're done, be ready to share your responses with the class.

Teacher's Note: Ensure that the students understand that based on their search words, they will receive results and recommendations. As they click further into the results or the recommendations, the search engine will continue to learn and offer different suggestions or websites. The specificity of the words in the search are also important, for example, if instead of simply searching with the word "pool", they searched with the words "swimming pool". How would this change the results and suggestions?

2.3. ALGORITHMS IN ACTION

Slide 08



Play the video to explore [whether machine learning is helpful, harmful, or a little bit of both.](#)

Teacher's Note: Although this video refers specifically to YouTube, the lessons can be applied to most social media platforms or internet searches.



KEY QUESTIONS

Slide 09

How can algorithms reinforce something that you already believe?

Algorithms adjust as you continue to click on search results or watch specific types of videos. If you are always watching the same kind of videos, you may miss out on videos which show you opposite views. This is especially true for news sources.

Explain what a data void is and how it allows false or unverified content to come to the top of your internet search?

A data void is a lack of information about a specific topic, usually an uncommon topic, leading to the few videos which are available to become the top search results, for example, when there is breaking news and not much is known about the situation.

What are the tips offered in the video about how to safely enjoy social media?

1. Be specific with your search words.
2. Watch for odd or unrelated search results.
3. Find multiple sources of information and look for offline sources like books, news, library resources, etc.

ACTIVITY: QUIZ

DURATION: 3 MIN

Slide 10

Attempt the quiz below by circling the correct answer for each.

1. An Algorithm is...

- a. A procedure to gamify data so that you keep seeing cat videos
- b. A procedure run on data to produce a machine learning output
- c. A procedure to keep you binge-watching videos all night long
- d. A procedure to teach you about machine learning

2. One tip to safely enjoy online or social media searches is...

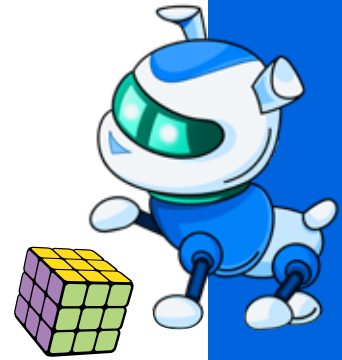
- a. Follow as many people as possible
- b. Create a fake social media handle
- c. Watch all the suggested videos
- d. Be on the lookout for odd or unrelated search results

3. Machine Learning is...

- a. When a machine goes to university to learn
- b. When a machine networks with other machines to learn from one another
- c. When a machine is learning how to identify a cat photo after examining hundreds of similar photos
- d. When a machine stores research books in its memory

4. A K-nearest neighbour algorithm is...

- a. One way in which streaming services can identify videos you might like based on your past viewing
- b. One way to identify which two pieces of data are side-by-side in the memory of your computer
- c. One way in which streaming services can identify videos that are trending
- d. One way to find two completely different movie recommendations and present them to the viewer



03. ADDITIONAL RESOURCES



1. Video | [“An Intro to AI Made for Students”](#), Reena Jana, Google The Keyword, 22 February, 2022



2. Article | [“7 Benefits of AI in Education”](#), David Karandish, THE Journal, 23 June, 2021



3. Article | [“What is Machine Learning? A Definition”](#), Expert.ai Team, expert.ai, 6 May, 2020



Lesson 10

**Spot the
Fake News –
Internet
Investigator 2**

01. OVERVIEW

Students already know the expression: *Don't believe everything you hear*. But what about everything you see? In today's hyper-digital world, it is easier to fake videos, websites, and news articles than ever before. It is easier not only to create these, but to spread them as well. It is important that students become well-informed digital citizens who can stop the spread of disinformation. They will learn some techniques to help them to check the credibility of and corroborate the information they see.

1.1 LEARNING OBJECTIVES

By the end of this lesson, students should be able to:

- Define the terms 'disinformation', 'misinformation', and 'corroboration'
- Explore the consequences of spreading misinformation online
- Learn what lateral reading is and how they can use it as a strategy to verify the accuracy of information online
- Apply lateral reading to determine website accuracy

1.2 PRIOR KNOWLEDGE

Students should already know:

- The basics of fake news and clickbait from previous lessons

02. LESSON PLAN

2.1 EXAMINING INTERNET VIDEOS

DURATION: 15 MIN

Slide 02

Play these videos and then pause to discuss them one at a time.



Play the amazing story of the [pig who saved a baby goat from drowning](#).

Slide 03

Ask the students: *How did this story make you feel?* Students will probably say that they feel amazed, happy, warm and fuzzy.



Next, play this video to show the students [how the first video was created](#).

Ask them: *How do you feel now that you know that the video is a fake?* Students may feel embarrassed for falling for the first video now that they know it is a fake. Or they may feel angry that they have been deceived.

Slide 04



Play this video to explain [how such content can easily go viral](#).

Open the discussion by pointing out that there are so many videos that we see online every day. Although there are videos in which we think that we can clearly see what is happening, how do we know if what we are seeing is true or not?

Through the example of the video of the pig and the baby goat, we can see how it was relatively easy to create a fake video which spread around the world. If you notice, in the news reportage, only a few people mentioned that they could not verify the video while most showed it as if it was true.

This video is considered **disinformation** but when people unknowingly forward the video to others, this is considered **misinformation**.

In the case of the baby goat and the pig, the person making the video wanted to be funny and make people laugh. But, what if the fake video showed a false event about something serious like a natural disaster? What would be the impact of such disinformation?

Definitions You Should Know

Disinformation

False information that is spread with the intent to deceive.

Misinformation

False information that is spread, regardless of intent to mislead.

Both disinformation and misinformation can have big consequences like:

- Increasing tension and anger between groups of people
- Damaging the reputations of individuals or groups
- Affecting the outcome of elections
- Impacting the public's understanding of vaccines or pandemic-related protocols



2.2 FROM VERTICAL TO LATERAL

DURATION: 15 MIN

Ensure that the terms introduced below are understood clearly by the students.

Definitions You Should Know

Vertical

In a direction, or having an alignment, such that the top is directly above the bottom (up and down, or top to bottom).

Lateral

Of, at, towards, or from side to side. Synonym: Horizontal

Corroboration

Additional source(s) that confirm or support the claims of a news story, article, or piece of information.



Slide 06

One methodology that everyone can use to confirm whether an article or video is real is called “lateral reading”. Given the above definitions, what do you think this means?

Lateral reading—in contrast with vertical reading—is the practice of checking and verifying what you read as you read it.

It is easy for websites to present information as authentic, just by using official-looking logos and domain names, or other such manipulative tricks. Many of us may even have fallen prey to these tricks. This happens because we tend to read vertically, staying within a single website without attempting to find out whether it is reliable or not.

Fact-checkers, on the other hand, make sure to read laterally. They will typically leave a site after a quick scan and open up new browser tabs looking for alternate versions of the news story so that they can compare and judge the reliability of the original site for themselves.

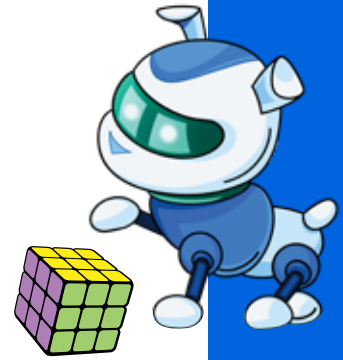
Emphasise that using lateral reading will help students determine if a news article or video is real. They have previously learned that it is important to check if other websites are carrying the same news story. The term lateral reading is another way to express the same concept.

ACTIVITY: DISCUSSION

Slide 07



Ask students to work in pairs and read through the website of [The Pacific Northwest Tree Octopus](#).



? KEY QUESTIONS

Slide 08

What do you think about the website 'The Pacific Northwest Tree Octopus'? Does it look legitimate or real?

The website looks quite real, and it is obvious that someone has taken a lot of care to create it.

Teacher's Note: Point out that the many different tabs, information, testimonials, and photos within the website reinforce the impression that it is a legitimate website.

How can we check if the tree octopus is real? Think laterally.

Teacher's Note: Ask the students to open a new tab in their browser and run an internet search on the term "tree octopus". What results do they get?

Ask some of the pairs to explore the tab titled "Media" and check a few of the authors or book titles listed here. Ask others to search for the website owner Lyle Zapato and see what results they find. Ask others to search a reputable nature website like National Geographic to see if they can find any reference to the tree octopus. Ask the students to share their findings with the class.

If you saw this website for the first time, do you think you would believe it? (Remember the baby goat). Why or why not?

Accept all answers.

Teacher's Note: Reinforce the idea that it is OK to say that you would believe it. Remember that it is designed so well such that the average reader will think it is real. This is an example of a satirical website, one that is designed to poke fun of a topic.

Surprisingly many students believed the website of the tree octopus.

Slide 09

A 2011 US Department of Education study that used the tree octopus website as a focal point revealed that students who encountered this website completely fell for it. In an NBC news story, Scott Beaulieu wrote: *In fact, not only did the students believe that the tree octopus was real, they **actually refused to believe researchers** when they told them the creature was fake.*

Slide 10

Think About it

A good-looking website can be very convincing, regardless of what it says. A good rule of thumb is to take a moment to think logically:

- Does the website claim sound logical? Is it something that you have heard in the past?
- Does the website stand up to scrutiny? Can you do an internet search on the listed “sources”? What do you find?
- Remember what you learned about clickbait: *If it is too good to be true, then maybe it is not.*



ACTIVITY: REFLECTION

DURATION: 5 MIN

Slide 11

Take a few minutes to write down your reflections on what you have learned today by answering the below questions.

