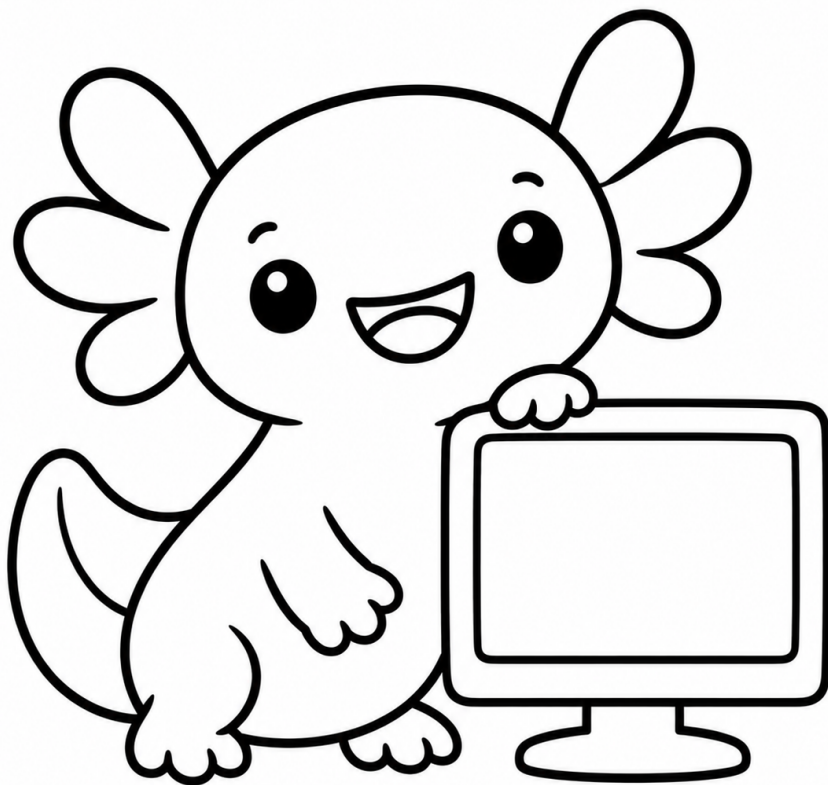


Hello, little computer explorer!

Color the scene. Point to the computer screen.

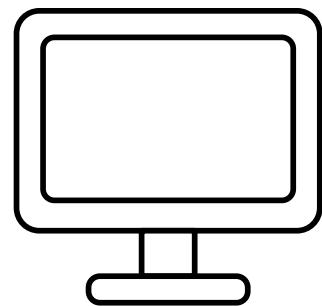
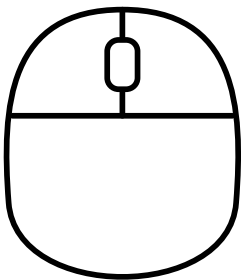
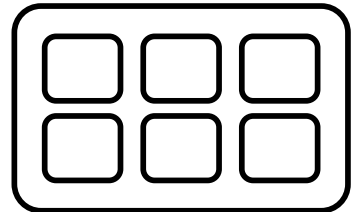
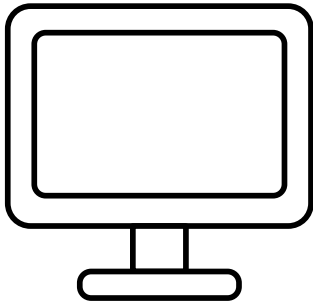
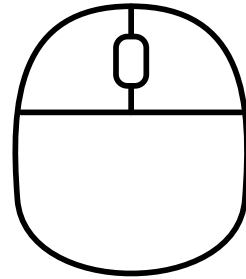
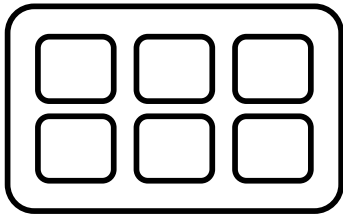


What would you like to put on the screen?

Read aloud together. This friendly computer scene is pretend.

Find the computer pairs

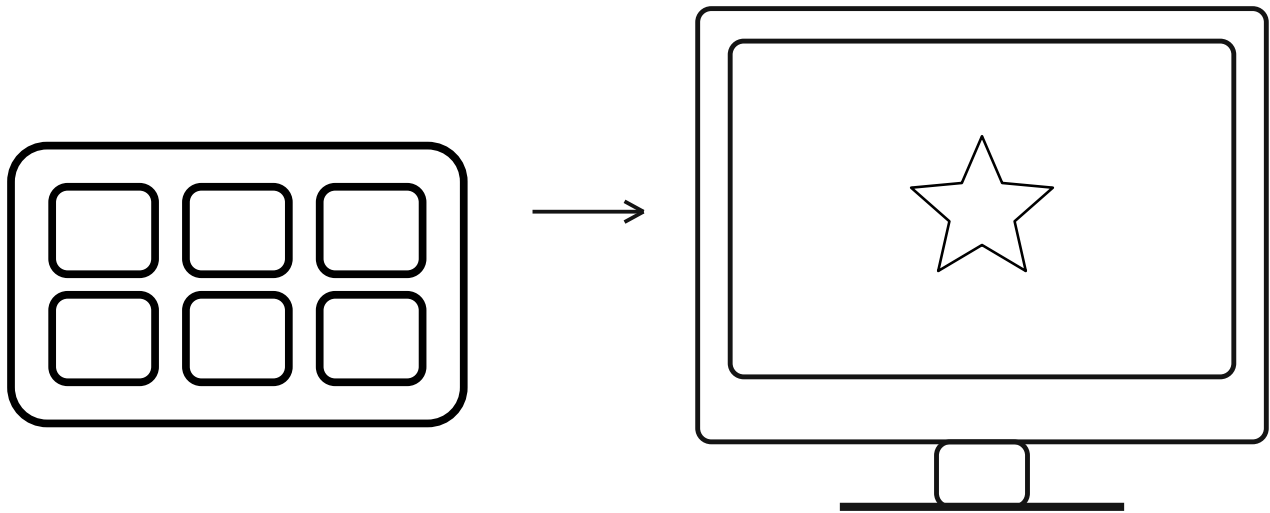
Point to the matching pictures. You may join them.



