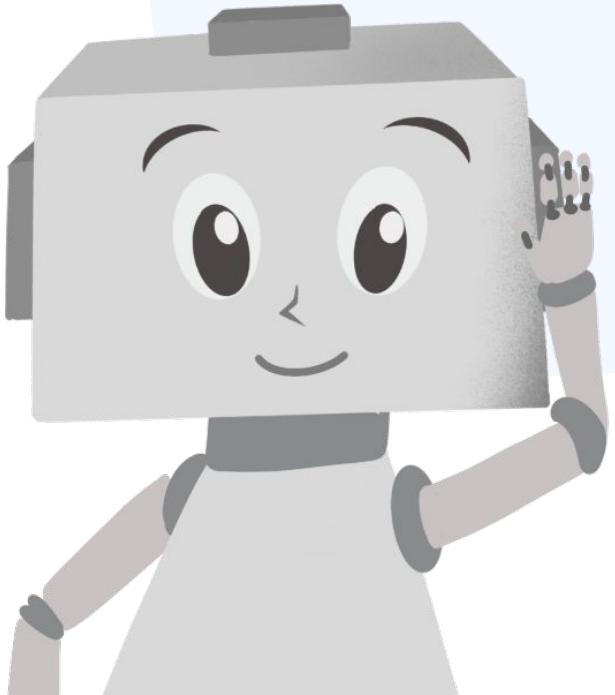
AI Summer Camp: Session 1

What Can a Smart Thing Notice?



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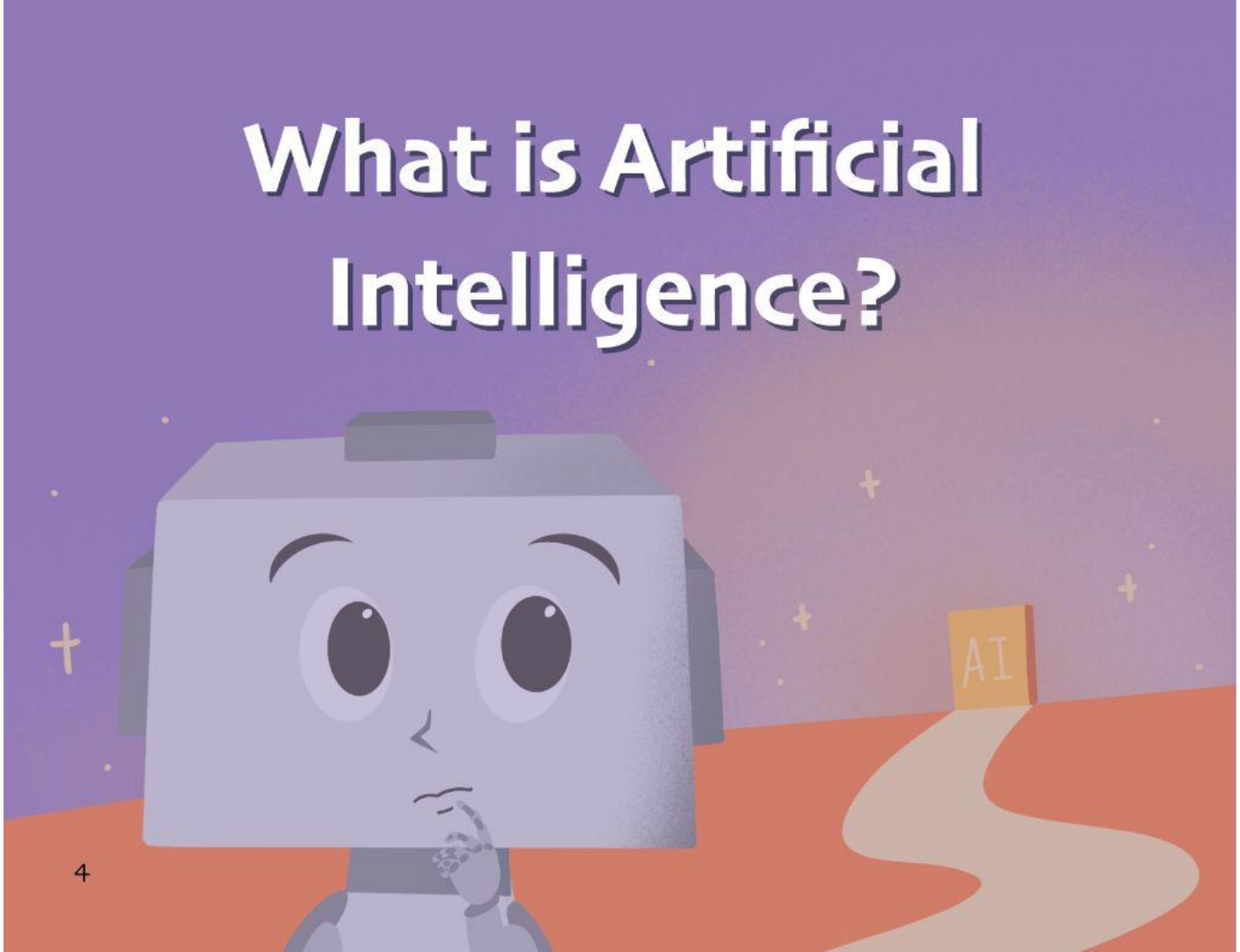
What is Artificial Intelligence?