How can you avoid being fooled by fake online information? How can you check to make sure that an article or video is factual and real (not altered or staged)?

Teacher’s Note: Students should focus on verification from alternate news sources, including non-digital ones. They should research from multiple sources, and they can take a step back and think for a minute before reacting. Students should remember that there are some websites which are specifically set up—like the tree octopus—as satire—and they need to be viewed as such.

How might personalized content—determined by what we like, follow, and click on—create problems when it comes to news? How might these “filter bubbles” influence our lives?

Unfortunately, if someone starts to believe fake news that they might see online, and they continue to click on reinforcing news articles or videos, other news sources with different opinions or different news may disappear from their feeds. There are many examples of people who have fallen prey to the messaging from extreme news organizations because of these filter bubbles.

Teacher’s Note: Additionally, the concept of confirmation bias will be explored further in the next lesson.

Since clickbait is often fake information designed to get you to click, how can you recognize a clickbait headline?

Teacher’s Note: Remind the students of the clues to help them spot clickbait, as discussed in Level 1 Lesson 15 and Level 2 Lesson 15. Clickbait exploits the reader’s curiosity gap and often contains content that is impossible or unbelievable, often with the intent to shock us, and may refer to a well-known personality or a popular topic.



ACTIVITY: QUIZ

DURATION: 5 MIN

Slide 12-13

Choose which answer is correct for each of the questions given below.

1. Why is lateral reading a more effective way of determining misinformation than reading vertically (scrolling down a page)?

- a. Staying on the page and reading closely doesn't always help you determine whether information is credible
- b. A website might look authoritative and official, but that doesn't always mean it's reliable
- c. You need to find corroboration to verify a source's claim
- d. All of the above

2. The intention of the creator behind the "Pig Rescues Baby Goat" viral video is an example of:

- a. Credibility
- b. Disinformation
- c. Corroboration
- d. Lateral reading

3. Kuldeep often gets his news from YouTube. In one video he watched, someone reported that the government is changing the legal voting age to 16. Why is it important for Kuldeep to verify the credibility of the video before believing it or sharing it?

- a. To make sure his friends find the video interesting too
- b. To get more likes if it is a verified video
- c. To prepare in case someone disagrees with the video in his post
- d. To make sure others don't believe or share disinformation

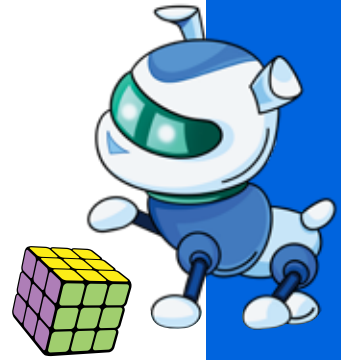
4. Abhiram is helping his younger sister prepare a report on healthy eating. She found an article about the negative effects of eating fish. The website looks reliable, and his sister wants to quote some information from the article. What advice should Abhiram give his sister?

- a. Make sure to include the website's URL in the report
- b. Ask a friend if they think the information on the website is real
- c. Share the website on social media so others can see what she is working on
- d. Research the information from the website to make sure it is credible

5. How confident are you in knowing how to verify the accuracy of the information you find online?

- a. I feel very confident
- b. I feel somewhat confident
- c. I do not feel confident

Accept all answers to this question.

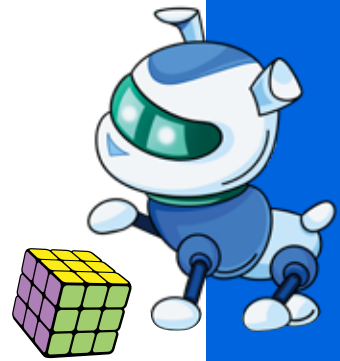


TAKE-HOME ACTIVITY: USING WIKIPEDIA CAREFULLY

Slide 14



Ask students to watch the [video about the use of Wikipedia](#) and document three ways in which they can use Wikipedia successfully.



03. ADDITIONAL RESOURCES



1. Video | [“Check Yourself with Lateral Thinking: Crash Course Navigating Digital Information #3”](#), Crash Course, 23 January, 2019



2. Article | [“What are Deep Fakes - And How Can You Spot Them?”](#), Ian Sample, The Guardian, 13 January, 2020



3. Infographic | [“How to Spot Fake News from Factcheck.org”](#), CSI Library



Lesson 11

Confirmation Bias

01. OVERVIEW

The students have already learned how algorithms send them suggestions based on their existing preferences. This can be movie suggestions, search results, or news feeds. Are the suggestions that they receive beneficial to them? Have they noticed that the suggestions seem to get better over time? While this may be in part due to the algorithms, this is also due to their cognitive biases, especially their confirmation bias. Confirmation bias allows us to see more posts about things that we like but, is it narrowing our view by excluding things that we do not like?

1.1. LEARNING OBJECTIVES

By the end of this lesson, students should be able to:

- Define 'confirmation bias' and identify why it occurs
- Explore examples of confirmation bias
- Explain how confirmation bias leads to a reinforcing news feed on social media
- Identify strategies for challenging their own confirmation biases
- Enumerate the consequences of confirmation bias on themselves and society

1.2. PRIOR KNOWLEDGE

You should already know:

- That machine learning algorithms identify stories, videos, and search results that they might like
- That fake news sources exist on the internet

02. LESSON PLAN

2.1. REAL OR FAKE?

ACTIVITY: GUESS WHICH IS WHICH

DURATION: 5 MIN

Slide 02

Let's examine some headlines together. Only one of these headlines is real. Can you guess which one?

1. *Japan Finally Abandons Microwave Ovens by 2022*, by Ima Rider, January 12, 2022
2. *New iPhone Will Come with a Holographic Keyboard and Projector*, by Wren Rudd, January 12, 2022
3. *Australia to Introduce 33 Different Genders on Passports*, by Jordan Lee, January 12, 2022



Teacher's Note: Ask the students which of these is the real headline. Gather a tally on the board to see which of the three is voted by the class to be the real headline.

In reality, none are true. Most of the students are likely to vote for headline number two about the Apple iPhone. This is likely because it sounds like it might be true based on what they already know and believe about Apple phones.

This tendency to interpret information in a way that affirms what we already believe is called **confirmation bias**, which is a type of cognitive bias.

ACTIVITY: UNDERSTANDING OUR BIASES

DURATION: 10 MIN

Slide 03

Have you ever heard the term 'cognitive bias'? What does it mean?



Play the video to explain [what the most common cognitive bias is.](#)



KEY QUESTIONS

Slide 04

What happened in the video? Why did it take so long for people to solve the puzzle?

As explained by the host, everyone continued to ask the same questions based on their initial assumption about the answer to the puzzle. The couples interviewed thought that the rule was to multiply by 2. The host told them that other number patterns also fit his rule but not their rule. All the people shown in the video had a hard time figuring out what his rule could be. Instead of trying to find a different rule, they continued to try to prove that their rule (multiply by 2) was the correct rule.

What is confirmation bias?

A tendency to interpret new information by looking for information that is consistent with one's existing beliefs or theories.

Do you have any examples of confirmation bias from your own experience?

Teacher's Note: Ask the students to share their thoughts. Give some examples to help them better understand. For example, if they are told that a comedian is very funny, are they more likely to give that comedian the benefit of the doubt and find them funny? If there is a very popular movie which everyone says is good, are the students more likely to feel that the movie was very good even if it really was not that good in their opinion?

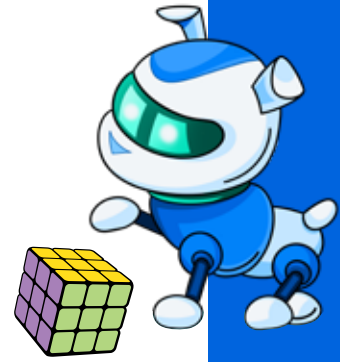
What did the host say was a good way to overcome confirmation bias?

Approach the question differently. Instead of trying to always confirm your answer is correct, try to find reasons why your answer is incorrect or does not fit the rule. Try NOT to confirm what you believe but try to confirm the opposite.

Slide 05

Confirmation Bias

A tendency to interpret new information by looking for information that is consistent with one's existing beliefs or theories.



ACTIVITY: THINK-PAIR-SHARE

DURATION: 15 MIN

Pair up with a classmate for this activity.

Slide 06-08

Amit and Sara are two diehard cricket fans. Read their profiles together with your partner. Next, look at the headlines listed below and determine for each one, whether it is more likely to feature in Amit's newsfeed or Sara's. Keep in mind that not only do they love to read about the accolades of their favourites, but they also like to see when the other player falls short.

Be ready to share your answers with the class.

Teacher's Note: Ask the students to pair up and work through the worksheet below. When they are done, ask them if they had thought about the fact that if they are mainly getting their news through social media like YouTube or Instagram, then they are already getting a filtered version of the news. Even their Google searches may yield different results based on their past search history.