Name a keyboard, screen, and mouse as you match. Children do not need to read the names.

We tell it; it shows us

Point to a key you can press. Then point to the screen.

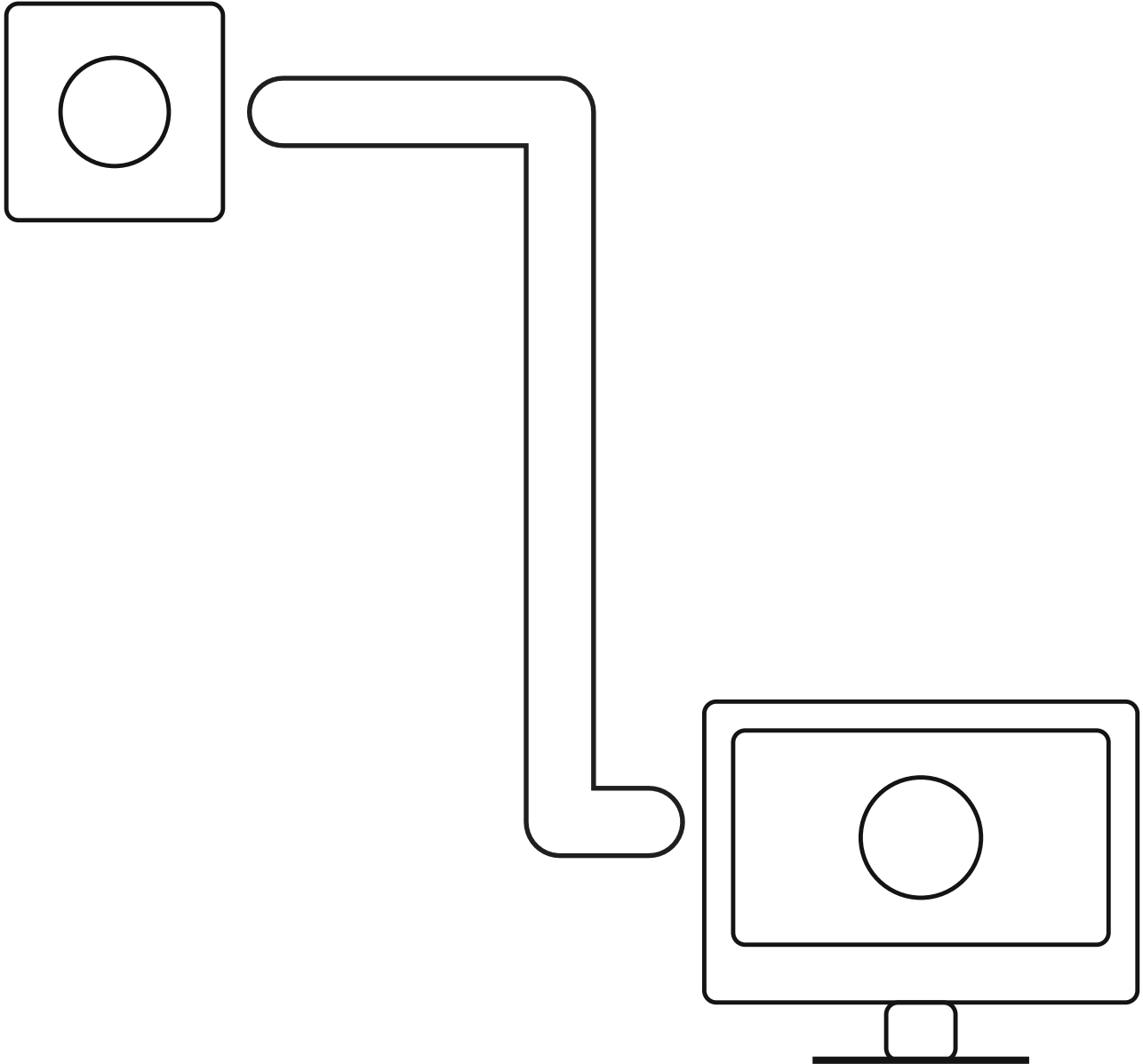


Pressing a key can send an instruction. A screen can show a picture.

This shows one possible interaction. Not every key makes a picture; a program decides what happens.