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Is this Artificial Intelligence?

Can you define AI or Artificial Intelligence? Many people aren't really sure what AI is. Let's look at a few examples. See if you can pick what has AI and what doesn't have AI.



Toaster

- ☐ Yes
- ☐ No

Old Cars

- ☐ Yes
- ☐ No





Amazon Alexa

- ☐ Yes
- ☐ No



Smartphones

- ☐ Yes
- ☐ No

Self-driving Cars

- ☐ Yes
- ☐ No





An Old Fridge

- ☐ Yes
- ☐ No

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Nice try!
Here are the correct answers:

These have AI!



These DON'T have AI!



So, what really is Artificial Intelligence?

Artificial = not humans, or machines.
Intelligence = being smart!

Artificial Intelligence describes computer's ability to do things that normally require normal intelligence.

What is machine?

Computers are machines;
Your phone is a machine;
A vacuum is a machine;
A car is a machine...

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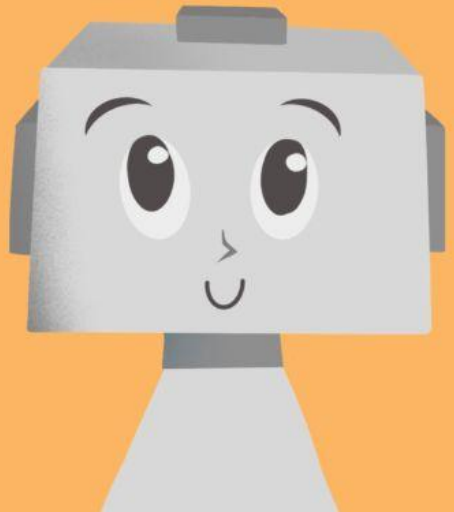
What are some of the things you normally do, as a human?

Learn new things,
talk with people,
or write a poem.

If a machine is able to do those things, we would call them AI!

Smart Things



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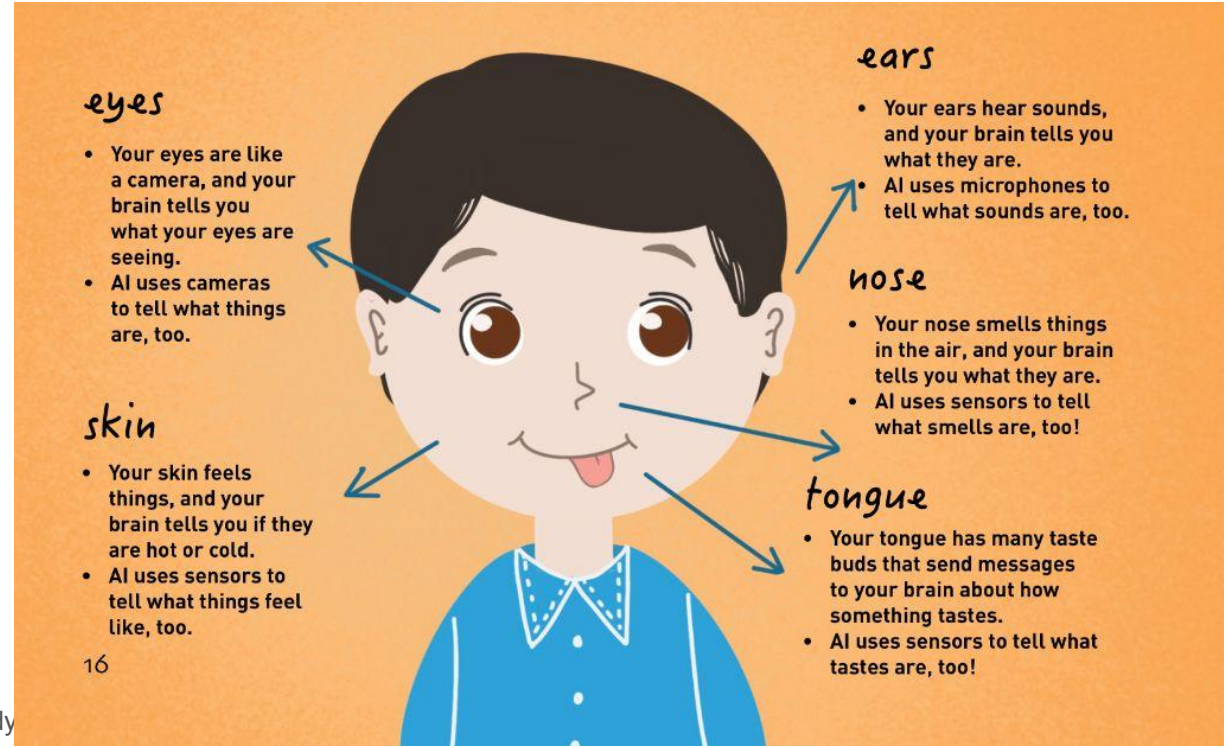
What sensors do we use to perceive the world?