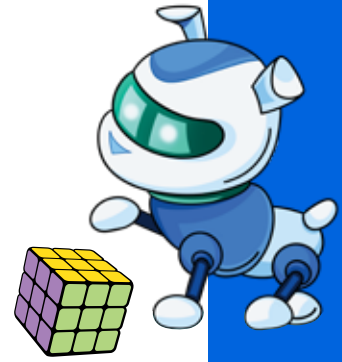
Ask them how they feel that this might impact a society's common understanding of events. Instead of reading about two cricket fans, what if they are reading about something serious such as geo-political issues, human rights issues, climate change issues, etc. Would their confirmation biases have more of an impact on their understanding of the issues?

Meet Amit

Amit is an avid cricket fan, and he loves Virat Kohli. In his mind, there is absolutely no doubt that Virat is the best batsman and captain that the Indian Test team has ever had. Not only that, he is an upstanding citizen and role model for all. Virat has crushed all the records held by Sachin Tendulkar and can rightly take his place as the number one Indian batsman of all time.

Meet Sara

Sara is an avid cricket fan, and she loves Sachin Tendulkar. There is no doubt in her mind that the Master Blaster was and is the best batsman that Indian cricket has ever known. Not only that, he is an upstanding citizen and a role model for all. She is tired of all the hype about Virat Kohli. He's always trying to stay in the spotlight, more focused on celebrity than cricket.



Headlines

- *Virat Ties Master Blaster for Most Centuries Against One Team*_(Amit)
- *Virat Kohli's 100th Test: Defining Moments of His Glittering Career*_(Amit)
- *Sachin Inducted into ICC Cricket Hall of Fame*_(Sara)
- *Virat Kohli Quits RCB Captaincy, No Decision on Replacement*_(Sara)
- *Coach Expresses Support in Spite of Virat Kohli's Lean Patch*_(Amit)
- *Virat Kohli Steps Down as RCB Captain, "There is Nothing to Be Shocked About"*_(Amit)
- *Sachin Remembers the Time Virat Called for His Help, "I am Always Open to Helping the Next Generation"*_(Sara)
- *Virat: "In 2014, I Called Sachin Tendulkar and Asked for His Help"*_(Amit)
- *Sachin's Diehard Fan Cycled to Lahore to Support India in 2006 Pakistan Tour*_(Sara)
- *Kohli's Seven Year Captaincy Ends in SA Defeat*_(Sara)
- *Tendulkar Saves Injured Bird in Viral Video Melting the Internet's Heart*_(Sara)
- *Virat Kohli Gets GOAT (Greatest of All Time) Icon on Twitter – Netizens Can't Keep Calm*_(Amit)
- *Late Lata Mangeshkar Loved Cricket and Sachin Tendulkar*_(Sara)
- *Kohli to Leave Team Mid-tour for Birth of His First Child: "I Want to Be There for My Wife"*_(Amit)
- *MS Dhoni's First Priority is Nation, No Paternity Leave for Birth of His First Child in 2015*_(Sara)
- *Remembering the 2003 World Cup Loss, Sachin's Biggest Disappointment*_(Amit)



KEY QUESTIONS

Slide 09

How might confirmation bias impact how you consume or interpret the news?

Teacher's Note: Explain that people are likely to seek out news sources or follow those who hold the same beliefs as they do. Even when seeking out people who hold different views points, people might be more sceptical or discount what they say.

How do you select which accounts to follow on social media? Are there any accounts or websites that you don't like or won't follow? Why?

Accept all answers.

Teacher's Note: Ask students what makes them not want to follow a specific person, news feed, or website. What is the reason that they will not follow these accounts? Does it have to do with their confirmation bias and potentially disagreeing with what those accounts are saying? Have any of the students actively sought out a news source which is contrary to their currently held beliefs?

2.2. CONFIRMATION BIAS AND YOUR NEWS FEED

DURATION: 10 MIN

Slide 10



Play the video to explain [how journalists think about confirmation bias.](#)

Slide 11

Think!

Can you understand how your news feeds can be individualized based on the algorithms trying to find items that you might like to see?
If this is the case, what are you not seeing?
Are you missing out on other perspectives?



Filter Bubble

A situation in which an internet user encounters only information and opinions that conform to and reinforce their own beliefs, caused by algorithms that personalize an individual's online experience.

Slide 12



Now that we know how our news feeds might be biased, play this video to show [what we can do about it.](#)



KEY QUESTIONS

Slide 13

What were two suggestions given in the video?

1. Try to argue the opposite point of view. This forces you to dig a little deeper to be able to see the opposite point of view.
2. Seek out different news sources; do not rely on a single news source and especially not social media. This is like the concept of reading laterally rather than vertically which was taught in the last lesson.
3. Think critically, rely on official news sources and do not rely on news from non-experts. This is like the lesson about the Pacific Northwest tree octopus.

What other suggestions do you have based on this lesson and previous lessons?

Accept all answers. Remember to read laterally not vertically, remember the point of view of a specific news organisation that might skew the news that you read.

What are the repercussions of a newsfeed which only reinforces our confirmation bias?

It might be more difficult to find common ground with people who think differently than we do. It might have implications on what story is told about certain groups of people or countries who are different from us. We are unlikely to learn the whole truth if we do not take into consideration multiple points of view. It may impact our friendships or relationships if we are unwilling to discuss our differences with others. For example, COVID-19 precautions or vaccines have become controversial in some places with people unwilling to talk to those who feel differently than they do about the efficacy of the vaccines.

TAKE-HOME ACTIVITY : TAKING ACTION!

Slide 14

Examine your news sources and social media feed. Identify what kind of confirmation bias is being reinforced by these sources. Document your plan to diversify your sources and seek different opinions and information.

Make a poster about confirmation bias, the filter bubble, and how to break your biases in news sources and social media feeds.



03. ADDITIONAL RESOURCES



1. Video | [“Why Do Our Brains Love Fake News?”](#), Above the Noise, 3 May, 2017



2. Article | [“How Confirmation Bias Work”](#), Kendra Cherry, Verywell Mind, 30 July, 2021



3. Video | [“How Can You Burst Your Filter Bubble?”](#), BBC Trending, 3 June, 2017



Lesson 12

**Social Media
for Social
Good**

01. OVERVIEW

Is the internet good or bad? Is social media an instrument for self-promotion or is it a medium to connect and build a community? Like any other tool, it's the nature of its usage is what makes all the difference. The internet and social media can be used to wreak havoc or do immense good for society. The future will provide students with plenty of options to participate in either, and as digitally aware citizens, they will have to make responsible choices. Let's explore the positive impact that they can bring about by finding their passion and leveraging social media for good.

1.1. LEARNING OBJECTIVES

By the end of this lesson, students should be able to:

- Explain what it means to find their purpose and why it is beneficial
- Consider different ways that others have used their digital footprint to make a positive impact on the world and whether they might do something similar
- Reflect on what their own purpose might be by identifying a problem they see
- Reflect on the skills and knowledge that they can bring to bear to make an impact

1.2. PRIOR KNOWLEDGE

Students should already know:

- Social media apps and how they are being used by influencers or celebrities
- How their digital footprint impacts their personal and professional life

02. LESSON PLAN

2.1. GOOD OR BAD?

ACTIVITY: DEBATE

DURATION: 10 MIN

Slide 02-03

Consider this question: *Are the internet and social media apps a blessing or a curse?*

You will be divided into two groups, one for and one against the above statement. You will then have 2-3 minutes to develop your arguments, after which time, the debate will begin.

Teacher's Note: Give the students about 3-5 minutes to debate the issue. Allow the team presenting "the internet and social media are a blessing" to present for approximately one minute on why they stand for that statement.

At which point, allow the opposing team (presenting "the internet and social media are a curse") to present for approximately one minute on why they stand for that statement.

After opening statements, allow the groups to take turns of roughly 30 seconds to present their points and rebut arguments from the other group.

On which side of the debate were you? Share your arguments below:

For or Against

Teacher's Note: Arguments that may be given:

The internet and social media are a blessing:

- They connect people across the world, making distance inconsequential.
- They open new avenues for livelihoods and business.
- They open up opportunities for education and work.
- They broaden options for entertainment and leisure.
- They make collaboration, partnerships and fundraising easier.
- They have led to advancements in technology.
- They enable faster, easier, and less expensive worldwide communication.

Against: The internet and social media are a curse:

- They are time-consuming and addictive and pull us away from reality.
- Newly developed technologies have hastened the decline of certain businesses (for example, print newspapers).



- They lead to an overload of advertising and spam emails.
- They provide a cheap and easily available platform to develop and easily transmit fake news.
- They give rise to cybercrime like identity thefts and hacking.
- They have created an environment for increased polarization, bullying and personal attacks.
- They have increased isolation.

Once all the arguments have been made, sum up the discussion by pointing out:

- Technology and the internet are here to stay and fully integrated into our lives.
- So much progress has happened that we now take for granted.
- The future will increasingly be defined by technology advancements like AI, XR, metaverse, robotics, etc. (to be discussed in future lessons).
- We should make the most of the opportunities coming from this world of technology.



ACTIVITY: CAMPAIGNS AND CAUSES

DURATION: 10 MIN

? KEY QUESTIONS

Slide 04

Outside of keeping in touch with friends, what are some of the benefits of social media? How can it help you to grow and lead a more fulfilling life?

Students might find it easier to make connections, find like-minded people, reach out to others, find and take up causes, learn and practice new skills online. It offers an easy means to navigate and use these platforms to spread positive messages and reach a large audience.

Share any examples you've seen of teens or young adults using social media to advocate for causes they are passionate about. They may be influencers, organizers, campaigners, artists, performers, content creators, or just students creating real impact on ground.

