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Kitchen Heroes: Introducing Plant-Based Cooking in Primary Education in London

The London School of Economics and Political Science

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1. Introduction

Despite numerous efforts by sustainability and animal welfare organizations to shift consumer mindsets from meat-based foods to plant-based foods, the United Kingdom (UK) still consumes twice as much meat as the global average, per person (The Food Foundation, 2025). 14-18% of global greenhouse gas emissions are attributed to meat production (Stanford, 2025). Due to the large swaths of land needed, farming also causes biodiversity loss and deforestation. To meet the national food strategy plan, the National Food Strategy recommends that the UK reduces their meat consumption by 30% (National Food Strategy, n.d.).

Although interest in reducing meat consumption has grown in the UK driven by health concerns and the environmental impacts of meat production, numerous educational, social, and personal barriers continue to resist this dietary transition. Factors such as sensory pleasure and beliefs about the importance of meat in the diet play an important role in maintaining traditional consumption patterns (Stanley, 2021). Those deep-seated beliefs undermine the adoption of sustainable eating habits, highlighting the difficulty of aligning scientific evidence and consumer actions.

Plant-based foods offer a promising solution to address some barriers to shifting away from animal products, particularly the need to adapt familiar meal structures and acquire new cooking skills. In our intervention strategy, we focus upstream on one of the root causes of meat consumption being so commonplace: the social norm.

Given that many parents are willing to reduce meat consumption in their households but fail to break out of current cooking routines, this paper discusses how London primary school programmes can be leveraged to educate students on sustainability in the food industry and encourage plant-based cooking at home by utilising in-person cooking workshops and take-home materials. We analyse the system behind reducing meat consumption, thereby lowering overall CO2 through the household cooking process by applying stakeholder mapping, Activity Theory and Installation Theory, and discuss design, feasibility, and limitations of the proposed solution.

For the purposes of this paper, the terms “plant-based” and “vegan” are used regarding dietary content. However, we intentionally distinguished their application: “plant-based” was preferred for our intervention due to lower psychological entry barriers and to avoid identity barriers. “Vegan” is maintained when referring to institutional standards and academic literature.

2. Background

2.1. Children

While exploring various options for intervention points on vegan labelling to increase purchasing, merchandising at London grocery stores, and creating ready-to-go plant-based recipe baskets for consumers, there was a realisation that none of these would adequately appease stakeholders. Due to the fickle nature of working with privately owned companies, grocery stores which hold a main interest in turnover rates and are unwilling to put so much effort into a financially risky intervention, the decision was made to look at other points of intervention when honing on the specific problem of meats being a go-to product in households of London.

In the social science literature, children are conceptualised as "competent social actors" (Christensen, 2004; Holland et al., 2010; James et al., 1998; Vandenbroeck & De Bie, 2006) with agency to influence adult health behaviours. Childhood is a socially constructed and subjective phenomenon, possessing agency to act embedded within social structures that restrict or facilitate action (James and James, 2012). The existing theory has been developed largely within the Western cultural context, where children are viewed as possessing less power than adults, while still recognised as active agents (Bjerke, 2011; James et al., 1998; Gadhoke et al., 2015). Children can exert influence on parental purchase decisions at each cognitive and social developmental stage (John, 1999), and across generations (Goh and Kuczynski, 2009). Sheper-Hughes and Sargent (1998) stressed the need to study children as fundamental to understanding social change. Outside of home, studies have shown that when schools promote healthy eating, students internalise this messaging (Kater et al., 2000). Through social interactions with teachers and peers, students learn social "rules" related to food consumption (Damay et al., 2011).

2.2 Parents and families

Parents (or tutors) are responsible for choosing and cooking food in the household. Parents/tutors act as the nutritional gate-keepers and decision-makers for children, thus holding the responsibility for balancing their nutrition and introducing them to new meals (Vos et al., 2022). 85% of parents in the UK have expressed the desire to reduce meat consumption in their household, but only 24% have actually done so (Eating Better, 2024; ProVeg UK, 2025). This intent-behaviour gap is the result of multiple diet adoption barriers (Gillison et al., 2021). For example, in the UK meat eating is strongly tied to social settings and the concept of a traditional family house (Horgan et al., 2019). Children themselves can discourage parents further via 'food neophobia', which refers to children's reluctance to try

new food (Białek-Dratwa et al., 2024). Unsurprisingly, if faced with time or resource constraints, parents in the UK would default to meat-based dishes (Stannard, 2022).

