DaLi
Data Literacy for Citizenship

SLATE
Centre for the Science of Learning & Technology

DataDelta & Data Iceberg

PLAN (2 x 45 min)

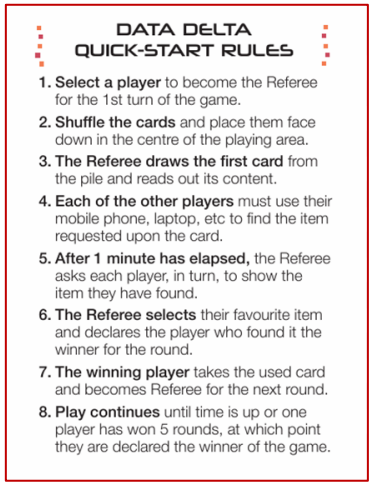
1 - DataDelta

Rules (5 min)

Play DataDelta (30 min)

Discussion and tasks (10 min)

- What is data? How is data created?
- Collaborate on searches



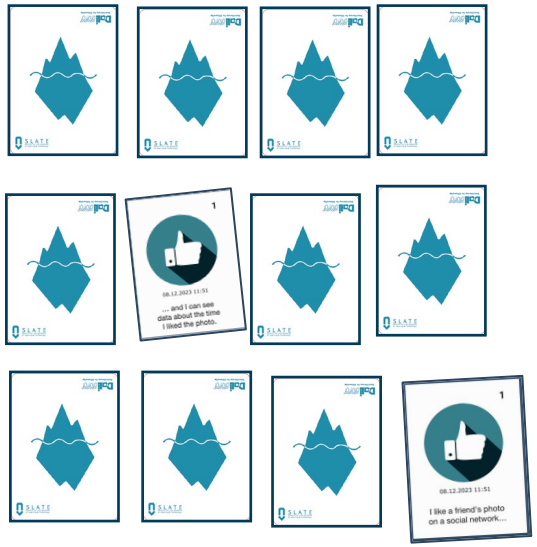
2 – Data Iceberg

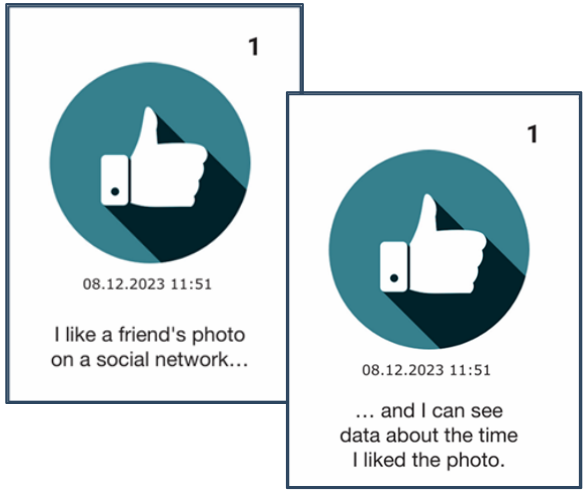
Introduction (10 min)

- 4 types of data (with examples)
- Rules for Data Iceberg

Play Data Iceberg (30 min)

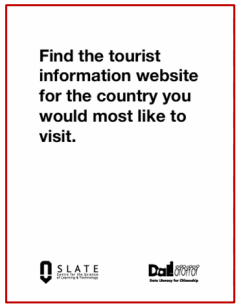
Discussion and more examples (5 min)





DATA DELTA RULES

4-6 players
30-40 minutes
54 cards



Chose a Referee for the first round, and shuffle the cards

1. **The Referee picks a card** and reads it out loud.
2. **The other players** uses their phone to find what the card asks for.
3. **After 1 minute** each player share what they have found
4. **The Referee chooses their favourite answer** and announces the winner of the round.
5. **The winner of the round** gets the card, and then becomes the referee for the next round. ***Or:*** Let the players take turns in being the Referee.
6. **The winner of the game** is the player with the most cards