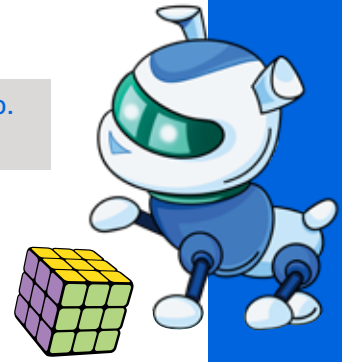
Teacher's Note: Students may mention famous youth activists like Greta Thunberg or Malala Yousafzai. There are also activists in India who are working to make a difference, please check the links in the additional resources at the end of the lesson.

Slide 05



Play this video to show how a group of American teens used [social media for good](#).

Teacher's Note: Ask the students what they thought of the students in the video. Do they feel that they could make a similar positive impact? Why or why not?



ACTIVITY: WHAT'S MY CAUSE?

DURATION: 15 MIN

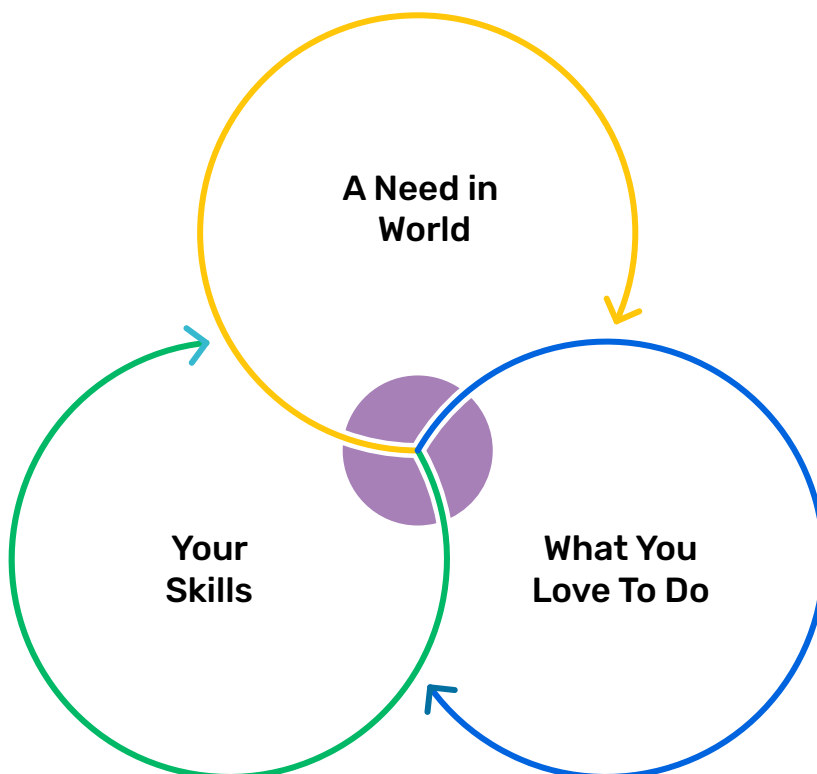
Explain each of the circles to the students. Provide an example for them to be able to relate to the graphic. Give the following example: *Let's say you are passionate about gender equality and the thought of one half of humanity being treated unfairly makes you really mad. Some of the skills that you have always been complimented on are creative writing and public speaking. What you love doing in your spare time is sketching and doodling. In this case, the intersection of these three circles would be to create something like a drawing, a poster series, a blog or a comic which could be used to raise awareness about gender inequality.*

Slide 06

Fill up the 3 intersecting circles below to arrive at your purpose:

- **A need in the world:** Something that bothers you immensely, that you think needs to change. It makes you really mad or sad!
- **Your skills:** What you get complimented on all the time, something that comes naturally to you.
- **What you love to do:** How you would spend your time if you had no responsibilities.

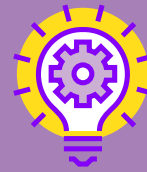
At the intersection of these 3 circles may lie **your purpose**.



Purpose

A stable and generalized intention to accomplish something that is at the same time meaningful to the self and consequential for the world beyond the self.

William Damon
Director of Stanford Center on Adolescence



Slide 07

Teacher's Note: Ask students to use this framework to identify their cause with respect to their skill and the things that they love to do. They should work independently on this.

A need I see is...

Students to document for themselves.

My skills are...

Students to document for themselves.

What I love to do is...

Students to document for themselves.

My purpose is...

Students to document for themselves.

TAKE-HOME ACTIVITY: WRAP UP

DURATION: 5 MIN

Slide 08

Teacher's Note: Ask the students about their experience of doing this exercise. Ask a few students to share what they identified as their purpose. In terms of crossover of technology and purpose, can they start a social media campaign for a cause or can they write a blog, create posters, mobilize people, etc.?

The idea may not be fully fleshed out but they can continue to work on it at home to not only identify their purpose but to come up with a plan as to what they might do about it.

What are your insights from this exercise?

Accept all answers.

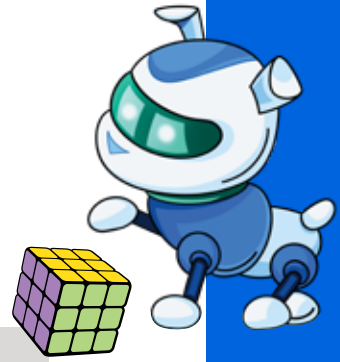
How can you use technology and social media to do good in your own life?

Share two examples.

Accept all answers.

Make an action plan to work on your purpose. How can you leverage the intersection of technology and purpose to amplify your actions?

Accept all answers.



ACTION PLAN TEMPLATE

Slide 09

My Goal is: (For example: Collect 100 story books to give to less fortunate students ages 5-10)

Action Description	Action Doer	Start Date	End Date	Resources Needed (People, Items, etc.)	Expected Result of My Action
Make a poster which explains what I am trying to do and asking for book donations	Me	15/4	17/4	<ol style="list-style-type: none"> Poster software like Canva, Adobe Spark, etc. A drop-off location to be able to collect my books 	I will have a poster ready to share which can be used on social media, in school and in my community

03. ADDITIONAL RESOURCES



1. Article and Video | [“Seven Ways to Help Teens Find Purpose”](#), Patrick Cook-Deegan, Share My Lesson, 5 January, 2018



2. Article | [“Meet These Six Young Climate Activists Fighting for a Better World”](#), Simran Rawat, Youth Ki Awaaz, 25 April, 2020



3. Article | [“Meet the 18 Young Environmental Activists Chosen by the UN for Its Global Climate Change Campaign”](#), Divya Gandhi and Bindu Gopal Rao, The Hindu, 7 November, 2021



4. Article | [“Activities to Help Your Teen Discover their Passion and Purpose”](#), Beta Bowl



Lesson 13

Building Your Digital Profile

01. OVERVIEW

Research shows that happiness in life is less about what you do and more about why you do it. When your actions have purpose, they lead to positive results. As the students continue to explore what their purpose is, consider different ways in which people have used their digital footprint to make a positive impact on the world. It is not about the digital footprint; it is about the students' impact on their community. By doing good, they can also do well.

1.1 LEARNING OBJECTIVES

By the end of this lesson, students should be able to:

- Explain how digital footprints become increasingly important as they get older
- Learn that there are people their age who are making a difference in this world and how they can become one of them
- Refine their purpose and turn it into action
- Reflect on their digital footprint to ensure that it accurately represents who they are and how they want the world to know them

1.2 PRIOR KNOWLEDGE

Students should already know:

- The importance of digital etiquette
- That once they post something, they cannot take it back, even if they delete the post
- How digital footprints shape how others perceive them
- The fact that many colleges, universities, or future employers are likely to check their social media accounts before making a final offer
- How to categorize positive and negative digital footprints

02. LESSON PLAN

2.1 DIGITAL FOOTPRINTS



ACTIVITY: CASE STUDY

DURATION: 10 MIN

Does anyone remember the story of Prateek from Digital Citizenship Level 2? Let's revisit his story.

Slide 02

Prateek's University Admissions

Prateek has applied for admission to a prestigious university. He has good grades and has cleared the entrance exams and interviews. One day he receives an email from the university saying that he will not receive admission to the school due to the university's zero-tolerance policy on bullying.

Prateek is surprised as he has not bullied anyone since he got into high school. He decides to go to the admissions counsellor to find out the exact reason for the rejection of his application.

The admissions counsellor shows him an objectionable and abusive writeup he had posted around 6 years ago about a classmate. The university had seen this online and reconsidered Prateek's application in a new light.

? KEY QUESTIONS

Slide 03

What are some important things that you can learn from Prateek's story?

Digital footprints do not go away so easily, bullying is not the answer, universities are paying attention.

What about positive and negative footprints? What do you remember of those?

Teacher's Note: Ask the students to reflect on what makes positive footprints and what makes negative footprints. Ask them to name specific positive and negative footprints and capture them on the board. Ask them to reflect on how a single negative footprint had such a significant impact on Prateek's future.

Why is it important to follow social media etiquette?

Social media etiquette is an approach to being online in a positive and respectful way. Many social media platforms have guidelines which will be enforced if someone is not reported for violating the guidelines. Be mindful before posting anything online. Avoid being a spammer. If you see any of your friends doing something wrong on any social media platform, help them understand the after-effects their action would have.

List three rules that you must follow before publishing anything on social media.