Follow the picture message

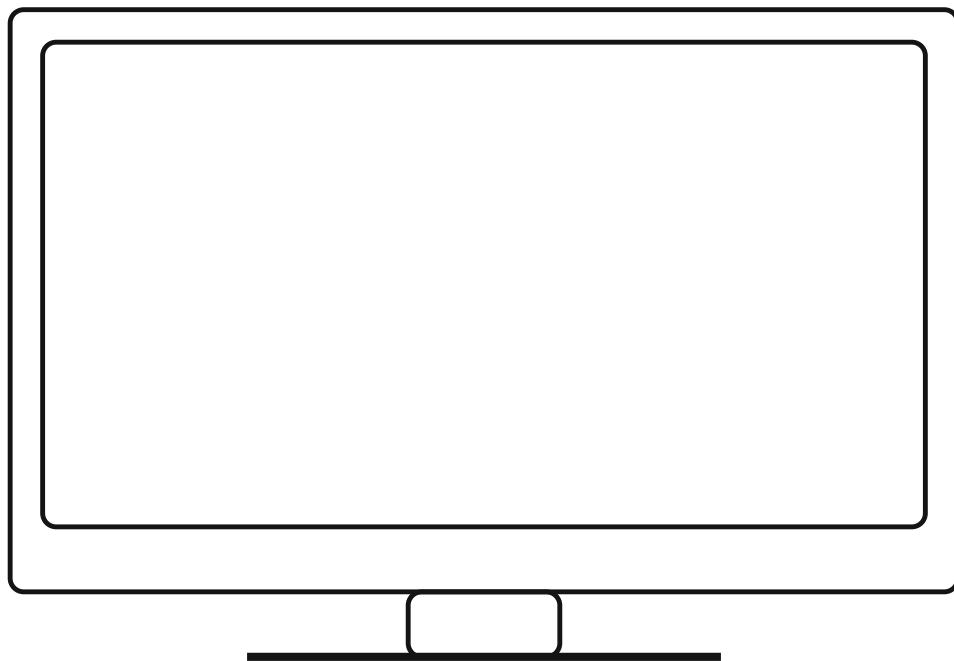
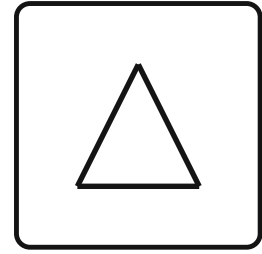
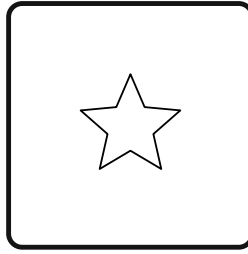
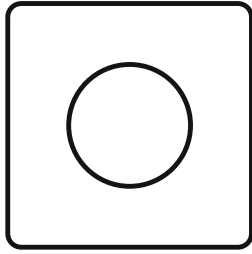
Trace the wide path from the key to the screen.



Our pretend key asks for a circle. The path stands for information moving, not the wiring in a real computer.

Press a shape, show a shape

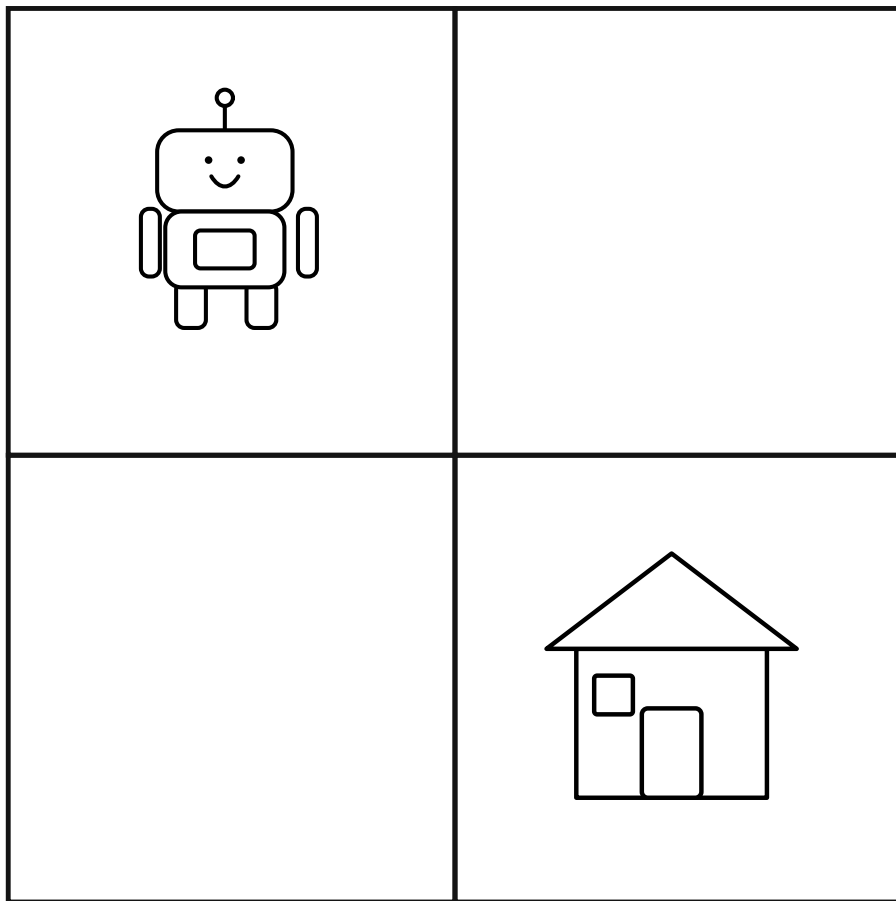
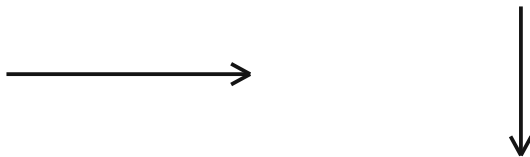
Point to one key. Draw its shape on the empty screen.



Any selected key is valid if the drawing matches it. This paper machine has one simple rule.