2.3 Schools and ProVeg UK

Another essential location in the life of a child is their school. Children in the UK spend around 6 and a half hours a day for five days a week in primary and secondary school, for a total of around 6,000 hours a year (GOV.UK, 2021). Children spend an extensive period of time at school, and therefore are deeply influenced by their school experience (Rutter, 1980; Clair, 2014; Crosnoe & Benner, 2015; Entwisle, 2018). Focusing specifically on plant-based diets and consumption, children face a variety of unexpected challenges. It was found that, in the UK, the consumption of plant-based dishes at school canteens can be increased via nudges (Ensaff et al., 2015). Smith et al. (2013) also found that children's diets can be influenced by proximity to fast foods/convenience stores: the further a school is from a fast food/convenience store, the higher the children's healthy food consumption, vice versa the closer a school is to a fast food/convenience store, with obesity and overweight scores. This indicates that children in the UK are affected by the convenience and quality of the food product, regardless of its ingredients.

Secondly, already vegan/vegetarian children at primary and secondary schools face social barriers as well. Lugassy (2022) conducted one-to-one interviews with UK vegan children ages 11-12 and found that vegan children all experience similar attrition at school with both the students and the school staff. Marshall (2023) conducted a similar qualitative research in UK secondary schools with children aged 11-16 and found similar results. These findings show that children experience little trust and acceptance on school grounds, and they believe themselves powerless to change school menus/diets.

Borrego-Ruiz & Borrego (2025) conducted a literature review and found that 14 countries, including the UK. share the same barriers and facilitators to plant-based diets. These common barriers range from: children's habits, infrastructure, parents, peers, & educators' influence, cultural traditions, etc. Conversely, facilitators range from: hands-on activities, parents & educators support, peers' acceptance, social norms, etc. From the findings emerges a clear similarity between barriers and facilitators. This paper highlights the interconnectedness of many actors involved in the practical choices and psychological influences that contextualise the effect that children have on society and vice versa. This is in line with the previously exposed background evidence on children.

There exist organisations that have recognised these issues and are already acting accordingly. In London specifically, there is one main acting organisation: ProVeg UK. ProVeg UK is the UK branch of the international NGO 'ProVeg International', which operates towards promoting veganism/vegan dishes to transform the global food system,

specifically, to replace 50% of animal food with vegan food by 2040 (ProVeg International, n.d.). ProVeg UK offers two services: “School Plates” and “Canteen to Classroom”; the former is a service aimed at adjusting school menus and training personnel/catering staff (ProVeg UK, 2025a), the latter is a service aimed at educating children on the environmental and health impact of food (ProVeg UK, 2025b). ProVeg therefore operates on multiple critical actors and barriers recognised by Borrego-Ruiz & Borrego (2025). ProVeg UK only operates with primary schools, both private and public, and operates with consent from the school and local governmental authorities. One successful example is Waltham Forest schools’ ‘Green School Menu League’ (LACA, 2022). However, ProVeg UK works with a few primary schools in London.

3. Stakeholder Analysis

3.1. Stakeholders focus:

The analysis in the figure below concentrates on parents, children, school leadership, teachers, caterers, community cookery hubs, ProVeg and governmental bodies, highlighting how these stakeholders jointly shape behaviour around school food and plant-based eating.