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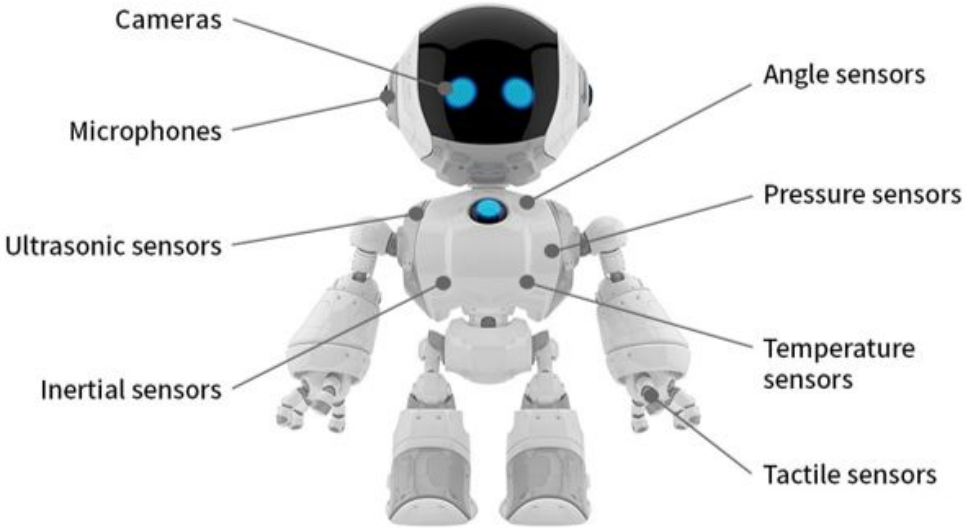
Smart things use different sensors to help it perceive the world.