Two tiny directions

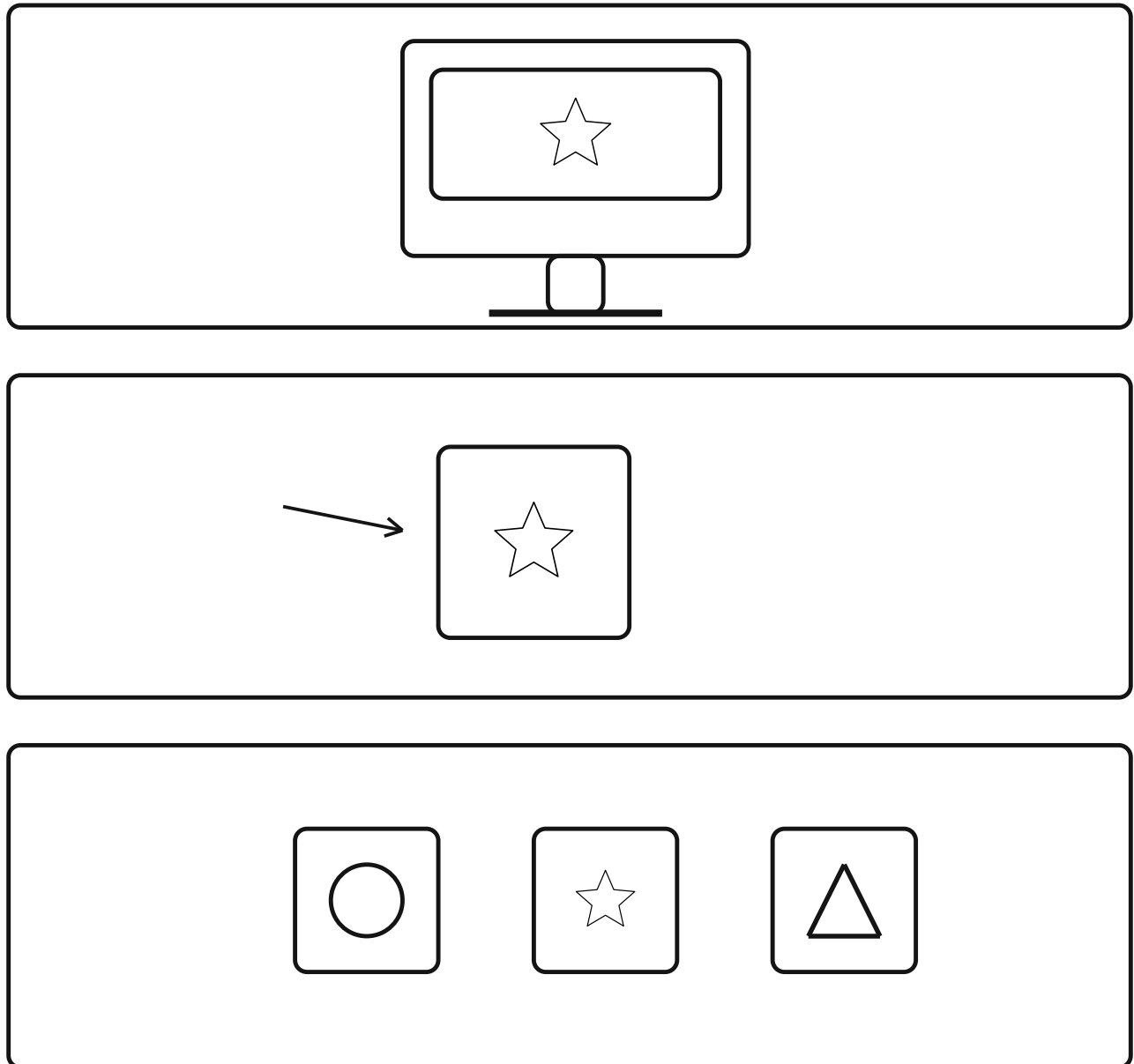
Start at the robot. Go right, then down. Where do you land?



A finger is the traveler. Right then down reaches the house. This is a short sequence of instructions.

Put the story in order

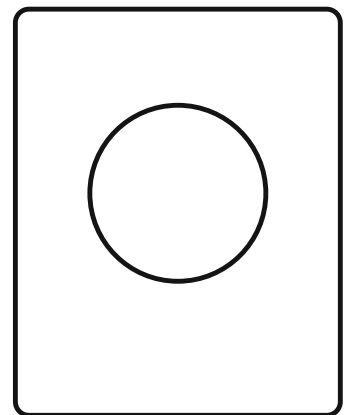
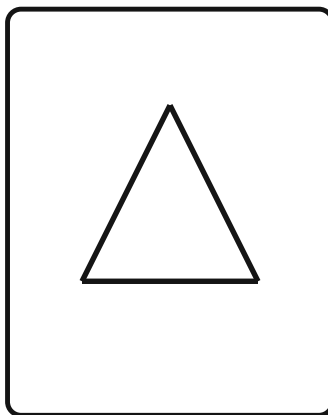
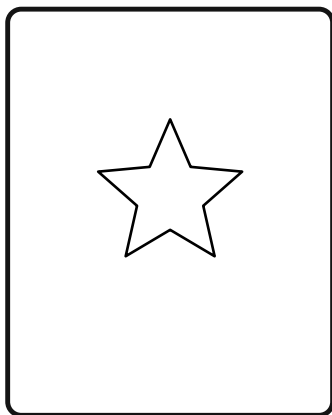
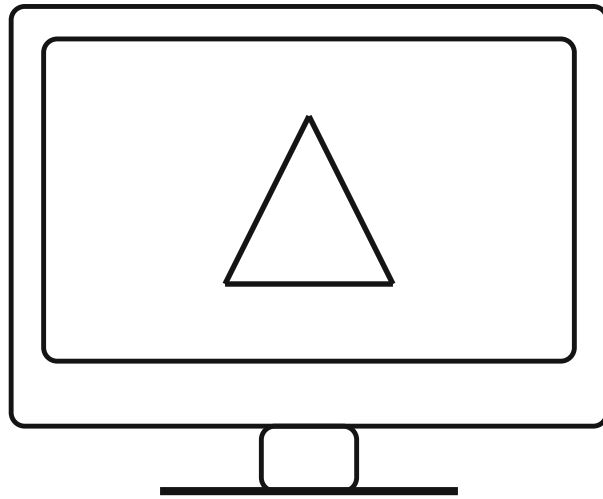
Point to choosing a key, pressing it, then seeing the picture.



Bottom: choose a key. Middle: pretend to press the star key. Top: see the star picture.