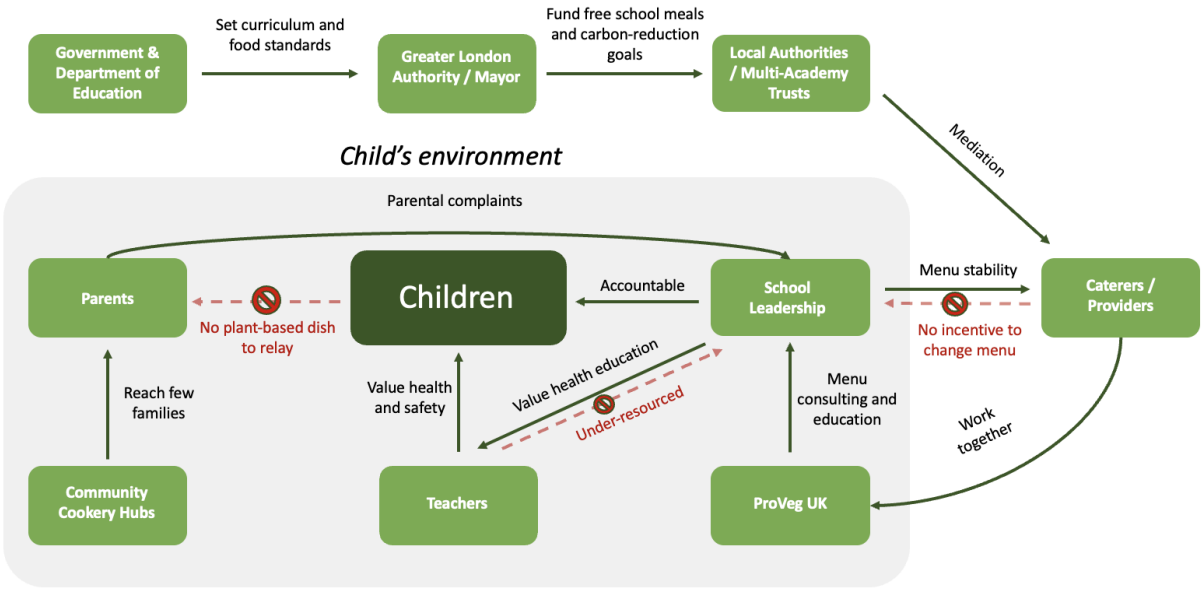


Figure 1, Stakeholder map showing intertwined attitudes, beliefs and relationships in the London school food system. Red barriers indicated current pain points preventing plant-based intervention.

Parents control home cooking and prioritise cost, convenience and familiar recipes. In fact, a survey found that 83% of consumers feel comfortable cooking meat while only 45% feel comfortable cooking plant-based dishes (Mridul, 2025). Schools wary of parental

complaints, avoid menu changes that might provoke conflict. Children experience school lunches and occasional cooking lessons, but plant-based messages rarely connect to home meals and ad-hoc sessions don't build durable skills. They do, however, naturally report their school experiences to parents, creating a potential channel for recipe transmission.

School leadership, accountable to multiple stakeholders, prioritise menu stability over experimentation due to reputational risk and resource constraints (Food Standards Agency, 2025). Teachers value cooking education but feel time-poor and under-resourced, leading to sporadic lessons focused on familiar dishes rather than systematic plant-based skill building (D&T Association, 2025). Caterers operate under tight contracts and perceive unfamiliar plant-based dishes as operationally risky due to potential rejection and waste. Community cookery hubs reach some families but remain weakly coupled to school activities. ProVeg UK provides menu consulting and educational projects but after speaking with a representative from their organisation (ProVeg UK, 2025a), when we spoke with them, we learned that they do not currently provide recipe books for children to take home to cook with their parents and the structure of their programme is different but could be integrated into our intervention.

The UK Government and the Department for Education set curriculum and food standards, including guidance for plant-based recipes, while the Greater London Authority funds universal free school meals and carbon-reduction goals (Greater London Authority, 2025a). Local authorities mediate between national objectives and school-level realities with limited capacity.

However, these mandates often remain aspirational with no mechanism linking them to family cooking practices. Recent research demonstrates that sustainable school food requires prioritising fresh, seasonal, local and ideally organic plant-based ingredients through scratch cooking (Sabet et al., 2025) while nearly half of UK parents support increasing plant-based meals in schools, with 85% wanting more learning about healthy food choices (ProVeg UK, 2025b). However, all factors and actors involved are closely interconnected, promoting the consumption of meat and resisting the shift towards plant-based food (Borrego-Ruiz & Borrego, 2025). The recipe-cycle intervention positions children as bridges between school and home: they learn plant-based recipes at school, cook them with their families, then return to school to reinforce learning. This reframes parents as partners rather than obstacles, provides teachers with ready-to-use materials aligned to curriculum outcomes and, through concrete, repeatable cooking experiences, builds confidence and skills across the system.

3.2. Operational process of recipe intervention

The intervention addresses a specific gap in the current system: although many parents demonstrate willingness to cook more plant-based food, they lack the practical recipes, skills and confidence needed to do so regularly, while children's exposure to plant-based cooking at school rarely translates into home practice.