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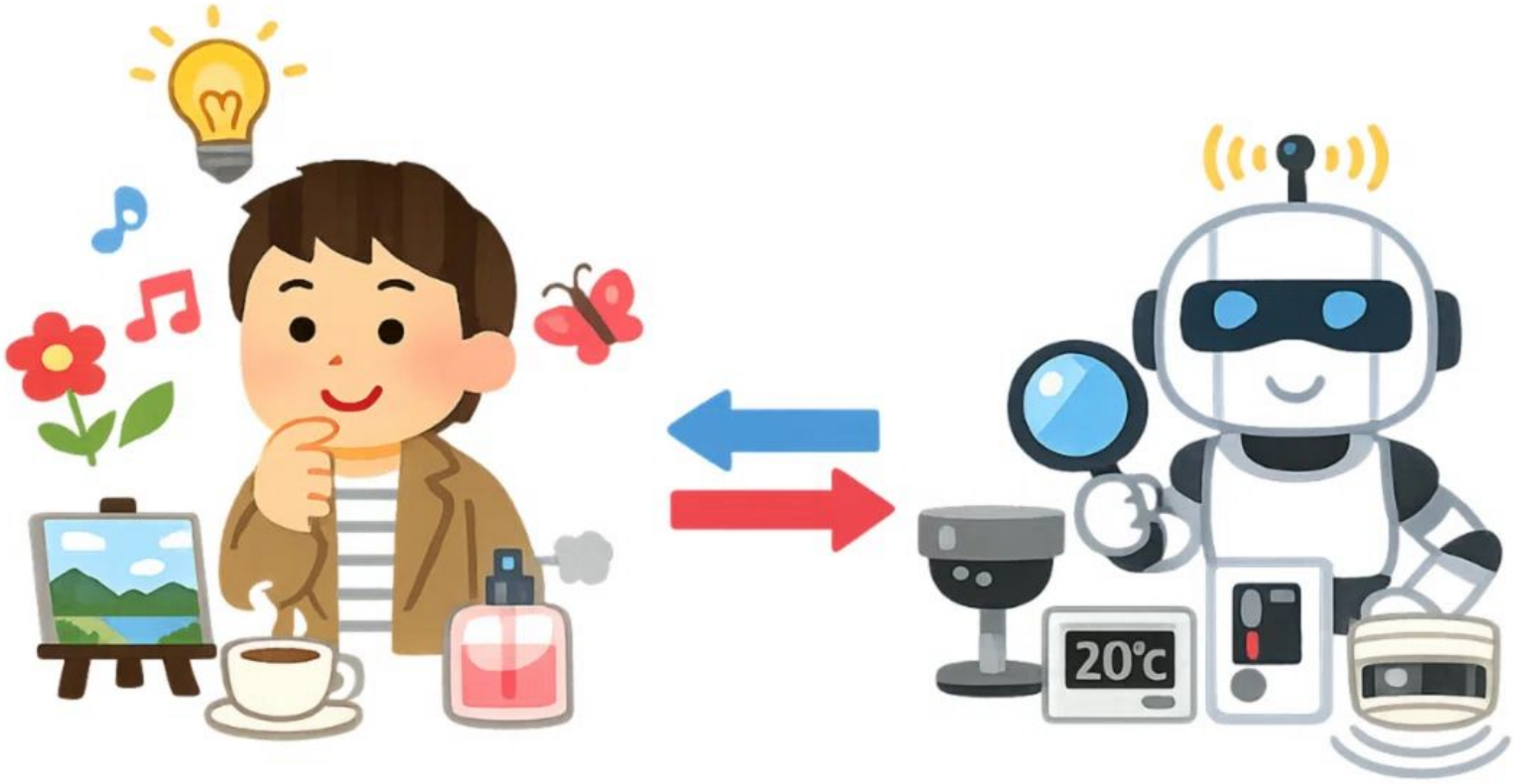
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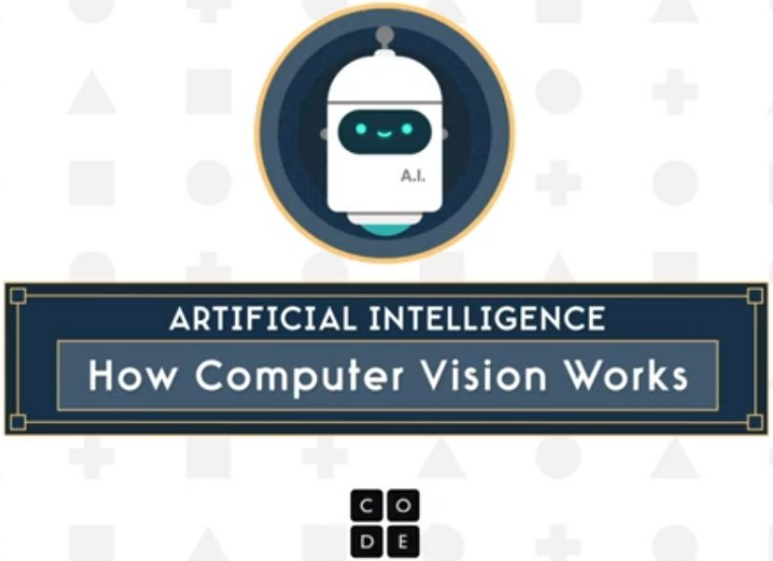
Play Video: Computer Vision



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In materials . Vision is one way that computer get information from the world.
Watch first 90 seconds of the video

Can the AI Find It From Our Words?

Describe this object using our own words.
Try not to say the object's name yet.



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Use this image ask AI, or Place several objects in front of students



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More setting if want extension



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More setting if want extension



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Smart things use clues to make guesses.



Notice Clues — Find Patterns — Make Guess

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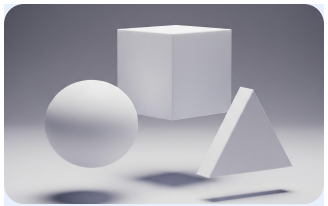
What are helpful clues?

Smart things notice these different types of clues to understand the world.