PLAY **DATA DELTA**

Digital version:
https://kisida.no/datadelta

PDF for print:
https://edutrust.slateresearch.ai/datadelta

DATA DELTA QUICK-START RULES

1. **Select a player** to become the Referee for the 1st turn of the game.
2. **Shuffle the cards** and place them face down in the centre of the playing area.
3. **The Referee draws the first card** from the pile and reads out its content.
4. **Each of the other players** must use their mobile phone, laptop, etc to find the item requested upon the card.
5. **After 1 minute has elapsed,** the Referee asks each player, in turn, to show the item they have found.
6. **The Referee selects** their favourite item and declares the player who found it the winner for the round.
7. **The winning player** takes the used card and becomes Referee for the next round.
8. **Play continues** until time is up or one player has won 5 rounds, at which point they are declared the winner of the game.

DATA DELTA DISCUSSION

Group assignment 1: Discuss

- Which search engines and apps did you use?
- Did you accept 'Cookies'?
- What data did you share? (For example: what search words did you use?)

Go to your phones app store and choose an app that you used. Look under 'data security' and 'Collected data'. What types of data does the app say it collects?

Datatyper: Google

DATA DELTA DISCUSSION

Group assignment 2: Collaborate on searches

- Everyone in the group searches with exactly the same words in the same search engine. Compare the results.
- Then, use the same search words in different search engines (Such as Google, DuckDuckGo, Bing/Copilot). Compare the results.

Discuss: What does the result look like? Does the same result and sequence appear for all players? Why/why not?

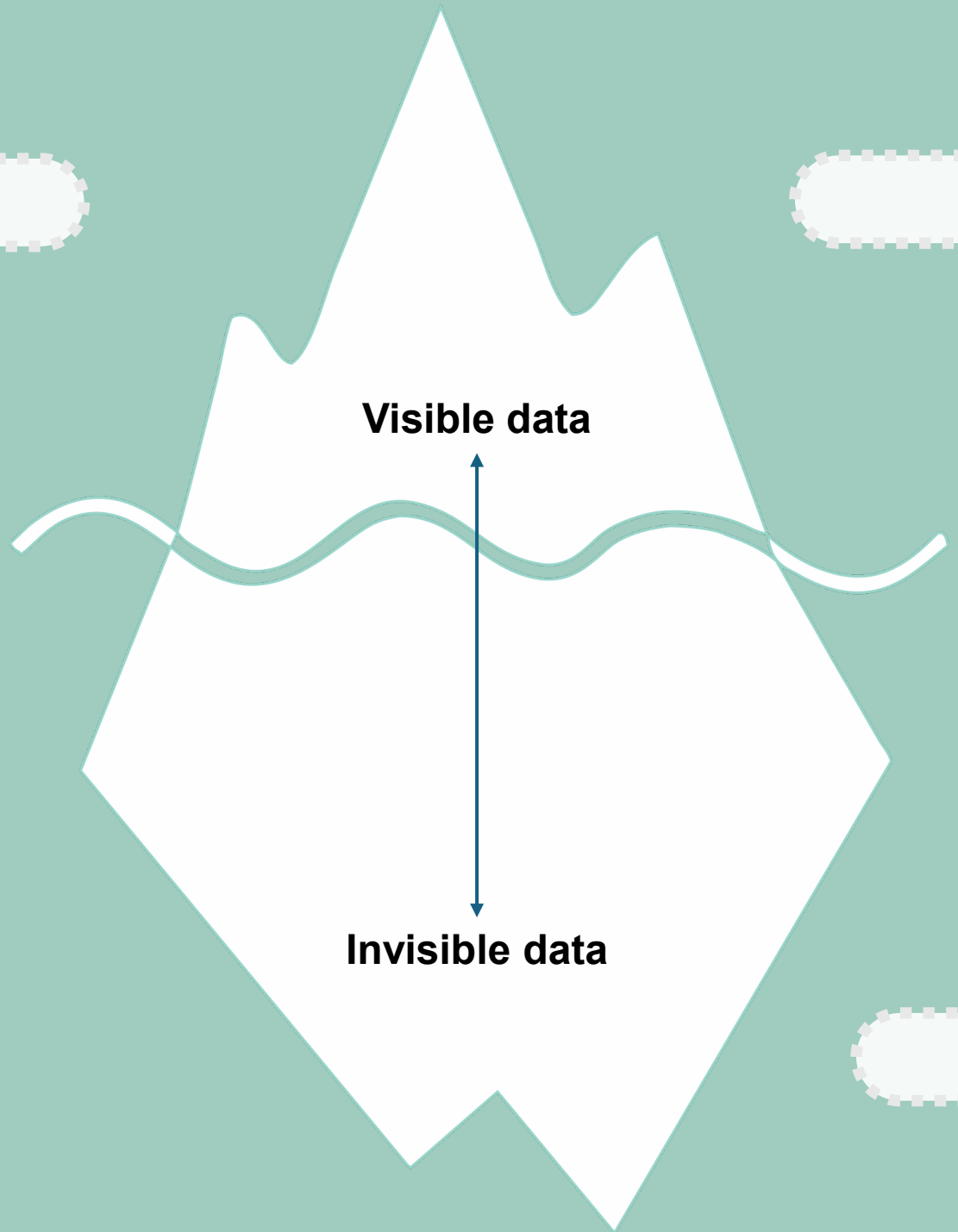
Feel free to search several times (for, for example, clothing, travelling, recipes, etc.)