The figure below illustrates the core school-home cycle. In Step 1, children learn a simple plant-based recipe in school, addressing the lack of practical plant-based learning in schools. In Step 2, children cook and eat the same recipe at home with parents, building parental skills and confidence through shared practice. In Step 3, teachers discuss home experiences, encourage repetition and explicitly link meals to lower-GHGE foods, creating a sustained cycle rather than isolated lessons.

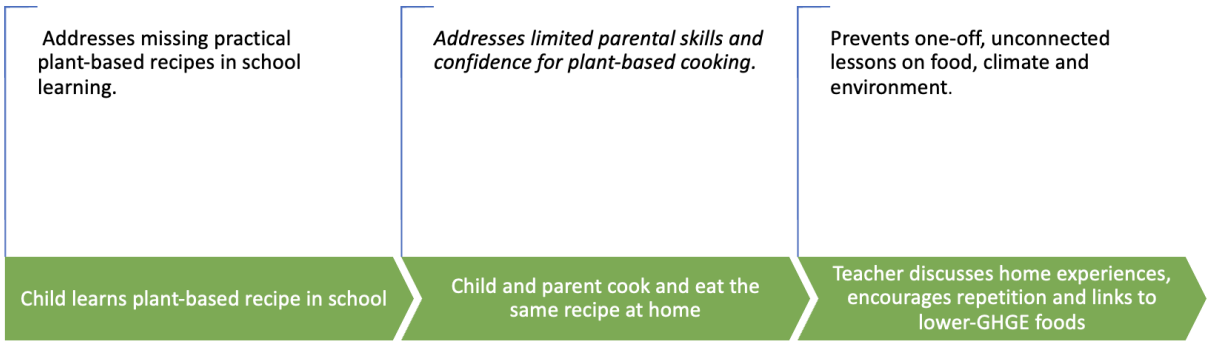


Figure 2: The three-step school-home recipe cycle. Each step addresses a systemic barrier: Step 1 introduces practical plant-based learning through schools; Step 2 builds skills through parent-child cooking at home; Step 3 reinforces repetition and connects to environmental benefits.

Figure 3 (below), presents the activity grid, mapping the sequence from the initial state through subgoals to the goal state. The initial state involves schools' aspiration to influence families' eating habits without a clear transfer mechanism. Subgoal 1 introduces simple plant-based recipes through classes, ensuring children handle concrete dishes. Subgoal 2 requires children to cook recipes at home and share experiences at school, creating a feedback loop. Children's cooking programmes result in small improvements in cooking efficacy and vegetable intake, particularly those with more than 6 hours of classes (Vaughen et al., 2024). Perceived cooking skills in youth predict better dietary behaviours and intake years later, including more frequent vegetable consumption and fewer food preparation barriers (Laska et al., 2012). Subgoal 3 focuses on gradual normalisation through repeated exposure across settings. The goal embeds several plant-based meals in routine family dinners, reinforced through school provision and motivated by improving children's health, supporting families under cost-of-living pressure and reducing

environmental impact.