Color



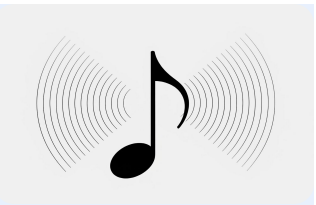
Shape



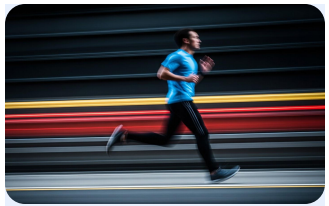
Size



Number



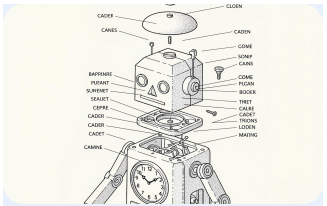
Sound



Movement



Location



Parts



Use

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Clue: Color



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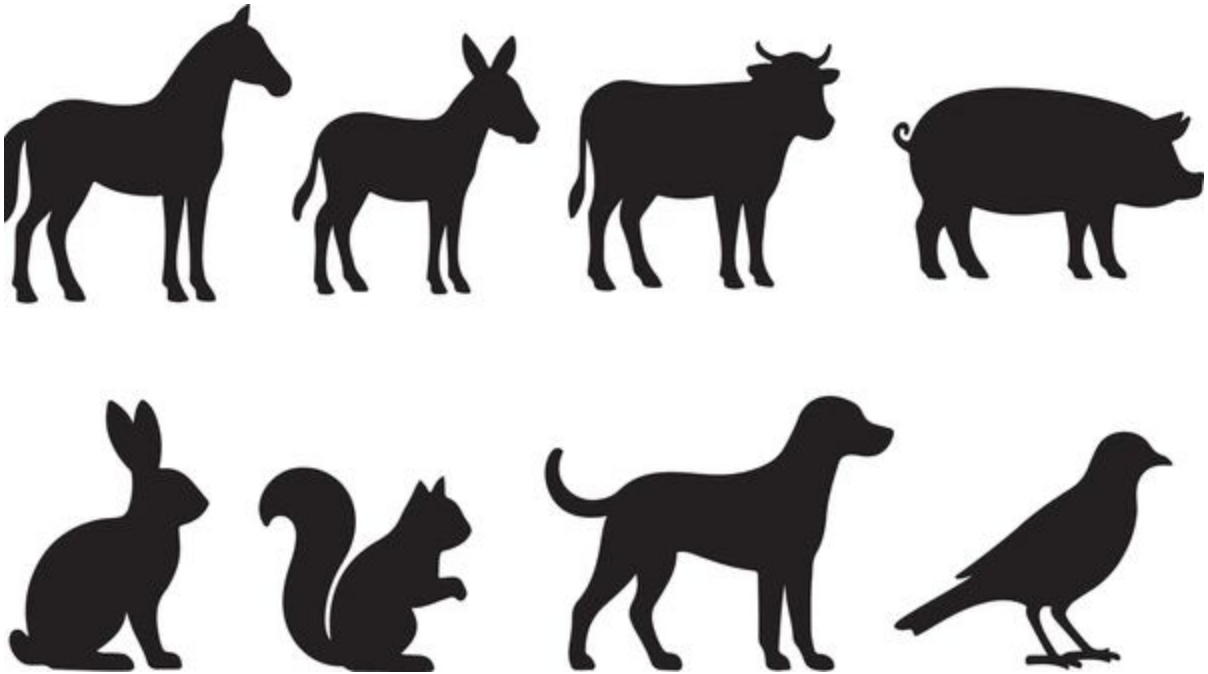
Clue: Shape



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Clue: Size



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Clue: Number



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Clue: Sound










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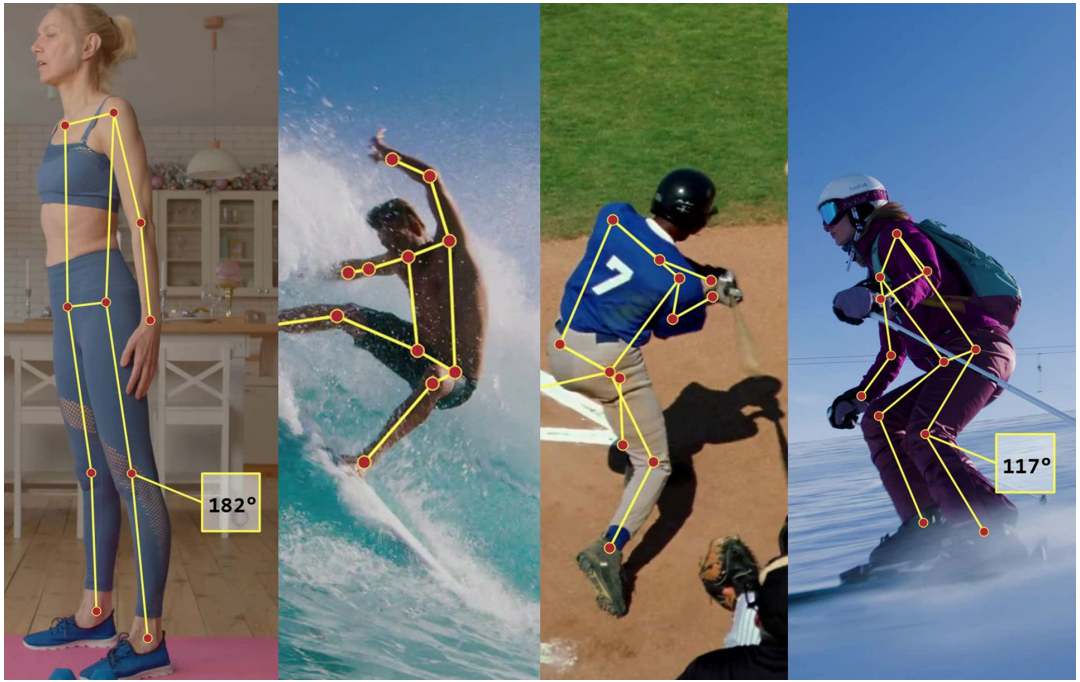
Clue: Movement