Save this picture

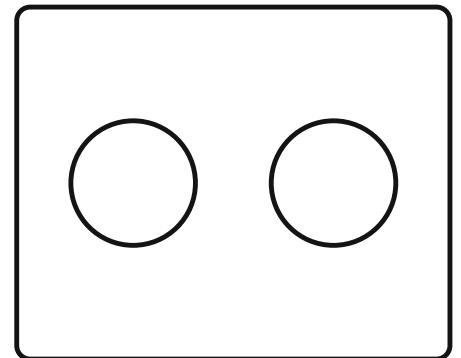
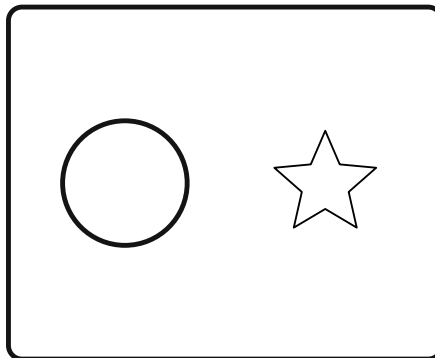
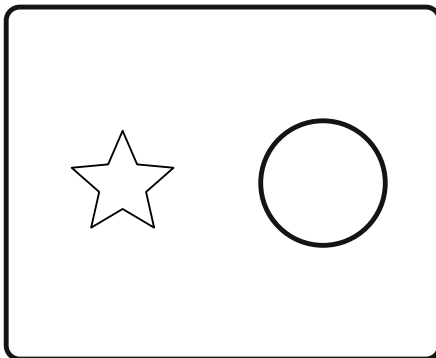
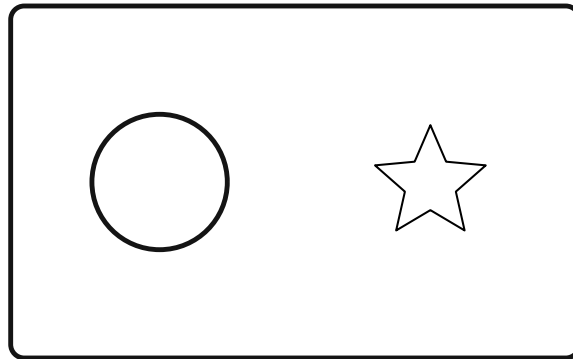
Find the saved picture that matches the screen.



Middle card: triangle. Cards stand for stored information; real computer memory uses electronic states.

Remember and find

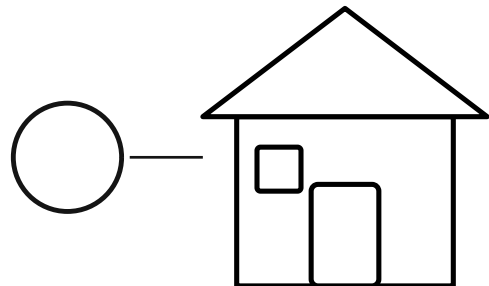
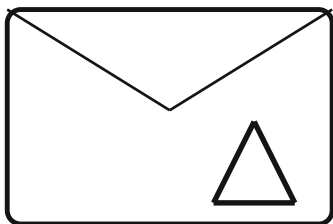
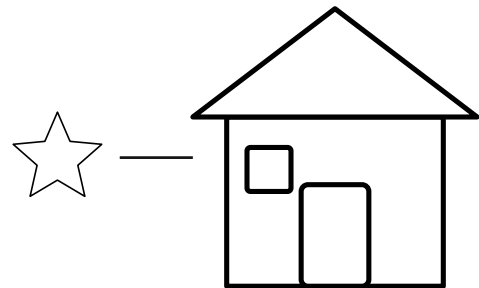
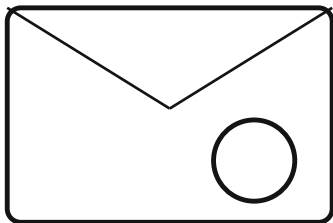
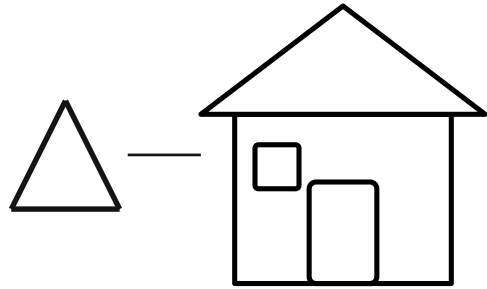
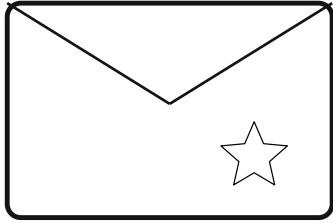
Look at the picture. Cover it with your hand. Find its twin.



Middle choice: circle then star. Keep the top picture visible if remembering feels frustrating.

Deliver a picture message

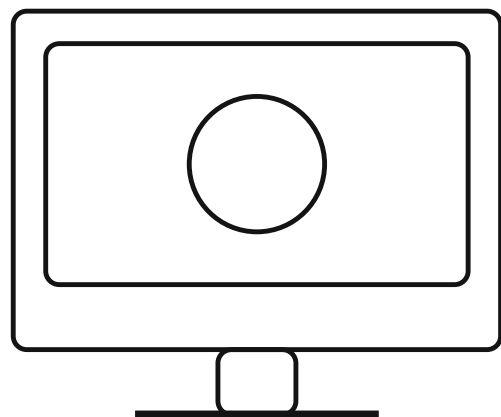
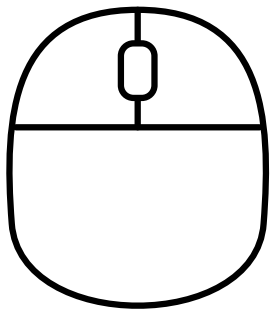
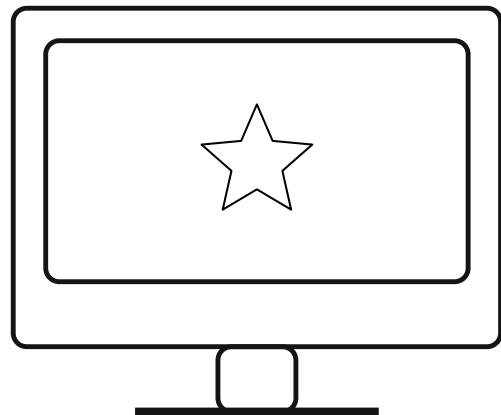
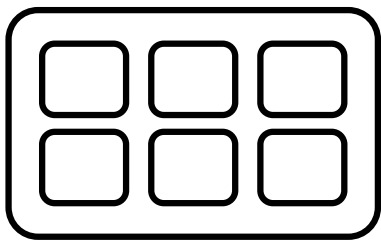
Join each message to the house with the same sign.



