### Quiz & Swap

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| **Notion** | **Explanation** |
| Algorithm | A code recipe written by humans that tells the computer what to do.  |
| Micro:bit | A microcomputer that can be easily coded. It has 25 LED lights as a display and can, for example, detect movement. |
| Data | Information. For example, information is collected about how you like, share and comment on social media. |
| Artificial intelligence | A technology that enables computers and machines to learn from data and solve problems in a human-like way.  |
| Machine learning | An artificial intelligence technology that makes it possible for computers to learn from data, find patterns, and make suggestions on how to solve a task. |
| Machine learning-model | A mathematical model that can solve problems by recognizing patterns in new data, which is built up by finding patterns in data it’s given.  |
| Patterns in data | What makes a machine come up with suggestions for what we should see in our feed.  |
| Representation in data | That the model has so much data on what it needs to solve that it can recognize what we want it to do.  |
| Training of models | This means that we teach a computer how to solve a problem by showing it a lot of examples. |
| Neural networks | One way to make computers think a bit like the brain by using tiny devices that work together like brain cells. |
| Dataset | A collection of information or data that the computer uses to learn from. |
| Generative AI | Artificial intelligence that creates new content such as text, images, or music based on what it has learned. |

IDEA SHEET

Team members:

Brush type:

Sketch of Invention:

###

Why is it a good invention?

### [Pitch questions](#_Argumentation_for_produkt)

Questions that the students can relate to and can include in their final pitch/argumentation.

What difference should it make? Who is it for?

Materials:



#### Questions about your design process

* What are you most satisfied with in your digital brush, and why?
* Is there anything that surprised you positively, e.g. something that works better than expected?
* What was the biggest challenge in your design process and how did you try to solve it?
* How have the limitations with ML-Machine affected your product and how have you handled it?
* If you had to improve something, what would it be?
* What alternative solutions did you consider and why did you choose not to do them?
* Would you change your idea now if you could?
* If you were the tough CEO, what would you criticize? Why?
* How has working on the project changed the way you think about design or technology?



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| 1. How do machines learn from data, just as we humans learn from experience?
 | Machines learn by analyzing large amounts of data and finding patterns. They use algorithms, which are a kind of recipes that help them make decisions based on the data. Just as humans get better at things through practice, machines get better when they get more data to learn from. |
| 1. Can machines think and make decisions, or do they just follow rules that we humans have made?
 | Machines don't think like humans. They follow rules and patterns that humans have programmed them to. Machine learning enables machines to find patterns on their own, but they still act within the framework and the rules we have given them. |
| 1. How can a computer know if something is a cat or a dog in a picture?
 | Computers are trained by looking at thousands of pictures of cats and dogs. They learn to recognize differences such as shape, color and pattern. When they see a new picture, they compare it to what they've learned and guess if it's a cat or a dog. |
| 1. How do we use machine learning in our everyday lives without thinking about it?
 | We use machine learning when we watch videos on YouTube, where algorithms suggest new videos based on what we've previously watched. Machine learning is also used when our phones recognize our faces or when we get recommendations for music, movies, and even products we might want to buy. |
| 1. How can machines become better at recognizing patterns than humans?
 | Machines can analyze large amounts of data very quickly and without getting tired. For example, if we must go through thousands of images to find certain patterns, it can take us a long time, but machines can do it in seconds. |

Quiz & swap 1

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| 1. What does it mean when you say that a computer can "learn" something new?
 | When a computer learns something new, it means that it has analyzed new data and found new patterns or correlations. It adjusts its algorithms so that it can become better at solving a task the next time it gets similar data. |
| 1. Can machines learn to make mistakes? How do they know what is right or wrong?
 | Yes, machines can make mistakes, especially if they are trained with poor or incorrect data. Machine learning often uses feedback, where the machine is told whether its response was right or wrong. In this way, it can adjust its way of thinking and become more precise over time. |
| 1. Are there any things that machines will never be able to learn?
 | There are certain things that are very difficult for machines to learn, such as understanding emotions or creativity in the same way as humans. Machines can mimic some of these things, but their understanding will always be based on data and rules, rather than real experience and intuition. |
| 1. How can machine learning help us solve big problems like climate change?
 | Machine learning can analyze large amounts of data from weather patterns, ocean temperatures, and forest cover to predict climate change and find patterns that can help scientists understand and manage the problem. Machines can also help develop better solutions for energy and environmental protection. |
| 1. Can machines learn to recognize emotions in humans? How?
 | Yes, machines can be trained to recognize facial expressions, tone of voice, and body language to guess how a person feels. They use patterns in data about people to "guess" emotions, but they still can't feel emotions themselves. They can only analyze the data they get. |