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Clue: Location



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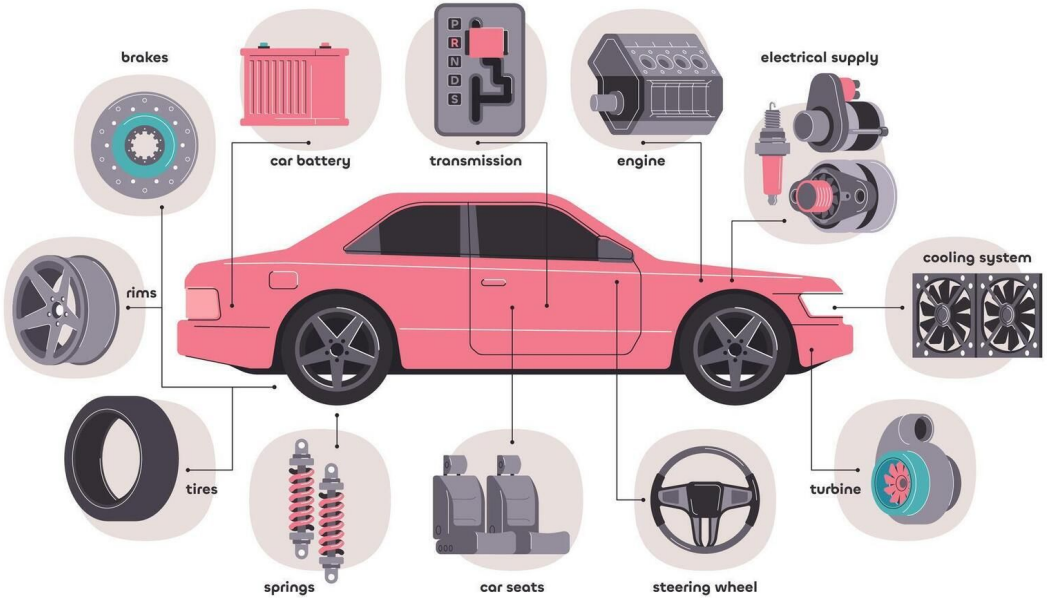
Clue: Parts



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Clue: Use



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Activities



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Round 1:
Find the Clues

Look at the objects.
Think like a smart robot.
What clues can you notice?



Try to find clues such as:

color	shape	size	number	
sound	location	parts	use	movement

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Discussion Question:

1. What clue helped you recognize the object?
2. Was one clue enough?
3. What other clue could help the robot?

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Round 2:
Sort by a Clue

Work with your group. Look carefully at your picture cards.
Put cards with the same clue together.
Be ready to explain your sorting rule.



You can sort by:

color | shape | size | type | use

Where it belongs | how it moves | Parts it has

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Discussion Question:

1. Why did you put these cards together?
2. What clue do they share?
3. Can the same cards be sorted another way?

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Round 3:
Sort Like a Robot

Now sort your cards like a robot.
Use only clues that a robot could clearly notice.

Group Task:
Choose one clear clue.
Sort your cards.
Then trade with another group and let them guess your sorting rule.

Robot-friendly clues:

color | shape | size | number | wheels

wings | sound | parts | location

Tricky clues:

cute | fun | best

pretty | favorite

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Discussion Question:

1. Was your clue easy to guess?
2. Could everyone agree on the clue?
3. Can a robot see it, hear it, count it, or receive it clearly?

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Round 4:

01

Predict

What do you think the AI will guess?

02

Test

Watch what the AI does.

03

Observe

Was the AI right or wrong?
What clues did it use?

03

Summarize

What helped the AI make a better guess?

Test 1

Look at a blurry, cropped, or unclear picture.
Predict what the AI will guess.

Test 2

Look at a clearer or fuller picture.
Predict again.
Did the AI make a better guess?

What do you think the AI might guess?







Possible AI guess:

- “Car,” “bicycle,” or “wheel.”

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What do you think the AI might guess?





Possible AI guess:

- “Spider man” “Box” or “container.”

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What do you think the AI might guess?





Possible AI guess:

- “Stick” or “umbrella.”

“The AI only sees part of the object, so it may not have enough clues.” When the AI can see more parts, it has more clues.