Match the address signs. Network addresses are not house pictures; this is an early delivery model.

Tell it or show it?

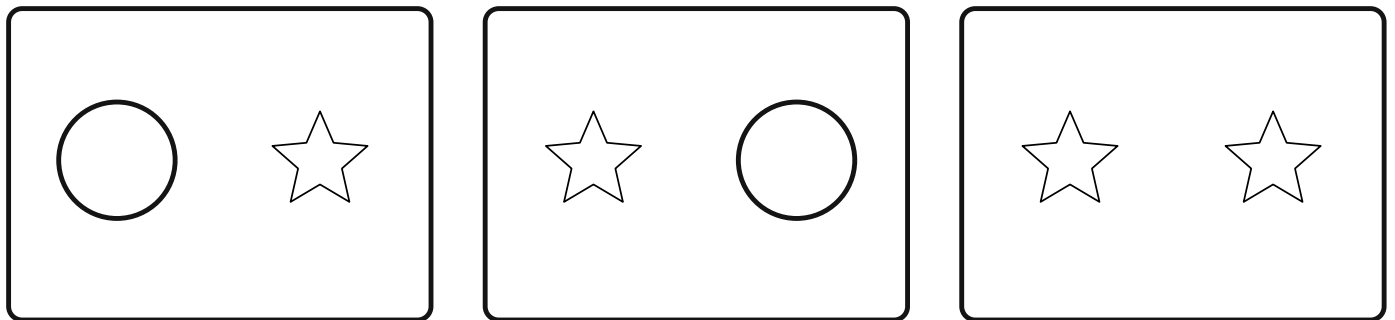
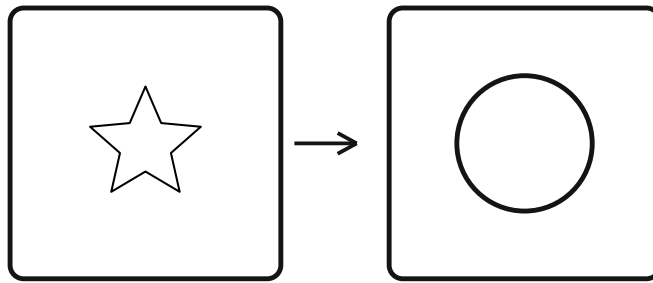
Point to what sends a command. Then point to what shows a picture.



Keyboard and mouse can send input. These screens show output. Touchscreens can also accept input.

Keep the message in order

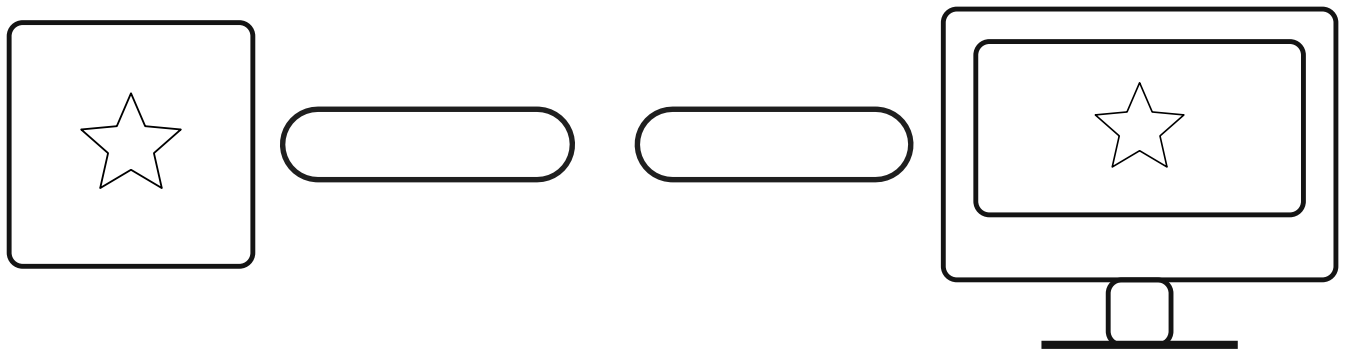
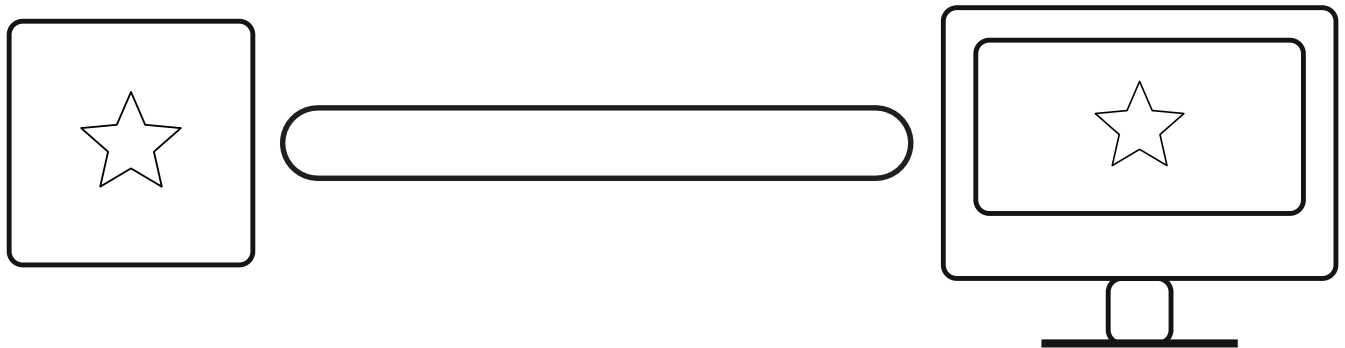
Find the message that says star, then circle.