A brief description of some search engines

Søkemotorer er verdens mest brukte form for kunstig intelligens

Data Iceberg

What is data?
What types of data exist?



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Human-created data

1

Human-created data

Without digital tools

For example
You draw ideas for a TikTok video with a pencil

Photo: DALL-E

Raw data

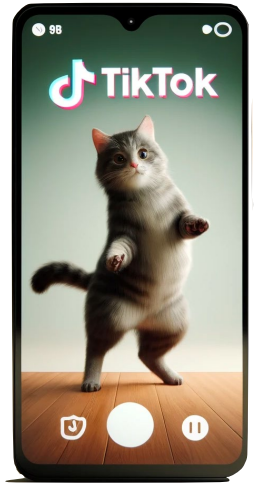
2a

Raw data: Content

Visible and unprocessed data created intentionally by humans.

For example

- You type your date of birth to register a TikTok profile.
- You also upload a video of your cat.



Bilete: DALL-E

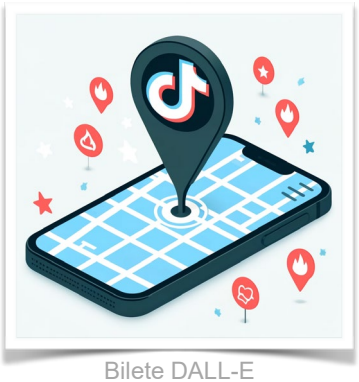
2b

Raw data: Sensor

Invisible data recorded by a sensor.

For example

- The GPS-sensor on your phone records your location when you use the TikTok app.



Bilete DALL-E

Analytical data

3a

Analytical data: Visible

Data is collected and used by the system, and is shown back to you

For example
The number of times your TikTok videos have been viewed or shared is collected and made visible for you and others.

Photo: DALL-E

3b

Analytical data: Invisible

Data that is collected and used by the system but is invisible to you.

For example
TikTok records how long you watch a cat video and shares this information with others, without showing it to you.

Functional data

4

Functional data

Data that is necessary for machines to communicate with each other

Functional data allows videos from TikTok to stream smoothly to your mobile phone.