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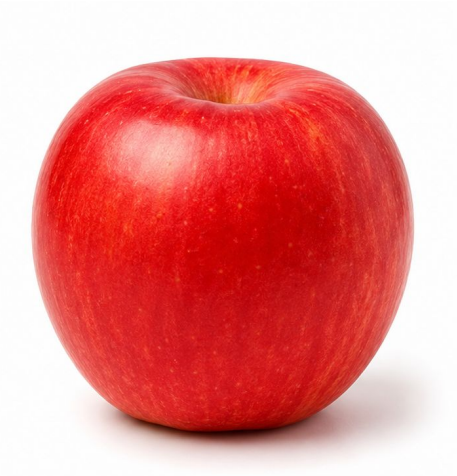
What do you think the AI might guess?





What clues can we still see?

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Discussion Question:

1. What clue was missing in the unclear input?
2. What new clue appeared in the clearer input?
3. Does clearer input always mean the AI will be correct?

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What problem can a smart thing help solve?



Think about your daily life.

What **problem** do you want a smart thing to help you solve?

To solve this problem, what **clues** does your smart thing need to notice?

Example

Problem: My room is messy.

Smart thing: A cleaning robot.

It needs to notice: toys, books, trash, floor, obstacles, and walls.

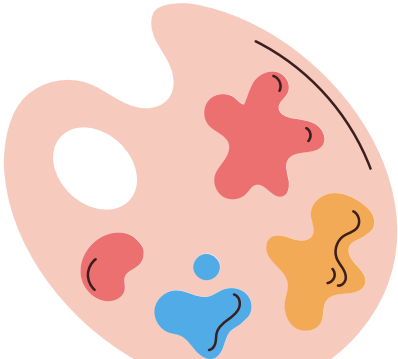




Create a smart thing.

It can be real or imaginary.
Choose 2 or 3 clues it can notice.





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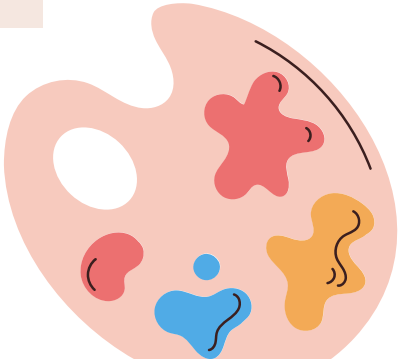
Share with your partner

My smart thing notices _____.

These clues help it _____.







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AI Verification Demo

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Real-life AI examples







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Real-life AI examples



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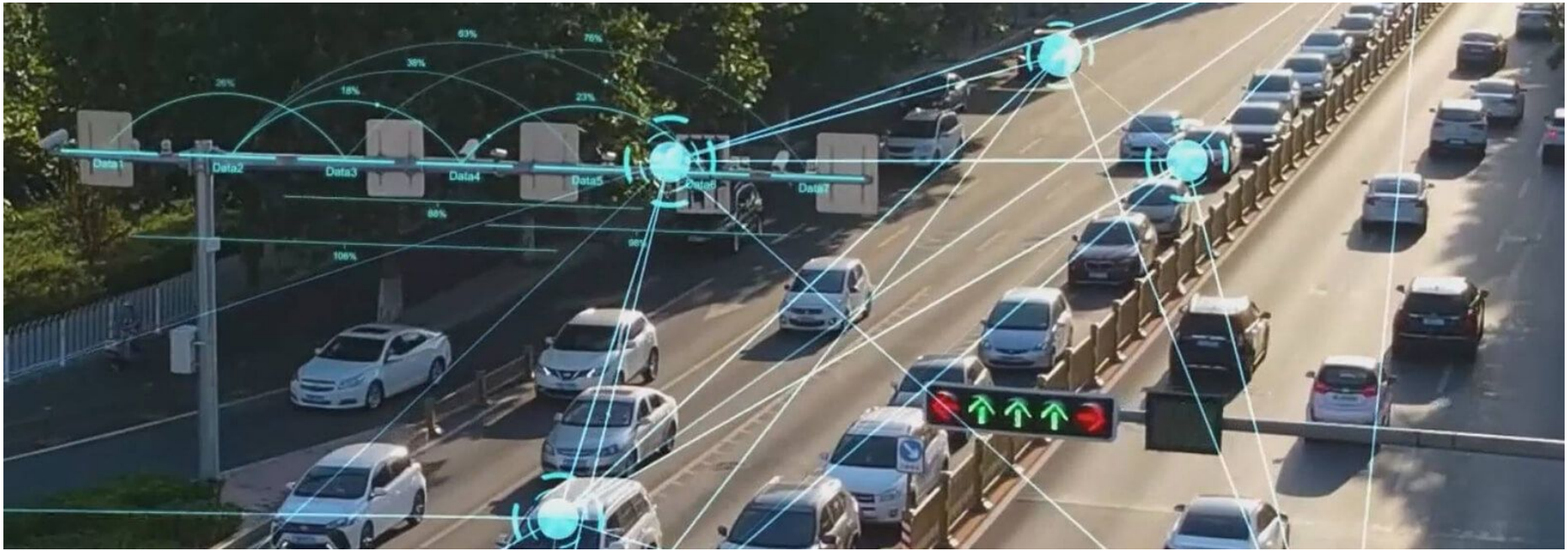
Real-life AI examples