Middle choice preserves both shapes and their order. Computers follow arranged instructions, not wishes.

Find the broken route

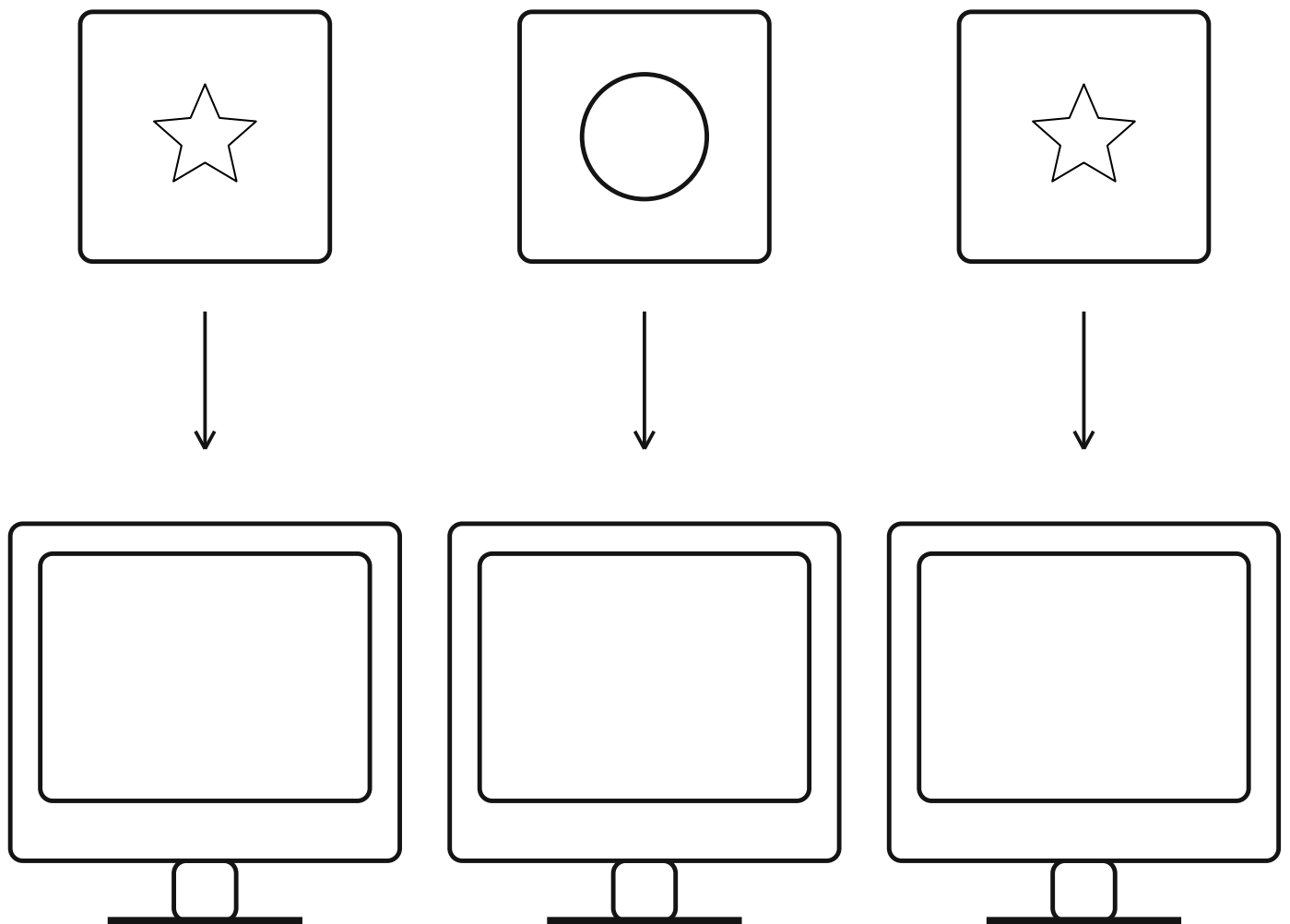
One message path has a gap. Circle the gap, then join it.



The lower path has a gap. This is a paper debugging game: notice and repair a missing step or connection.

One press, one picture

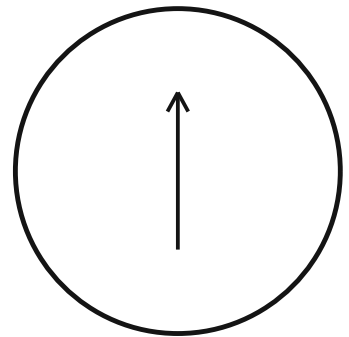
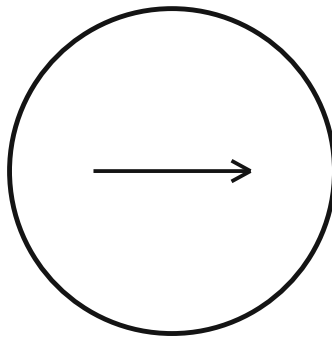
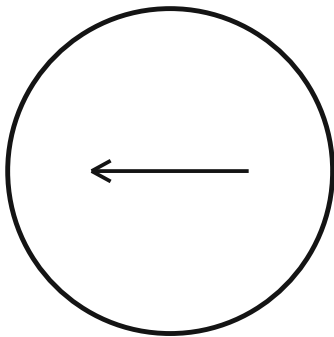
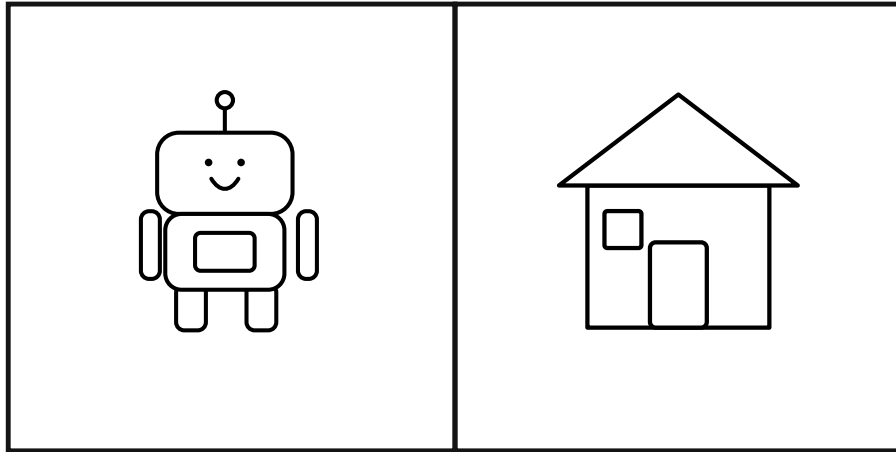
For each star key, draw one star in the screen below it.