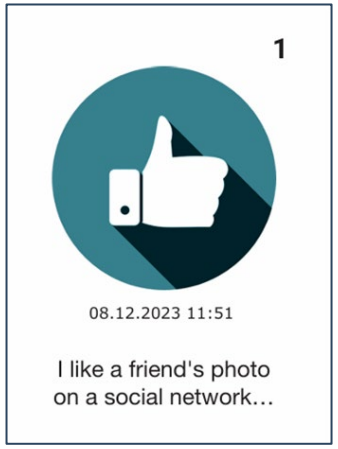
For example
Buffering information and the data packages needed to ensure that the video plays without interruption

Also: IP-adresse

Bilete: DALL-E

Data Iceberg

EXAMPLE



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1 Human-created data

Data created by humans with the help of non-digital technology.

For example: notes on paper

4 Functional data

Data that is necessary for machines to communicate with each other.

For example: IP address, and "only necessary cookies"

2 Raw data

Raw data is unprocessed data that is created by interactions between human and machine.

There are two types of raw data:

- 2a **Content data**: Visible data intentionally created by humans.
  For example: when you are typing personal information or uploading a video
- 2b **Sensor data**: Invisible data registered by a sensor.
  For example: Your movements are registered by your smart watch

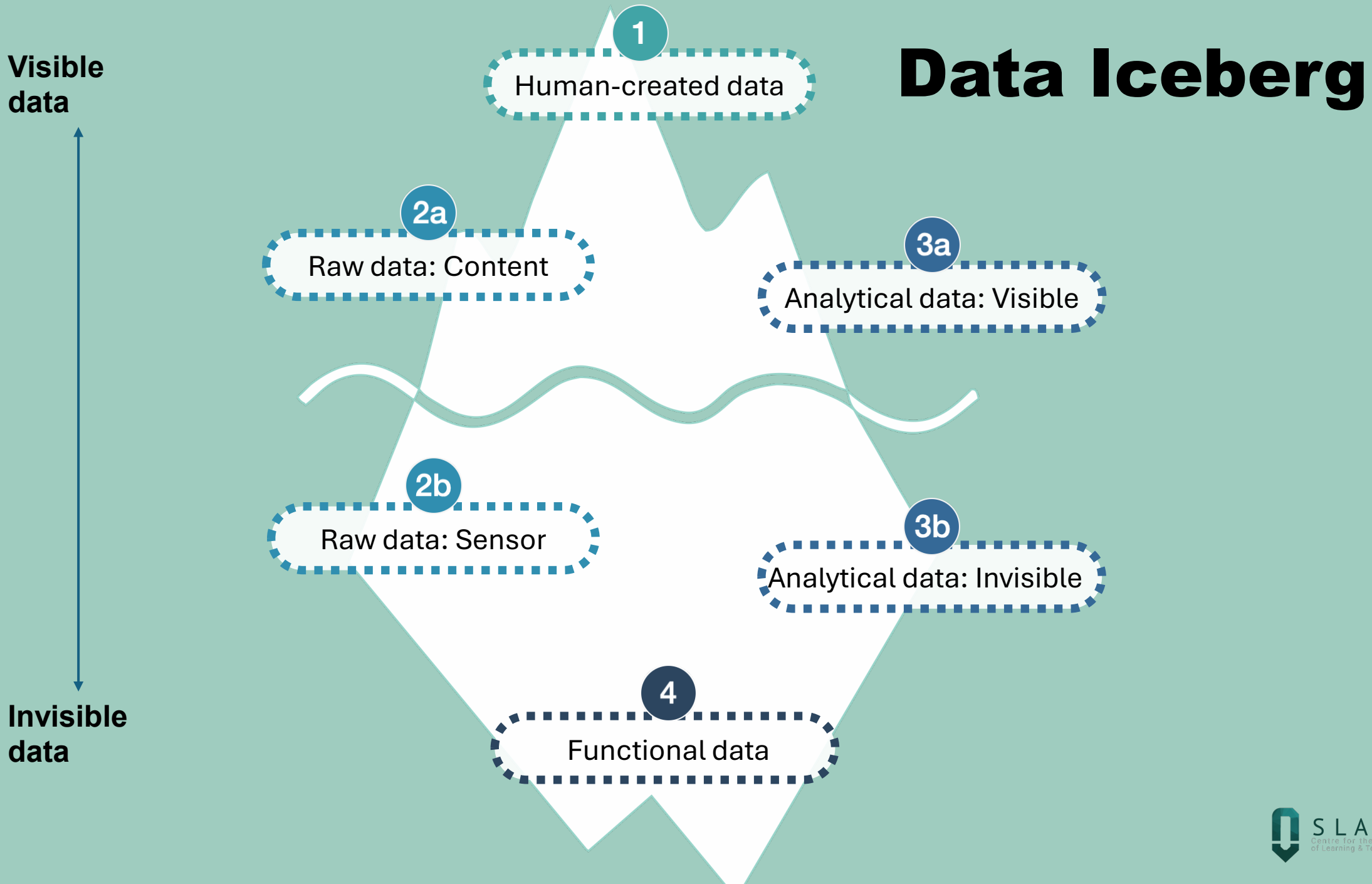
3 Analytical data

Data that has been created by machines as a "side effect" of your interaction with a digital device.

There are two types of analytical data:

- 3a **Visible**. For example: when you're sent an e-mail that says "sent from my Huawei" or "sent from my iPhone" at the bottom of the message.
- 3b **Invisible**. For example, TikTok calculates and stores how long you've watched a video.

Data Iceberg



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Flip for solution suggestions

Please note that it is not easy to categorise data

There may even be several correct solutions

Data Iceberg

Rules (2-4 players)

1. **Place the cards** on the table face down
2. **Find pairs of cards** with the same image
3. **Place the pair** on the correct type of data category on your game board
4. **Discuss** with the other players: What do they think?
5. **Check the solution sheet.** The player keeps the cards if they are placed correctly
6. **The winner** has the most pairs placed correctly on their board

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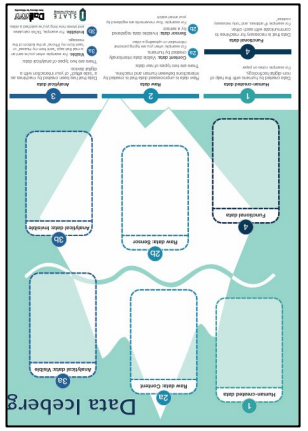
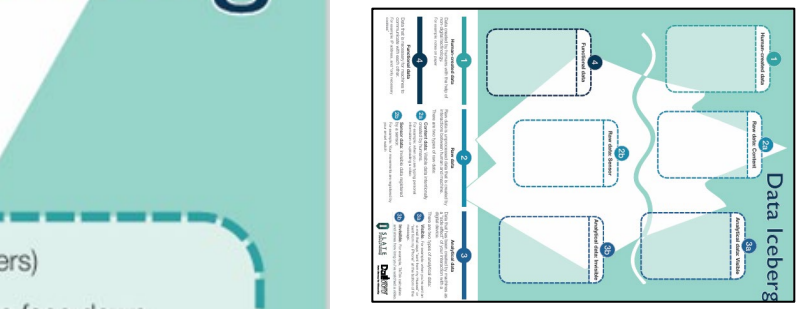
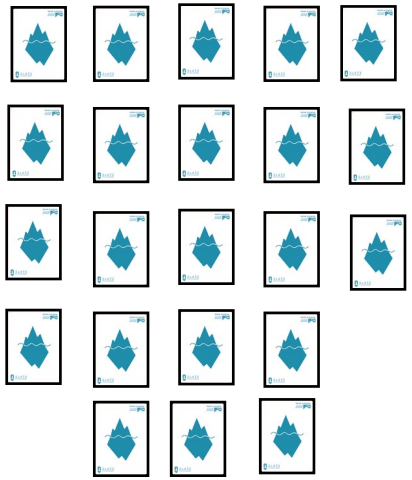
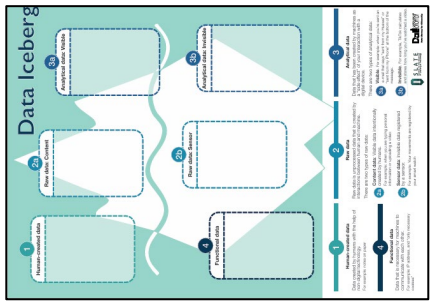
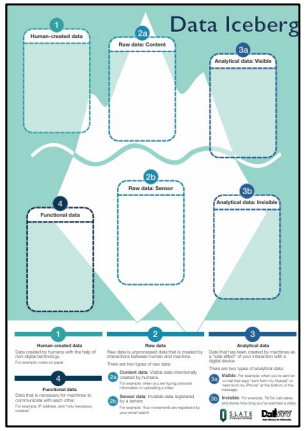
Dali Data Literacy for Citizenship





