

technology

Steps in order: first algorithms

Lesson at a glance

Open with a silly wrong-order sandwich mime (butter outside, bread last) so pupils feel why order matters. Name algorithm as steps in the right order, then model four sandwich picture cards into sequence. Groups of three or four order the same cards on the floor and say the steps aloud, then play talker-and-robot mime with no real food. Close with a carpet talk on chefs, builders and the algorithm chant.

Learning objectives

- Put picture steps for a familiar routine into the right order
- Follow a short sequence of steps said by a friend, one at a time
- Say that an algorithm is a set of steps in the right order

Before the bell – prep

Print and cut one illustrated sandwich set per group (four picture-first cards: Bread, Butter, Filling, Together) the day before. Keep sets rubber-banded. Clear a floor strip per group. Optional PE getting-ready set only if a confident group finishes early.

Materials

Item	Qty	Per	Source	Low-cost substitute
illustrated sandwich step cards (bread, butter, filling, put together)	1	group	classroom	four large IWB pictures of the same steps ordered as a class without paper cards
illustrated PE step cards (take off school shoes, put on runners, put on PE top, line up)	2	class	classroom	skip the PE set and keep sandwich only for every group
clear floor space for play-robot	1	class	classroom	stand-and-mime in a circle on the carpet without walking routes

Safety watch-point

Mime and pretend only — no real food or props. Gentle moves; groups stay in their own floor space while cards are laid out.



Teaching moves

- **Getting Started:** Mime a funny wrong-order sandwich with empty hands only — filling first, bread last. Ask what went wrong and what should come first. Take two or three ideas; do not say algorithm yet. Keep sandwich cards face down nearby.
- **Today's word: algorithm:** Say algorithm slowly (AL-guh-rith-um) and give the friendly meaning: a set of steps in the right order. Class chants once: An algorithm is steps in the right order. Save chef and builder examples for the later talk.
- **Watch the steps:** Hold up the four sandwich cards so all can see. Think-aloud the order: bread, butter, filling, together. Deliberately swap two cards, ask what would go wrong, then fix them. Class choruses the four steps and chants the algorithm sentence while you point at the ordered cards.
- **Order the cards:** Groups of three or four get one sandwich set. They lay cards on the floor in order and say the steps aloud (about 5 minutes). Visit and ask why this one comes first. If stuck, hold two cards and ask which happens sooner. Do not start robot play yet.
- **Play robot:** Name jobs first: talker says one step from the ordered cards; robot mimes only that step, then waits. No real food or props. Every child must be robot once and talker once — shorten to two or three steps if time is tight. Watchers check: did the robot follow exactly?
- **What did we notice?:** Carpet circle, display-only. One or two groups say their four sandwich steps. Ask what went wrong when cards swapped and revoice: that was your algorithm. Quick oral picture of chef (recipe) and builder (plan); accept that both need the right order.

What it should show

Most groups place bread first, then butter, filling, together, and can say the four steps aloud. In robot play, the robot waits and mimes only the step just said. Typical sticky spot: a group starts with filling or butter — hold two cards and ask which must happen sooner; re-order, then re-chant.

Misconceptions & interventions

- **Any list of actions is fine in any order — order does not matter.** — Hold up the jumbled sandwich (filling before bread) and ask what you would actually get. Put bread first again and link: an algorithm needs the right order or the job goes silly.
- **The robot can add extra moves or skip ahead because they already know how to make a sandwich.** — Freeze the play and restate the job: the robot only does the step the talker just said. Have the talker re-say one step and watch the robot wait, then mime only that.

Differentiation

Emerging	Developing	Proficient
• Offer only three cards (drop Together) and sit with the group while they choose which of two cards comes sooner. • Teacher or SNA acts as talker first so the pupil can be robot with one clear step at a time.	• Ask why this card comes first before they say the full sequence aloud. • During robot play, fold watchers in: did the robot follow exactly, and what should come next?	• Invite the group to shuffle two cards on purpose, spot the bug, and fix the order. • If time allows, offer the optional PE getting-ready cards (still mime only) as a second sensible class routine.

Cross-curricular hook

Links to oral language sequencing in English — first, next, last — using the same sandwich steps they ordered.