- Remember that there are actual people on the other side of your messaging.
- Don't post when angry.
- Don't use all caps (it's like shouting).
- Speak kindly to others and think carefully before posting.
- Remember that once you hit 'Send', you can never take it back.

2.2 ROLE MODELS

DURATION: 10 MIN

Slide 04

Having a "clean" digital footprint is a good idea but, if your digital footprint is only for show, that does not really help anyone, and it certainly will not help you.

How can you put your best foot forward by being your best self?

Who are your role models? Do you look up to and admire celebrities? Or sports stars? How about people your own age?



Play the video to show [how young people can become role models for each other.](#)

Teacher's Note: Ask the students to reflect on the video. Do they have any friends or peers that they admire for their good work or good deeds? How can living a life as a good and kind person pay off in the long run? Ask: *Why wait when you can start making an impact now?*

Slide 05

Think!

Experts say that colleges want more than just a student with good grades and impressive test scores – they want someone of high character.

Says Marilyn Hesser, Executive Director of Admission at the University of Richmond in Virginia: *As a residential campus, when we're reviewing candidates, we're just not admitting students for the classroom; we're admitting students to be a part of this community.*



ACTIVITY: TURNING PURPOSE INTO ACTION

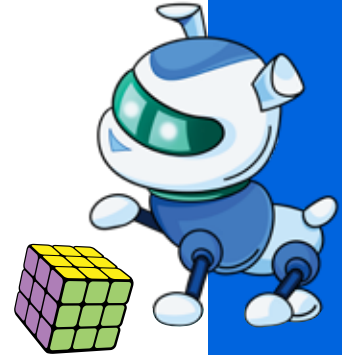
DURATION: 15 MIN

Slide 06

In the previous lesson, we spoke about finding your purpose. Let's explore more on how you can turn your purpose into action.



Play the video
about [one student](#)
who did just that.



KEY QUESTIONS

Slide 07

What did Marley Dias do to get her project going? What tools did she leverage to help her reach her goal?

She chose a very specific goal (to get 1000 books), she asked her parents for help, she started a hashtag, she used Instagram, she used traditional media (like going on TV talk shows).

Was it easy for her to achieve her goal?

She said that when she first set the goal, she did not think that she could achieve it but, by leveraging a variety of media tools, she received more than 4000 books against her goal of 1000.

Slide 04

How can you similarly leverage social media for good to realize your purpose?

Here are some important tips:

- **Sharpen your focus:** Marley came up with a very specific goal that was easy to quantify. You should be able to easily communicate the problem that you are trying to solve so that others will know what you are working towards.
- **Gather feedback:** Feedback is a critical step in the ideation process. Start sharing your ideas with others and ask for their feedback on what you are planning. Do they have ideas to make it better? Do they know someone who can help you?
- **Connect with others:** Leverage all the tools at your disposal to connect with others and spread your message:
 - Social media
 - Messaging apps or email
 - Create a website
 - Events (community or school events, or create your own events)
 - Contacts from family and friends
- **Start a campaign:** Create a campaign for the cause that you care about, what you are doing to make a change, and how others can get involved.



Teacher's Note: Ask the students to pair up and review their brainstorm sheet from the last lesson with one another. Ask them to gather feedback from one another which can help them to continue to sharpen the focus of their idea and enable them to crystalize a solution.

03. ADDITIONAL RESOURCES



1. Article | ["Valedictorian Anonymously Posted Kind Words about Classmates on Instagram for Nearly a Year"](#), Cameron Keady, HuffPost, 6 December, 2017



2. Video | ["Do You Know all 17 SDGs?"](#), United Nations, 21 April, 2018



3. Article | ["How to Write Your High School Resume for College Applications"](#), Indeed Editorial Board, Indeed, 8 September, 2021



Lesson 14

Exploring the Future of Our Digital World

01. OVERVIEW

Technological change is all around us. From the 1960s until today, we have seen a rapid rise in technology-based solutions to problems both big and small. The things that we thought were fantastical 10 or 20 years ago are now becoming realities. In fact, the Apple iPhone, the world's first smartphone, was launched in 2007 and smart phones have now become the norm. If this pace of change continues, where will it take us in the next 50-60 years?

1.1. LEARNING OBJECTIVES

By the end of this lesson, students should be able to:

- Understand the rate of change in the digital world
- Identify new technologies or new applications of technology that are being introduced every year
- Explain the emerging technologies of Extended Reality (XR) and the metaverse
- Brainstorm new inventions which can leverage these technologies to make our lives better

1.2. PRIOR KNOWLEDGE

Students should already know:

- The terms 'big data analytics', 'machine learning', and 'algorithms'
- How data is being collected and used to understand customer preferences and develop new products

02. LESSON PLAN

2.1. BACK TO THE FUTURE

ACTIVITY: DISCUSSION

DURATION: 10 MIN

Slide 02

The purpose of this discussion is for students to realize how much technology has changed in a relatively short span of time. They can think about future changes and what the world might look like.

Close your eyes for a moment and think about everything you did last evening after reaching home.

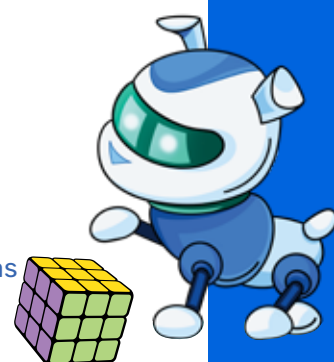
Teacher's Note: Ask: *Did you go online? Did you message your friends or run an internet search to complete your homework? Did you order anything or stream videos? Did you use a microwave to heat anything?* Remind them that all these activities are fueled by technology.

Now imagine how your parents or grandparents would have lived. How many of the activities that you did would they have been able to do? How do your parents or grandparents react to the technology that is available to you today?

Teacher's Note: Have the students ever watched an old movie in which the characters book a trunk call or use reams of paper in their office work? Point out the changes that technology has brought and discuss how these changes have made life easier but at the same time more complex.

How many of your devices or activities could you have accessed even five years ago? How much has technology changed just in your lifetime?

Teacher's Note: Ask the students to think about online gaming compared to a single player computer game on a handheld device, online school compared to in-person learning, the rise of many different platforms for online movies or TV serials, etc. Do they have an older sibling? Have they ever discussed the technological changes that their sibling has seen? What would that sibling say about the technological changes in the last 5-10 years?

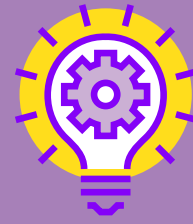


Did You Know?

In today's information age, every minute:

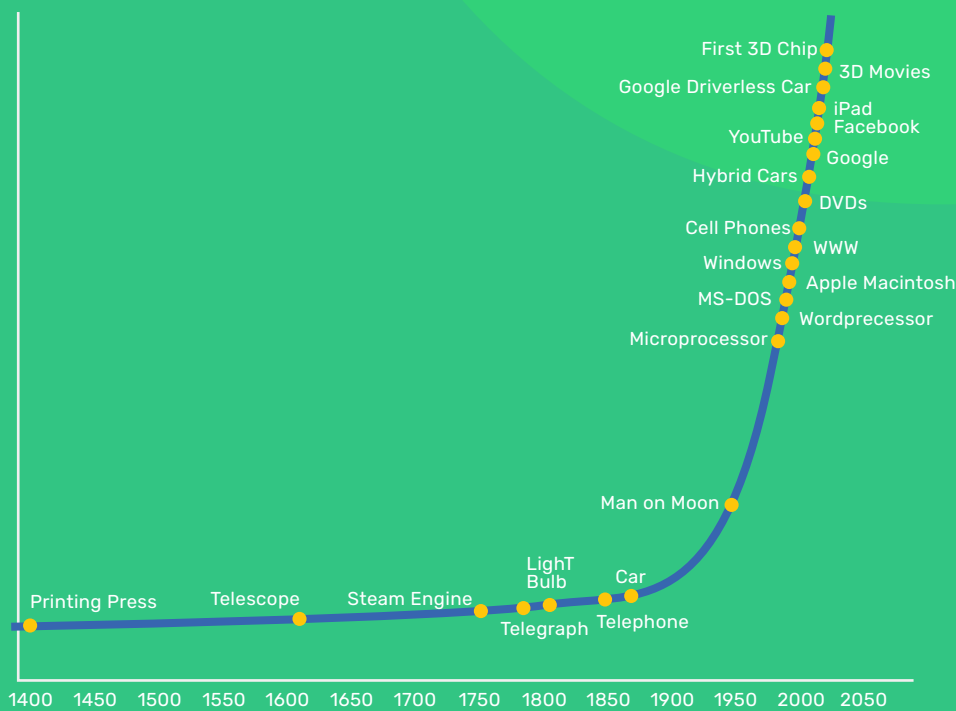
- Google users conduct 57,00,000 searches
- YouTube users stream 6,94,000 hours
- WhatsApp users send 4,16,66,667 messages
- Facebook users share 2,40,000 photos
- Facebook Live receives 4,40,00,000 views
- 60,00,000 People shop online
- TikTok users watch 16,70,00,000 videos

And much more!



Slide 03

Accelerating Growth in Technology



As the chart shows us, technological growth has been accelerating over the last 50-60 years. If the digital world has changed so much in the last 50 years, can you imagine how it will look in the next 50 years?