Draw stars on the left and right screens. Leave the middle empty: our instruction only mentions star keys.

Choose the next direction

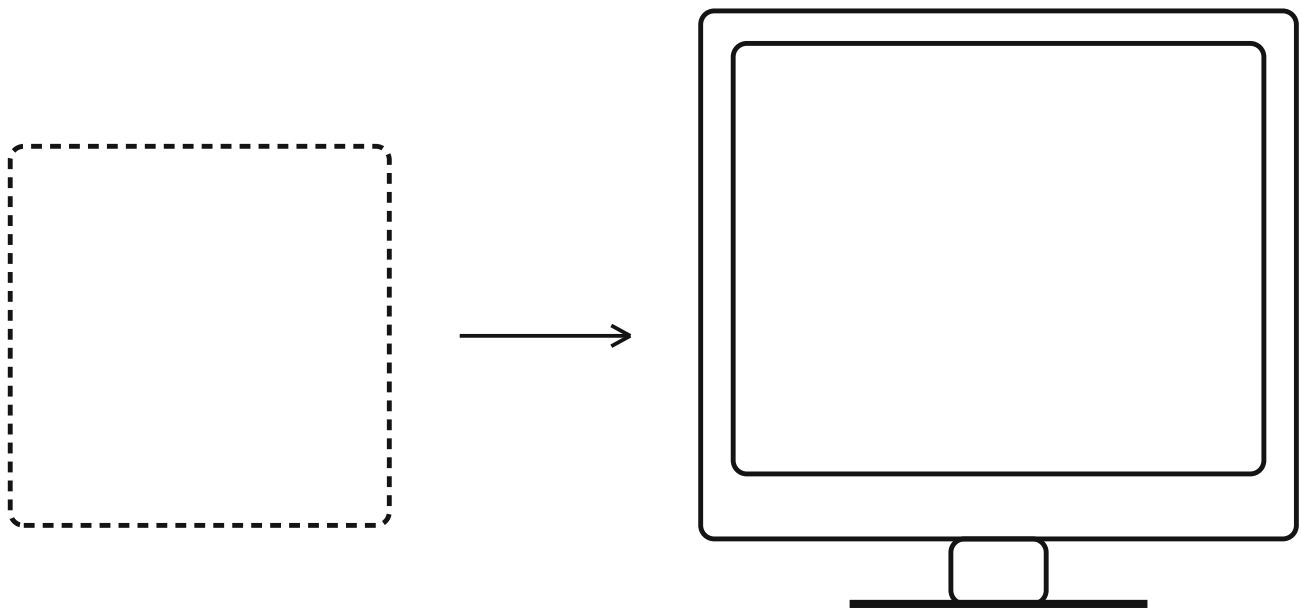
The robot wants the house. Point to the arrow it needs.



Middle arrow: right. Each arrow means one move to the neighboring square in this pretend instruction set.

Invent a paper computer

Draw a key picture and what your key makes the screen show.



Tell a grownup: When I press this, it shows ...

Any clear invented rule works. A real computer follows programs; the paper machine is a play model.

A little guide for grownups

Ages 4-6 | Read aloud, point, trace, and talk.

Get ready

Print actual size on Letter or A4. Use crayons or a pencil. No scissors, glue, screens, or independent reading are needed.

Make it gentle

Try one or two pages at a time. A child may answer by pointing or speaking. Offer a finger trace before a pencil trace.

What this explores

Inputs and outputs, following one or two directions, keeping picture order, memory as stored information, and delivering a message. No reading, binary numbers, logic gates, or real computer is required.

Keep the model honest

Symbols and pretend keys are a tiny invented instruction set. A program determines real responses. Screens may also receive touch input. Cards, paths, and houses are metaphors, not literal computer parts.

Sources for grownups

CS Unplugged: Kidbots

<https://www.csunplugged.org/en/topics/kidbots/>

IEEE: Computers

<https://technav.ieee.org/topic/computers/>

Answers and conversations

Pointing, speaking, or drawing all count.

- | | |
|---|--|
| 1. Open coloring and pointing. | 9. Middle pair: circle followed by star. |
| 2. Left top -> right middle; left middle -> right bottom; left bottom -> right top. | 10. Left top -> right middle; left middle -> right bottom; left bottom -> right top. |
| 3. Keyboard key sends input; screen shows output. | 11. Left keyboard/mouse send input; right screens show output. |
| 4. Trace from the circle key to the circle screen. | 12. Middle choice: star followed by circle. |
| 5. Any key, with its matching shape on the screen. | 13. Join the gap in the lower route. |
| 6. Right then down reaches the house. | 14. Draw a star in the left and right screens. |
| 7. Choose bottom; press middle; see picture top. | 15. Middle arrow points right toward the house. |
| 8. Middle saved card: triangle. | 16. Open: a key and a picture connected by a stated rule. |

Open-ended pages have many useful answers. Ask what your child noticed; no scores are needed.