

Pattern Detectives

How Machines Notice Similarities

Student Activity Book | AI Discoverers

Learn. Create. Lead.

Your Mission

Patterns are clues! Today you will notice features, create categories, compare rules, and explain why people should check the way machines group information.

Success Check

By the end, you should be able to explain your sorting rule, compare it with another rule, and describe why human judgment matters.

Activity 1: Sort the Everyday Objects

Study the eight objects below. Write Group A or Group B beside each one using a rule that you choose.

Object	My Group	Feature or Reason
Backpack		
Basketball		
Book		
Bicycle		
Tablet		
Tennis shoe		
Water bottle		
Paintbrush		

My sorting rule was:

The feature I used most was:

One object that was difficult to sort was:

Activity 2: Compare Two Rules

A classmate may use a different rule. Compare the two approaches.

My Rule	My Partner's Rule
---------	-------------------

What was similar about the two rules?

What was different?

Could both rules make sense? Explain.

Activity 3: Train the Classifier

Imagine that a machine is learning from examples. You will choose examples for a category called 'Useful for Learning.'

- ☐ Book
- ☐ Pencil
- ☐ Video game controller
- ☐ Magnifying glass
- ☐ Notebook
- ☐ Headphones
- ☐ Soccer ball
- ☐ Map

Circle or check the examples you would label as useful for learning. Then answer:

Why did you choose those examples?

Could another student make different choices?

What might the machine learn from your labels?

What important example may be missing?

Activity 4: Human Judgment Check

Scenario 1: A machine groups every student who wears glasses into a category called 'likes reading.'

What may be wrong or incomplete?

What should a person check or change?

Scenario 2: A photo system groups one picture incorrectly because the image is dark.

What may be wrong or incomplete?

What should a person check or change?

Scenario 3: A library app recommends only books similar to the first book a student borrowed.

What may be wrong or incomplete?

What should a person check or change?

Reflection

One thing I learned about patterns is:

One thing I learned about machines is:

Human judgment matters because:

A question I still have is:

My Responsible AI Promise

- ☐ I will protect private information.
- ☐ I will check important information.
- ☐ I will notice possible mistakes or unfair groupings.
- ☐ I will use technology to support my own thinking.
- ☐ I will ask a trusted adult when I am unsure.