Teacher's Note: Ask the students to think about some of the changes that they can envision over the next 10-20 years. Ask them to share their ideas. What do they hope for in terms of new technology? What do they think is realistic to see?

ACTIVITY: THE FUTURE IS NOW!

DURATION: 15 MIN

Slide 04

We are going to explore different use cases which are already changing people's lives.

Language Translation: Examine the below graphic. Can you guess what each bubble says?

Instead of guessing, let's find a way to translate the bubbles.



First let's try Google Translate. Open your browser and go to Google Translate. Ensure that the first language is set to "detect language".

Type in: *Sawubona*.

What did you learn?

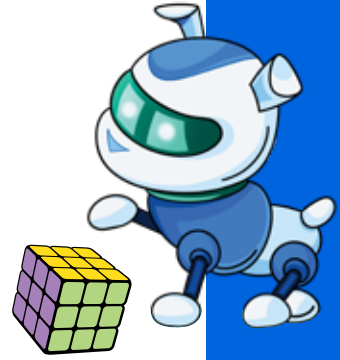
While this is an accurate way to translate a word, if you have to do it one by one, it's not that efficient or useful.



Now let's try [Google Lens](#). Ask students to download the app on their phones. Then, ask them to point the Google Lens at the picture. What do they find?

Demonstrate this part if students are not allowed phones in class. You can ask them to try it at home when they have access to a phone or tablet. Google Lens allows you to search for the same or similar images online; it can even translate it into English for you. You can change the language to any of the languages in the drop-down menu. Note: Google Lens for Desktop does not have the translation feature as yet so, you can only demonstrate this on a phone.

Ask the students how they might be able to use an app like this. How does it change their ability to communicate with others, read novels from other countries, or travel abroad more comfortably?



How Does It Work?

Google Lens is an AI-powered technology that uses your smartphone camera and deep machine learning not only to detect an object in front of the camera lens, but also to understand it and offer actions such as scanning, translation, shopping, and more.



Healthcare: Technology is enabling incredible advancements to help us fight disease and improve quality of life.

Slide 05



Play this amazing video [about how advancements in medical technology are changing lives.](#)



KEY QUESTIONS

How do you feel after watching the video?

Accept all answers. Generally, it should be viewed as a positive use of technology to solve some big health problems and help people live a more normal life.

What are some other areas of healthcare which could be improved with the use of technology or big data?

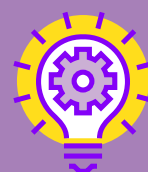
There are many examples in healthcare for tech or big data.

- Robotics in surgery to improve accuracy and fine surgical work
- Improved scanning technology for detection of diseases
- Use of robotics to create artificial organs or limbs in replacements or organ support (such as maybe an implant which could help a kidney function better)
- Use of big data for disease detection.

Teacher's Note: Also, point the students to the article in Additional Resources (third resource) which highlights how big data is being used to detect cardiac diseases. What other examples can the students come up with?

Did You Know?

An artificial intelligence-powered tool to more accurately predict heart disease risk among Indians and recommend modifiable changes to prevent heart attacks has been launched by Apollo Hospitals in partnership with Microsoft.



Shopping: Think how digital technology has changed the way we shop.

Slide 06



Play the video describing [how technology can make it easier to shop.](#)

? KEY QUESTIONS

How do you feel about this technology? What are the pros and cons to shopping this way?

Pros are that you don't need to go into the store to shop, you can check the product from your home and order online. The con is that the app is likely to be gathering even more information about you to target ads towards you.

What other use cases can you envision for this kind of technology?

There should be lots of other shopping ideas in this space. Some similar apps could be developed to check how a new haircut or spectacles might look on you; trying a new makeup palette, etc.

Teacher's Note: Check whether students realize that this is very similar to how social media filters work when they overlay bunny ears or glasses on our selfies.

How Does It Work?

Also known as virtual fitting technology, this innovation enables consumers to try on garments for size, fit, and style without physically wearing the product. As a camera-equipped device captures the customer, underlying AR technology maps a realistic virtual representation of the product over their real-world image to show how the product would look on the customer's body.



2.3. XR : EXTENDED REALITY AND THE METAVERSE

DURATION: 10 MIN

Slide 07

We will explore the concepts of XR and the metaverse. Afterwards, there will be a think-pair-share activity in which the students can come up with their own ideas about how to use these technologies.



KEY QUESTIONS

Have you heard the terms AR, VR, MR, or XR before? What do you know about these technologies?

Accept all answers.

Teacher's Note: It is likely that some students may have heard of the terms AR or VR. They may have studied these topics in another class. It is more likely that MR or XR are newer terms for the students.

Have you ever used any of these technologies before?

Most common use case for students will be the use of filters on photos or in video gameplay where they have an avatar which moves through the virtual world (like Fortnite). XR will be much more experiential than a video game as it will be in 3D and surround.



Play this video to explore how [these technologies work](#).

Slide 08



Ask: Have you heard of the term the 'metaverse'? What do you know about it?

Check for vocabulary understanding.

Slide 08

Definitions You Should Know

Augmented Reality (AR)

An enhanced version of the real physical world that is achieved through the use of digital visual elements, sound, or other sensory stimuli delivered via technology.

Virtual Reality (VR)

The use of computer technology to create a simulated environment, usually via head mounted display (HMD).

Mixed Reality (MR)

The use of advanced computer technology, graphics, and input systems to blend physical and digital worlds.

Extended Reality (XR)

A universal term inclusive of immersive learning technologies like virtual reality (VR), augmented reality (AR) and mixed reality (MR).

Metaverse

An online space where people can interact in a more immersive way.



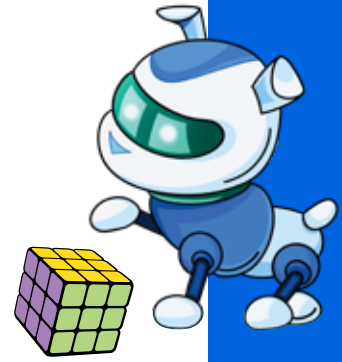
Ask students what they think about the various technologies. What do they think about the metaverse? Are they excited? Do they think it will be good? What are the drawbacks of the metaverse?

ACTIVITY: THINK-PAIR-SHARE

DURATION: 15 MIN

Slide 10

Form pairs or small groups. Using the below questions, brainstorm a list of different use cases for XR or the metaverse. Select 2-3 which you think will be the most useful. Be ready to share your answers with the class.



? KEY QUESTIONS

What were some use cases for AR and VR that you saw in the first video? Can you think of other use cases for XR?

In the video they showed video games like Pokémon Go, playing in a Lego world, ability to include characters like Spiderman in your videos and photos. They also showed more industrial use cases like a mechanic using AR glasses to work on a car engine and a business meeting in which a group of people were viewing a building.

What were some of the use cases for the metaverse that you saw in the second video? Can you think of other use cases for the metaverse?

In the video they showed many different use cases: video games, a business meeting in the metaverse, fashion companies that are ready to sell digital clothing for your avatars to wear (this would be similar to skins in games like Fortnite) and metaverse rock concerts. Other ways to use the metaverse might be as a tool for learning, for example, learning about the human body's systems or practicing a surgery in the metaverse or using the metaverse for experiences such as travel (on Earth or into space or through time).

TAKE-HOME ACTIVITY: RESEARCH

Slide 11

Using your list of ideas from the Think-Pair-Share activity, do some research on your own to see whether something similar already exists.

You can check to see what is already available or you can see what research or ideas are being explored along similar lines to what you were thinking.

03. ADDITIONAL RESOURCES



1. Article | [“What is the Fourth Industrial Revolution?”](#), Devon McGinnis, Salesforce, 27 October, 2020.



6. Article | [“What is Extended Reality? Everything You Need to Know”](#), Roundtable Learning



2. Video | [“Technology in 2025”](#), Pluralsight, 2 August, 2017



7. Video | [“What is Augmented Reality \(AR\) in 60 Seconds”](#), Bernard Marr, 9 February, 2021



3. Article | [“AI-Powered Tool to Predict Cardiac Risk in Indians More Accurately”](#), Uma Sudhir, NDTV, 29 September, 2021



4. Article | [“Augmented Reality”](#), Adam Hayes, Investopedia, 2 December, 2020



5. Article | [“What is Virtual Reality”](#), Joe Bardi, 3D Cloud Marxent, 26 March, 2019.



Lesson 15

**Exploring
Digital
Careers**

01. OVERVIEW

Although college, university, or a job may seem far away, the reality is that students should start planning for those events now. The digital future offers many exciting and challenging opportunities and as technology continues to change, new opportunities will emerge. In this lesson, students will learn about technology career trends. We will close the lesson by helping students identify skills and talents against which they can start to think about their own future.

1.1 LEARNING OBJECTIVES

By the end of this lesson, students should be able to:

- Explain which types of jobs will be replaced by robotics and which jobs and skills will still be needed
- Explain how consumer goods companies will use AI to anticipate customer needs before an order is placed
- State the differences between a data analyst and a business analyst and which skills are needed for each of these roles
- Enumerate the different types of roles that are needed in cybersecurity
- Reflect on their skills and talents and what kind of job or career they might be interested in when they are older

1.2 PRIOR KNOWLEDGE

Students should already know:

- The basics of big data and machine learning
- The definition of a 'white hat hacker' and what it means to be an ethical hacker
- Emerging technology trends as discussed in the previous lesson

02. LESSON PLAN

2.1 WHAT WILL THE JOBS OF THE FUTURE LOOK LIKE?

DURATION: 10 MIN

Engage the students in discussion. Have they thought about what kind of a career they might like to have? Have they realized that their digital and online skills will be highly valued in the future? Have they thought about the changing nature of work given so much industrialisation?

