

AI DISCOVERERS | ELEMENTARY

Pattern Detectives

How Machines Notice Similarities

Grades 3-5

45-60 minutes

CLASSROOM SLIDE DECK

NOTICE

CHECK

THINK

CREATE

Elementary Grades 3-5 | 45-60 minutes

Students explore patterns, classification, evidence checking, fairness, and the role of human judgment when machines group or recommend information.

Today's Learning Goals

Students Will...

- Notice similarities and differences between everyday objects.
- Use a rule to sort examples into categories.
- Compare their rule with another possible rule.
- Explain how a machine might learn from examples.
- Describe why people should check machine-made results.

Success Looks Like...

- I can explain the rule I used to sort.
- I can use evidence to justify my choices.
- I can explain why another rule might also work.
- I can describe why human judgment matters.
- I can reflect on possible mistakes or unfair groupings.

Learn. Create. Lead

Launch: Mystery Sorting

Teacher Prompt

1. Display six familiar objects or pictures.
2. Place them into two groups without explaining the rule.
3. Ask students to infer the sorting rule and defend their thinking.

Ask Students...

- ? What do the items in each group have in common?
- ? Could there be more than one correct rule?
- ? What evidence supports your idea?
- ? Which item was hardest to place? Why?

Learn. Create. Lead

What Is a Pattern?

A Pattern Is...

- A feature, order, or relationship we notice.
- Something that repeats or helps us organize ideas.
- A clue that helps us decide what belongs together.

Examples of Features

- Color • Size • Shape • Material • Use or purpose •
Where we find it

Think-Pair-Share

Name one way to sort school objects and one way to sort foods.

Explore: Pattern Detective Challenge



Directions

1. Work with a partner or small group.
2. Sort the objects using a rule you choose.
3. Write Group A or Group B for each item.
4. Explain the feature or rule you used.
5. Compare your rule with another group's rule.



Discussion Starters

Which features mattered most in your rule?

Did another group notice something different?

Can two different rules both make sense?

What made one object harder to classify?

Explain: How Machines Learn From Examples

Big Idea

- Some AI systems study many examples to notice patterns and make predictions.
- The result depends on the examples, labels, and rules used during development.
- A prediction is not the same as human understanding.

What Could Go Wrong?

- Examples may be incomplete.
- Labels may be incorrect.
- A rule may not fit every situation.

Why Human Judgment Matters

People check for mistakes.
People consider whether a result is fair or useful.
People decide what action to take.

Create: Design a Sorting Rule



Your Task

1. Choose a new category rule.
2. Sort the examples using your rule.
3. Write a short explanation of how your rule works.
4. Ask a partner to test your rule.



Check Your Rule

- ? Is the rule clear enough for another person to follow?
- ? Which example was hardest to classify?
- ? How could you improve the rule?
- ? Could the same object fit more than one category?

Reflect: Human Judgment Check

Scenario

A machine groups every student who wears glasses into a category called “likes reading.”

Discuss

- What may be wrong or incomplete?
- Why might that grouping be unfair?
- What should a person check before trusting the result?

Remember

- Machines can notice patterns.
- Patterns do not always tell the full story.
- People are responsible for checking important decisions.

The Future Ready AI Learning Cycle

01 Launch

Start with a question or challenge.

02 Explore

Investigate ideas and examples.

03 Explain

Build understanding together.

04 Create

Apply learning in a task.

05 Reflect

Think about choices and outcomes.

06 Extend

Connect learning to other situations.

Learn. Create. Lead

Exit Ticket

01. Machine Patterns

A machine can notice patterns by...

02. Human Role

A person should check the result because...

03. Key Takeaway

One thing I learned about patterns today is...

04. Remaining Question

One question I still have is...

Teacher Reminder

Invite students to share one strong example of human judgment in action.

My Responsible AI Promise



I Will...

01 Protect private information.

02 Check important information.

03 Notice possible mistakes or unfair groupings.

04 Use technology to support my own thinking.

05 Ask a trusted adult when I am unsure.