

technology

Steps in order: first algorithms

Lesson at a glance

Open with a quick mime of a silly sandwich made in the wrong order and ask what went wrong. Name today's word — algorithm means steps in the right order — then model ordering four sandwich picture cards (bread, butter, filling, together). Groups lay the same cards on the floor and say the steps aloud, then play talker-and-robot so one child says one step and the other mimes only that step. Close with a talk on why order matters for chefs and builders, and chant the algorithm sentence once more.

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 picture-card set per group of 3–4 (four cards: Bread, Butter, Filling, Together — picture-first, short labels only). Keep sets face down and bagged so cards stay complete. Clear a floor strip per group before the bell. No real food or props.

Materials

Item	Qty	Per	Source	Low-cost substitute
illustrated sandwich step cards (bread, butter, filling, put together)	1	group	provided printable	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	provided printable	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 name algorithm yet. Keep sandwich cards nearby but face down.
- **Today's word: algorithm:** Say the word slowly (AL-guh-rith-um) and give the friendly meaning once: a set of steps in the right order. Class chants the sentence together once. Save chef and builder examples for the later talk so the new word is not buried.
- **Watch the steps:** Hold up the four picture cards so all can see. Think-aloud the order: bread, butter, filling, together. Deliberately swap two cards and ask what would go wrong, then fix them. Class choruses the four steps, then chants 'An algorithm is steps in the right order' while you point at the ordered cards.
- **Order the cards:** Form groups of three or four and hand each the same sandwich set. Groups 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. Finish ordering before any robot play.
- **Play robot:** Name jobs first: Talker says one step at a time from the ordered cards; Robot mimes only that step, then waits. No real food, no extras. Every child must be robot once and talker once — shorten to two or three steps if time is tight. Ask watchers: did the robot follow exactly?
- **What did we notice?:** Invite one or two groups to say their four steps. Ask what went wrong when cards swapped, then revoice: that was your algorithm. Add a quick oral picture of a chef's recipe and a builder's plan; ask who needs the right order — accept both.



What it should show

Most groups will place bread first, then butter, filling, and put-together last, and can say those four steps aloud. In robot play, the robot should wait and mime only the step just said. If a group puts filling or butter before bread, hold two cards and ask which you need first so you have something to spread on. Affirm any notice that a jumbled order makes a silly sandwich.



Misconceptions & interventions

- **Any list of actions is fine in any order — order does not matter.** — Hold up the swapped sandwich cards (filling before bread) and ask what you would end up with. Put bread first again and revoice: an algorithm needs the right order or the job goes wrong.
- **The robot can add extra moves or skip ahead because they already know how to make a sandwich.** — Freeze the play and remind: the robot only does the step the talker just said. Have the talker repeat one card and watch the robot do only that mime.

Differentiation

Emerging	Developing	Proficient
• Offer only three cards (drop put-together) for a shorter sequence; hold two cards and ask which happens sooner if the group is stuck.	• Ask why this card comes first as you visit; have the group say the full four steps aloud together once the order is set.	• Confident groups shuffle two cards on purpose, spot the bug, and fix the order before robot play.

Cross-curricular hook

Links to oral language sequencing — pupils retell a familiar routine in first, next, last order.