Slide 02

Have you ever thought about what kind of job or career you wish to pursue after school?

Now that you have been more exposed to the online world and become a digital citizen, you might have realized that there are many kinds of digital jobs today and in the future.

Slide 03

You might have seen some videos about how humans will no longer be needed in the work force but, is that true?



Play the video to [explore whether robots will take our jobs.](#)



KEY QUESTIONS

Slide 04

In the video, Elon Musk is seen saying that robots will be able to do everything better than humans. What do you think?

Accept all answers. While robots will be able to do some things better than humans, they will not be able to do everything that humans can do.

What kinds of jobs will be easier for robots to do?

Jobs that are repetitive are best suited for robotisation. Mentioned in the video are jobs like transportation (self-driving trucks), logistics (pick and pack operations at warehouses) and administrative assistants (scheduling meetings, booking travel arrangements, printing, typing).

Teacher's Note: Ask if there are any other jobs that the students can think of.

Potential answers:

- Manufacturing jobs on assembly lines
- Crop harvesting and sorting
- Trash sorting
- Entering dangerous environments (like the disaster at the Fukushima nuclear power plant)
- Chatbots
- Writing basic news articles
- Basic language translation



What are the advantages of using robots for these jobs?

These are jobs that do not require a high degree of skill and are repetitive. They can reduce human health risks, withstand different kinds of environments, and reduce errors in manufacturing as well. As mentioned in the video, robots can operate 24x7 and do not need lunch breaks.

The video makes the argument that jobs will be created due to robot automation in certain industries. What kinds of jobs will be needed that robots can't do?

Potential answers:

- Computer programming
- Building, maintaining, and designing the robots
- Service jobs like nursing, teaching, caregiving
- Jobs that require more thinking, more fine motor skills (like sewing, harvesting of certain fruits or vegetables), more creativity
- The challenge will be in making sure that people have the right skills to be able to work in these new jobs

What are the skills that you think these non-automated jobs will require?

Programming skills will be needed, creativity skills, interpersonal skills for service jobs, fine motor skills, qualitative decision-making skills (not based purely on numbers).

2.2 THE FUTURE OF BIG DATA ANALYTICS

DURATION: 15 MIN

Slide 05-06

In early lessons, we learned about machine learning and big data analytics. These are two areas which will continue to be important in the coming years.

How might data analytics be used in the future?



Play this video featuring a futurist who is looking at [how AI will change the future](#).



KEY QUESTIONS

Slide 07

What was the example of the use of big data shared in the video?

He spoke about the anticipatory ordering that Amazon will do if they believe you are going to order something soon.

What are the advantages for a company like Amazon in using this anticipatory ordering process? Are there other businesses or companies you can think of that can take advantage of this technology?

Amazon's advantages would be that they can carry less inventory if they can predict what and when you will order. Once you place the order, Amazon could ship it to you right away because the

product will be in their warehouse already. This is likely to improve their customer service ratings and customers may switch from other shopping platforms to Amazon. Other shopping platforms could take advantage of this kind of big data as well, for example Swiggy can analyse your ordering patterns and sell the data to local restaurants. The restaurants could then offer you discounts, or other perks based on their anticipation of what and when you may order. It may not be long before your home appliances will be able to alert you that you need to buy more milk or bread.

Do you think that this is a good use of data analytics? How do you feel about online shopping sites anticipating your shopping needs? Is that a good thing or a bad thing?

Teacher’s Note: Gauge student reactions to this capability and their reasoning for liking or disliking it. While it may be good in that you can get what you need when you need it, you are also giving up a fair amount of privacy. Are all of the students comfortable with that trade-off?

Slide 08

In addition to programming and coding skills, what other kinds of skills do you think will be needed to take advantage of these new uses of data?



Play this video to establish the [difference between a business analyst and a data analyst](#) and to show how the two different roles work together in data analysis.

Slide 09

What did you learn about each of these roles? Make a few notes in the table below.

Business Analyst	Data Analyst
Less technical, expertise lies more in business or economics	More technical, usually a CS type role
Gathers information from customers, business patterns, suppliers, etc.	Gathers and analyses data points
Reads and interprets the reports based on business knowledge	Formats the data in a way that makes it easy to understand, such as reports or graphs
Focus is on understanding the business and using the data to make decisions which can grow or change the business	Focus is on understanding and manipulating data—what data is available, can it tell any story, how to make it easily understood
Makes business decisions	Makes data decisions



KEY QUESTION

Of all the different kinds of careers that we have seen mentioned in data analytics, which sound interesting to you? Why?

Accept all answers.

2.3 CYBERSECURITY CAREERS

DURATION: 10 MIN

Slide 10-11

Another subject that you have learned a lot about is cybersecurity. Do you remember the role of the ethical white hat hacker? Did you know that there are many different roles in cybersecurity beyond being a hacker?



Play this video to show [what kinds of roles there exist in cybersecurity.](#)



KEY QUESTIONS

Slide 12

Are you surprised that there are so many different roles in the world of cybersecurity? Do you remember the various roles?

The roles are graphic designer, social engineering trainer, network security admin, social media consultant, ethical hacker.

When you learn about cybersecurity, what kind of organizations do you think that you would work in? While there are cybersecurity-specific companies, there are also companies that have cybersecurity as a branch of their whole organization. Can you think of any examples?

Most companies today will need cybersecurity experts and you could work in fields like banking, healthcare, government, education.

Teacher's Note: Ask students if they can think of any others.

ACTIVITY: WHAT DOES YOUR FUTURE LOOK LIKE?

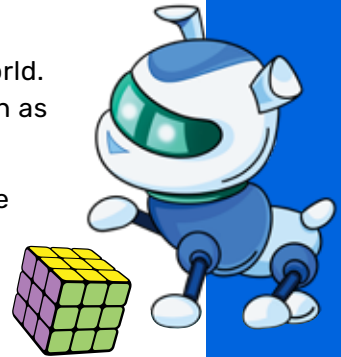
DURATION: 5 MIN

Slide 13

This lesson has offered a glimpse of different career paths based in the digital world. This is just a small window into the different paths that you might be interested in as you continue through school and learn more.

An important factor to consider when you are choosing your course work over the next few years is how this course work ties not only into various career paths but into your skills and interests as well. What kinds of classes should you take now to be ready for the digital jobs of tomorrow?

Take a few minutes to consider **one or two potential jobs** that sound interesting to you. These can be digital jobs or any other type of job that you would like to learn more about.



Slide 14

Fill in the KWL template.

Take your time to fill out the template and do some research. Use what you learn to have a discussion with an adult in your life—a parent, a family member, or a teacher.

Good luck!

What I Know (K)	What I Would Like to Know (W)	What I Learned (L)

03. ADDITIONAL RESOURCES



1. Video | [“Jobs of the Future Will Be What Robots Can't Do”](#), Stephen Danelutti, 23 November, 2016



2. Video | [“What Jobs Will Flourish in the Future. And Which You Should Avoid | Michio Kaku | Big Think”](#), Big Think, 24 June, 2018



3. Video | [“Day at Work: Video Game Designer”](#), ConnectEd, 21 October, 2010



4. Article | [“How to Choose the Best College for Admission After Class 12”](#), India Today, 9 October, 2021



5. Article | [“Courses After 10th Class in India - Check List of Top Courses, Fee, Duration, Salary & More”](#), Careers360, 11 January, 2022



6. Video | [“Why High School Students Should All Learn Computer Science | Kevin Wang | TEDxFargo”](#), TEDx Talks, 29 November, 2017



Lesson 16

**Group
Project**

01. OVERVIEW

This Skills course is almost complete. The final 3 class periods will be used for the students to work on and complete their group projects. First, we will perform a short knowledge check followed by the group project brief. The group project will count for 20 points of the final evaluation for the course.

1.1 LEARNING OBJECTIVES

By the end of this lesson, students should be able to:

- Develop and implement a campaign for good in their local community or in their school

1.2 PRIOR KNOWLEDGE

Students should already know:

- What project for good (Lessons 12 and 13) interests them
- What they see as a need—something that makes them mad and that they would like to fix
- What their skills and interests are that can contribute to a campaign for good

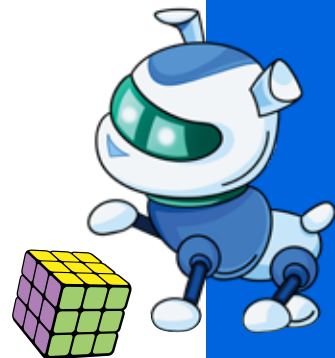
02. LESSON PLAN

ACTIVITY: KNOWLEDGE CHECK

Test what you have learned and what you remember from all the lessons we have covered so far.



Administer this [Knowledge Check Level 3 quiz on Quizzizz](#).



ACTIVITY GROUP PROJECT

Divide the students into groups. Group together students with similar ideas for projects. Determine the size of the groups based on the ability of the teams to create and implement a campaign. It is not required that the campaign be digital. It might be easier if it is not a digital campaign especially if not all of the students are on social media.

Each group can choose one of the projects for good which the students have brainstormed in previous lesson periods.

The next class session can be used as a working session for the students to develop their projects further.