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Real-life AI examples



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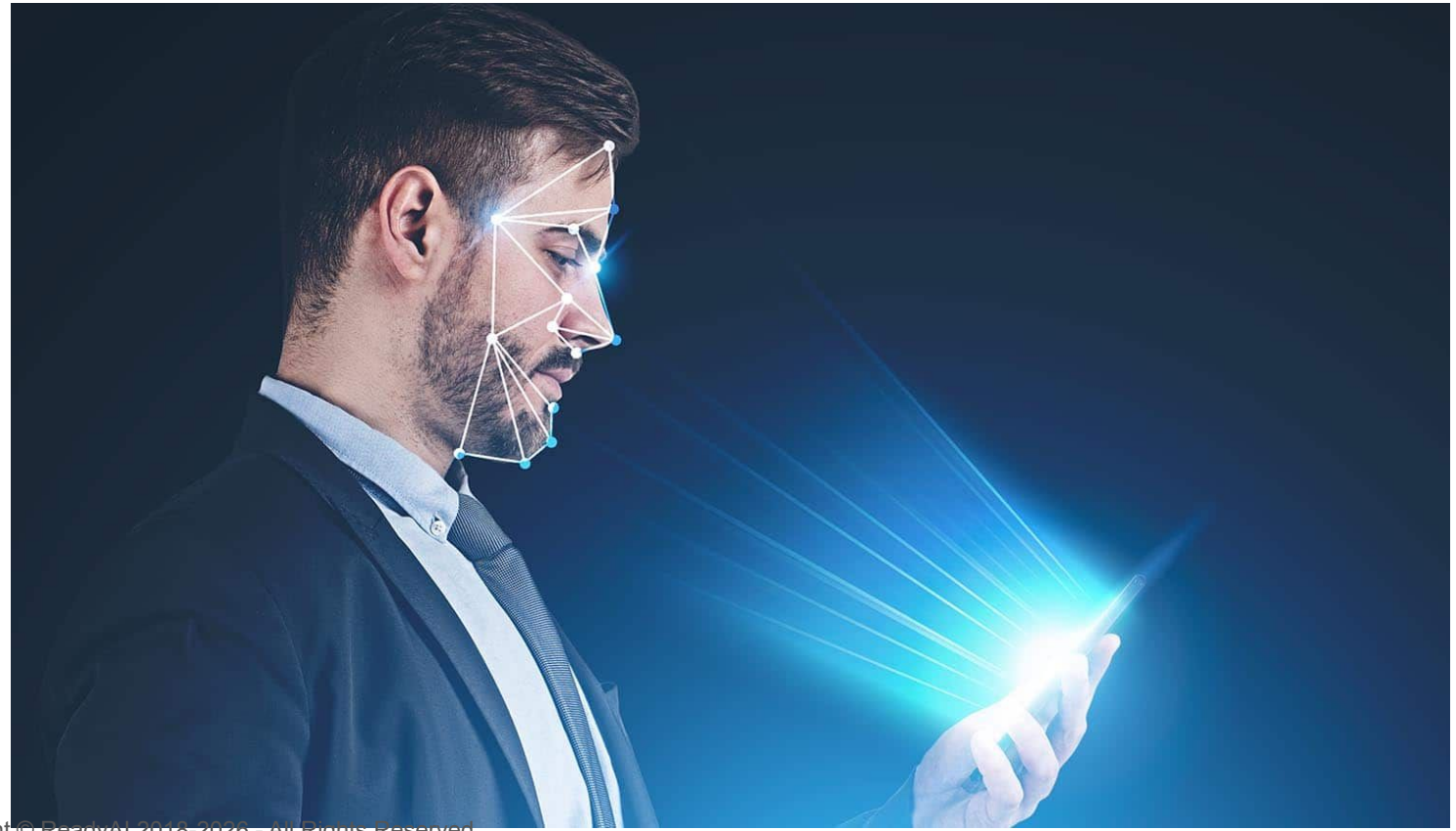

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What can a smart thing notice?

Smart things use clues from the world to make guesses.
They do not know everything like people do.
They need clear input to make better judgments.

Smart things need clear clues
to make better guesses.

Smart things can notice clues such as:

color	shape	size
sound	location	parts
number	use	movement

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