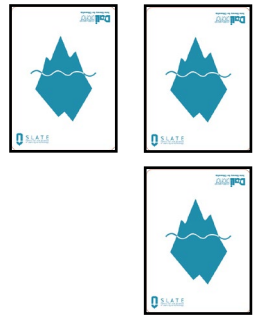




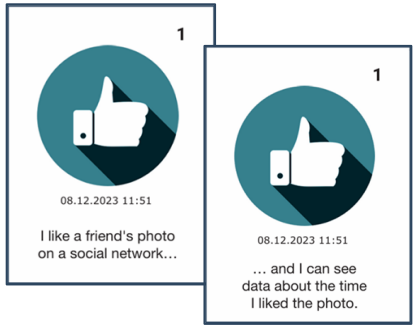


Setup for 4 players

Data Iceberg RULES



2-4 players
30-45 minutes



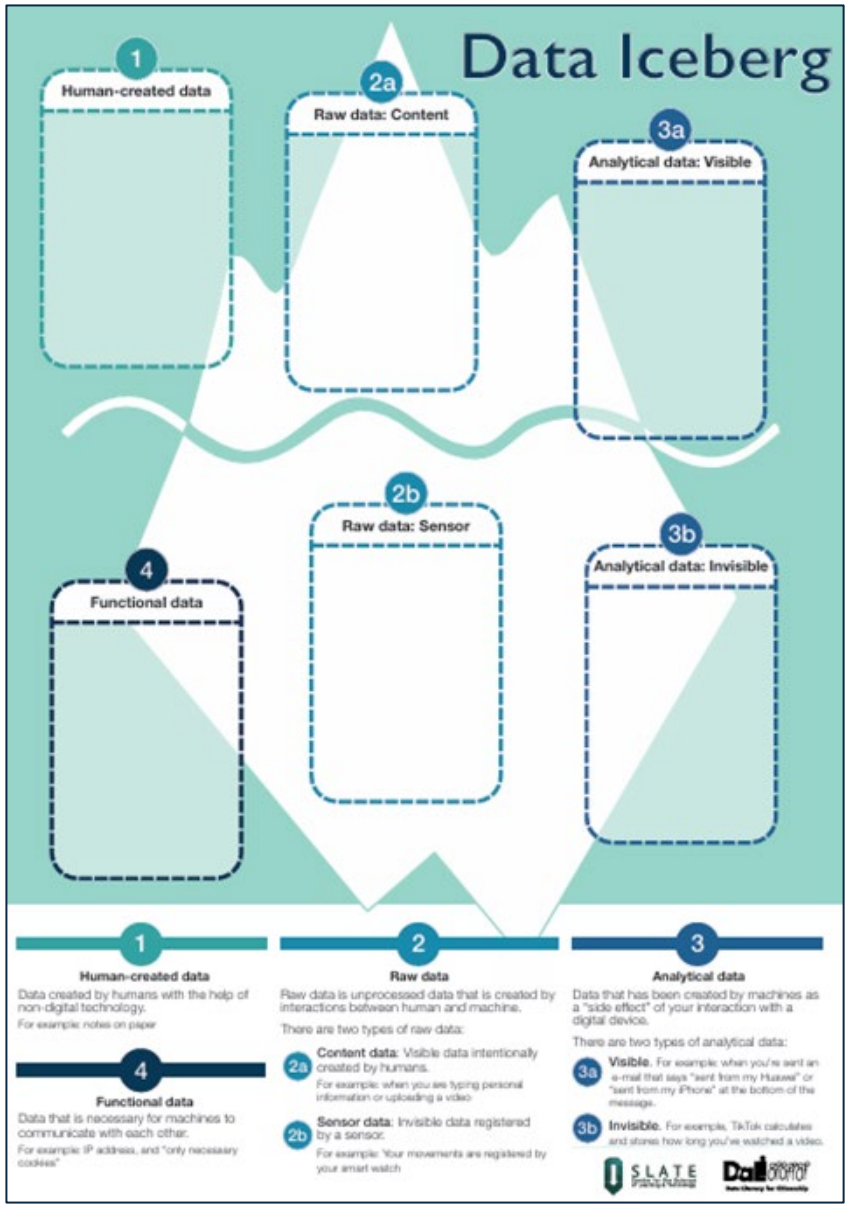
1. **Spread the cards on the table** picture down.
2. **Look for pairs** with the same picture (turn two cards).
3. **Read the story** on the pair of cards. Give extra attention to the last card:

What type of data is created?

4. **Place the pair of cards** on the correct data category on your game board.
5. **Check in** with the other player: What do they think?
6. **Check the solution sheet**. You keep the pair if you placed them correctly
7. **The Winner** is the one with the most cards placed correctly on their game board

PLAY **DATA ICEBERG**

Download Data Iceberg PDF:
https://edutrust.slateresearch.ai/game-package-english/



Data Iceberg EXAMPLE

A

I play an online game...

Raw data

Raw data is unprocessed data that is created by interactions between human and machine.

There are two types of raw data:

2a **Content data**: Visible data intentionally created by humans.
For example: when you are typing personal information or uploading a video

2b **Sensor data**: Invisible data registered by a sensor.
For example: Your movements are registered by your smart watch

B

... and I give information about my age.

Data Iceberg EXAMPLE

I used my laptop to book a flight...

...and got adverts for hotels in the same location in my mobile phone browser.

Analytical data

Data that has been created by machines as a "side effect" of your interaction with a digital device.

There are two types of analytical data:

3a **Visible**. For example: when you're sent an e-mail that says "sent from my Huawei" or "sent from my iPhone" at the bottom of the message.

3b **Invisible**. For example, TikTok calculates and stores how long you've watched a video.

Dataisfjell EKSEMPEL

A

I use an app to learn a new language...

B

... and the app shows me data about my progress.

Analytical data

Data that has been created by machines as a "side effect" of your interaction with a digital device.

There are two types of analytical data:

3a **Visible**. For example: when you're sent an e-mail that says "sent from my Huawei" or "sent from my iPhone" at the bottom of the message.

3b **Invisible**. For example, TikTok calculates and stores how long you've watched a video.

More resources

Game package: https://edutrust.slateresearch.ai/game-package-english/

DataDelta PDF: https://edutrust.slateresearch.ai/datadelta-eng/

DataDelta Digital version: https://kisida.no/datadelta

Data Iceberg PDF: https://edutrust.slateresearch.ai/dataiceberg /

DALI Toolkit (dalicitizens.eu): https://toolkit.dalicitizens.eu/

Data Literacy for Citizenship

Vestland fylkeskommune

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For the latest edition of this PowerPoint - visit

https://edutrust.slateresearch.ai/game-package/

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