The last class session is meant for the groups to present their concepts and implementation plans for their campaigns.

Focus the students on doing something impactful for the school or the local community.

Slide 02-03

In your groups, review each person's idea for your 'campaign for good' which you developed in Lessons 12 and 13. Select one of these ideas for your group project.

Remember that your purpose should be aligned to your skills and what you love to do. Poll the members of your group to uncover all the skills and passions within your group that you can leverage for your campaign for good.

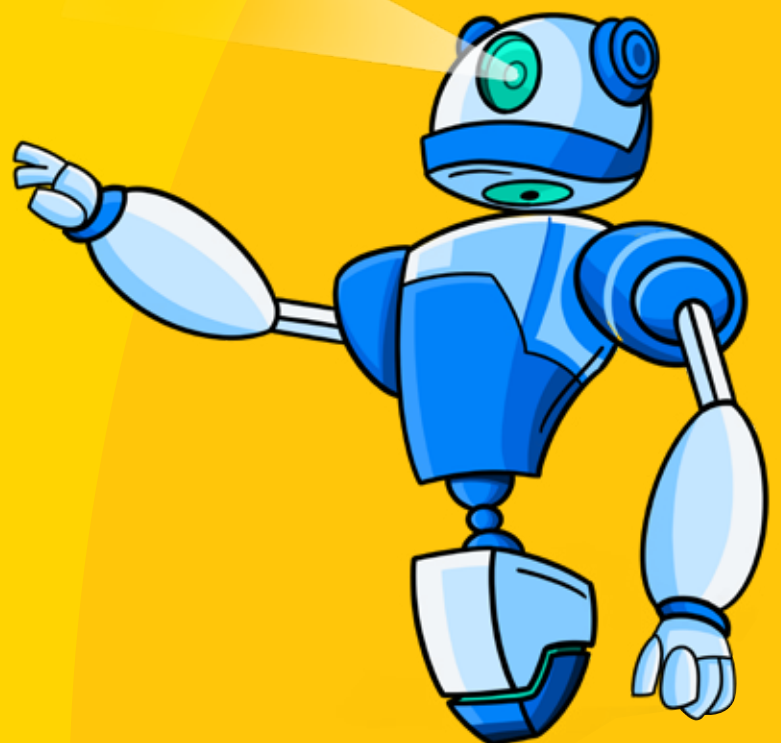
Refer to the section in Lesson 13 titled: *Turning Purpose into Action*. Read through the important tips to understand the approach you need to take to launch your campaign.

Work together to develop and launch the campaign either in your school, in your community, or on social media. Your focus should be on finding a cause for good which the group can rally behind and implement.

Slide 04

Here are some examples:

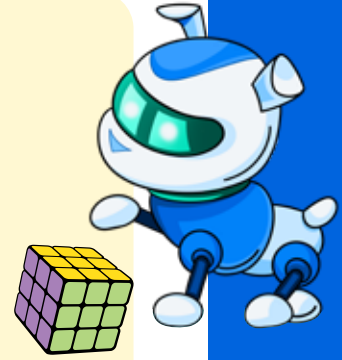
- Teach the students in the lower grades about an important topic such as recycling, water conservation, digital citizenship, etc.
- Help the school's support staff with a donation drive, an education session on a specific topic like digital citizenship or menstrual health, run a signup drive for medical insurance, etc.
- Work with the school administration on a project to improve the school such as a cleanup campaign, an anti-bullying campaign, a water conservation campaign, community kitchen, etc.
- Present a play to the students or parents on an important topic such as gender inequality, importance of education, digital citizenship, etc.



Total points: 20

LEVEL 3 KNOWLEDGE CHECK

This revision quiz is designed to help you remember and check your learning from this Level 3 digital citizenship CBSE Skills class.



Q1. Which of the below is not a way to tackle FOMO?

- a. Living in the now – engaging with others in person
- b. Practicing gratitude for what and who you have around you
- c. Posting photos from the dressing room while trying on the latest fashions
- d. Accepting that we all have limited time and can't possibly participate in everything

Q2. A K-nearest neighbour algorithm is...

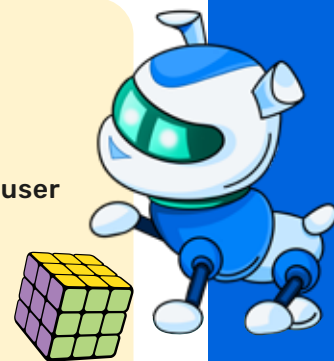
- a. One way in which streaming services can identify videos you might like based on your past viewing.
- b. One way to identify which two pieces of data occur side by side in the memory of your computer
- c. One way in which streaming services can identify videos that are trending
- d. One way to find two completely different movie recommendations and present them to the viewer

Q3. Which of the following are good ways to have healthier interactions online?

- a. Don't get personal
- b. Listen to others' point of view
- c. If things go too far, step back
- d. Use "I" statements
- e. All of the above

Q4. Why is lateral reading a more effective way of determining misinformation than reading vertically (scrolling down a page)?

- a. Staying on the page and reading closely doesn't always determine whether information is credible.
- b. A website might look authoritative and official, but that doesn't always mean it's reliable.
- c. It helps you find corroboration to verify a source's claim.
- d. All of the above



Q5. is a situation in which an internet user encounters only information and opinions that conform to and reinforce their own beliefs, caused by algorithms that personalize an individual's online experience.

- a. Misinformation
- b. Filter bubble
- c. Fake news
- d. Disinformation

Q6. In finding your purpose, you can combine your skills, what you love to do, and to make a difference in the world.

- a. A way to fulfill your community service requirements
- b. A project to put on your CV
- c. A way to get your name in the newspaper
- d. A need in the world, something that bothers you and that you think needs to change

Q7. An online space where people can interact in a more immersive way is called the

- a. Metaland
- b. Metaverse
- c. Universe
- d. Metaworld

Q8. When using threat modeling, you should ask yourself (select as many as apply)...

- a. How much trouble am I willing to go through to avoid the consequences?
- b. How can I take everything offline to keep it safe from cyber exploiters?
- c. What do I want to protect?
- d. What information is it too late to protect?
- e. How bad are the consequences if I fail?

Q9. An ethical hacker is someone who works for a company to...

- a. Steal their data from the inside
- b. Allow other hackers inside the firewall
- c. Find weaknesses in the systems and software which the company can strengthen
- d. Get benefits like free lunch and great healthcare



Q10. Which of the below is not a risk of using facial recognition?

- a. Organizations could use it to track you anywhere you go
- b. You might be mistaken for someone else as the technology is not yet error-proof
- c. It makes unlocking your phone more convenient
- d. It can invade your privacy

Q11. An upstander is someone who sees an instance of bullying and...

- a. Does not intervene
- b. Joins in
- c. Confronts the bully
- d. Walks away

Q12. The motivations of a black hat hacker might be (select all that apply)...

- a. Gaining fame
- b. Stealing money
- c. Helping others
- d. Deleting their digital footprints

Q13. Machine learning is...

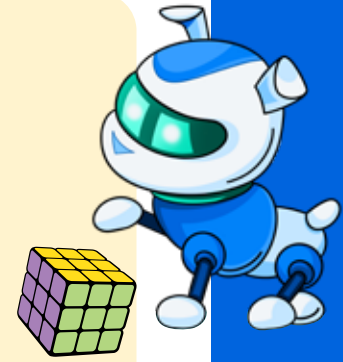
- a. When a machine goes to university to learn
- b. When a machine networks with other machines to learn from one another
- c. When a machine is learning how to identify a cat photo after examining hundreds of similar photos
- d. When a machine stores research books in its memory

Q14. In doing her research, Prachi found an article about the negative effects of eating fish. She was surprised to read this but, the website looks reliable. Prachi wants to include this fact in her homework assignment. What should she do?

- a. Make sure to include the website's URL in the report
- b. Ask a friend if they think that the information on the website is real
- c. Share the website on social media so that others can see what she is working on
- d. Research the topic on other websites to make sure it is credible

Q15. One way to overcome confirmation bias is...

- a. Trying to argue the opposite point of view
- b. Finding multiple websites which show that you are correct
- c. Reading articles from the same news source all the time
- d. Getting your news from social media; it's the easiest way to see the news



Q16. In turning purpose into action, what steps can you take?

- a. Sharpen your focus
- b. Clean up your digital footprint
- c. Connect with others
- d. Don't share your ideas with anyone; they might steal them
- e. A & C

Q17. A red flag feeling is...

- a. The feeling you get when you see the colour red
- b. A "gut" feel that something is just not right about a situation
- c. A strong feeling that your new online friend is awesome
- d. A feeling that makes you angry and want to fight

Q18. A downside of chatting with your friends using social media versus in person is...

- a. You can chat about homework to get their help
- b. You can discuss your common interests
- c. You can chat even during pandemic lockdowns
- d. You can chat 24x7 to keep in touch

Q19. Which of the below skills do robots have that humans do not? (select all that apply)

- a. Ability to go into places which are inhospitable
- b. Ability to relate to human feelings
- c. Ability to work 24x7 with no lunch break
- d. Ability to do unique and non-repetitive work
- e. Ability to do repetitive work

Q20. Photo filters are a good example of...

- a. Augmented reality
- b. Virtual reality
- c. Mixed reality
- d. Extended reality



Level 3

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Digital Nagrik | Teacher Handbook

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