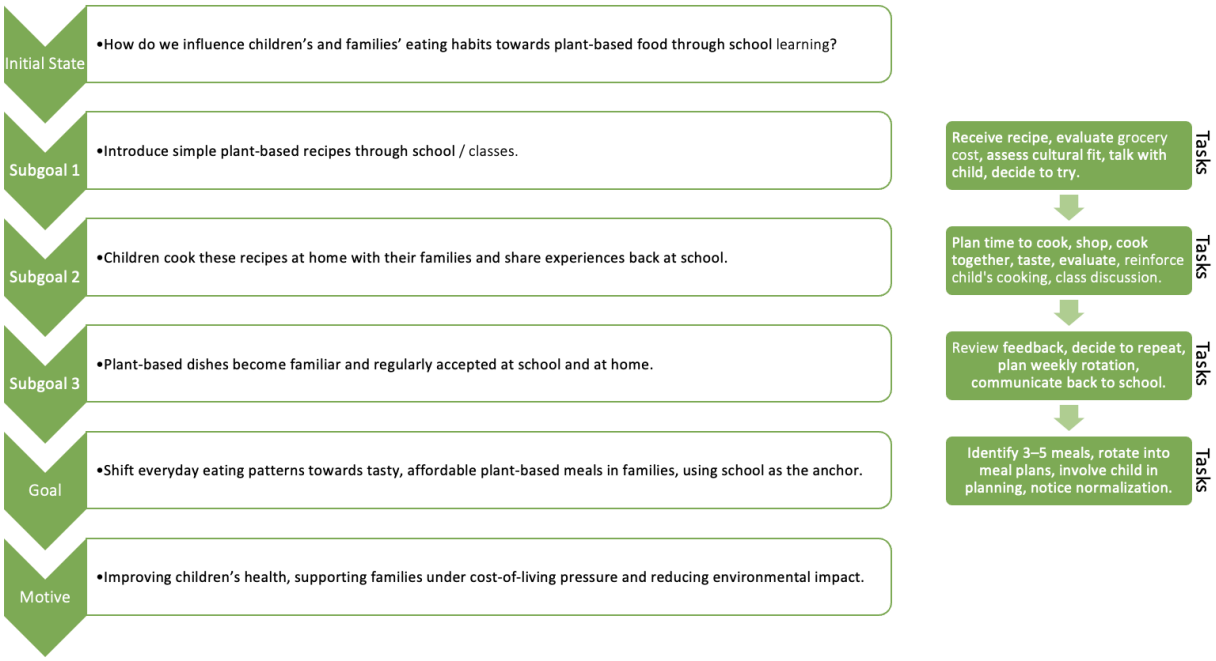


Figure 3, Activity grid showing how the intervention moves from initial state (schools' aspiration to influence eating habits) through three subgoals to the final goal of embedding plant-based meals in family routines. Tasks at each stage are listed on the right side.

3.3. Stakeholders involved in the intervention:

Government and Department for Education: School Food Standards require daily fruit and vegetables and support meat-free days, while cooking is embedded in the Design and Technology curriculum (Department for Education, 2025a). However, compliance varies by school leadership (Parnham et al., 2022a) and mandates lack clear mechanisms for changing family eating habits. The intervention provides concrete, child-friendly plant-based recipes to help schools enact requirements in lessons and family dinners.

Greater London Authority and local authorities: The Mayor's Universal Free School Meals programme has delivered over 100 million meals since September 2023 (Greater London Authority, 2025b). Local authorities mediate between expectations and school realities with limited capacity. The intervention is positioned as operationalising existing health, equity and climate ambitions rather than an additional burden.

School leadership is crucial for successful food interventions, influencing children's food choice, school food policy and culture (Bryant et al., 2023). Leaders must allocate timetable time, equipment, and communication channels. The intervention is designed as a

low-risk plug-in model allowing leadership to act on existing policies without a large additional workload.

Teachers deliver sessions where children learn plant-based recipes. Many value cooking education but experience high workload and lack confidence in plant-based cooking (Sabet et al., 2025). Prepared lesson plans and recipe cards reduce planning load, turning curriculum intentions into feasible routine lessons.

Children carry recipes between school and home. Peers influence eating behaviours in school-aged children (Karamikola et al., 2024), with positive peer effects for food preferences (Zhou et al., 2023) and school competition encouraging fruit and vegetable consumption (Hassan et al., 2025). Children exert 'pester power' over parents at meal selection, significantly associated with children's diet (Huang et al., 2016; Studer-Perez & Musher-Eizenmann, 2022). The intervention uses children as messengers to create a structured home-school feedback loop around plant-based recipes.

Parents/Guardians control food purchasing and home cooking (Vos et al., 2022). Among paying families, 38% said free meals would persuade them to eat more school meals with better variety and quality (Veg Power, 2024). Parents worry that plant-based nutrition is insufficient (Holm and Møhl, 2000), though this is inaccurate (Craig & Mangels, 2009; Łuszczki et al., 2023). Parents listen to children's demands and negotiate meal choice (Thompson et al., 2016). Many are open to cooking differently but lack practical plant-based recipes, which they receive via their children and integrate into meal rotations.

4. Application of Theoretical Concepts

We apply Activity Theory and Installation Theory in conjunction to understand the school-home food system. These frameworks explain the subject's goals across a trajectory and the layers at play in each segment (Lahlou, 2017), identifying key intervention points.

4.1. Activity Theory

Activity Theory describes relationships between a subject and objects encountered during an activity (Lahlou, 2017). The subject is driven by motives to achieve a goal, a desired end state, through goal-oriented segments and sub-goals, constantly adapting based on environmental conditions and available objects. This framework analyses how internal motives and external constraints shape behaviour.

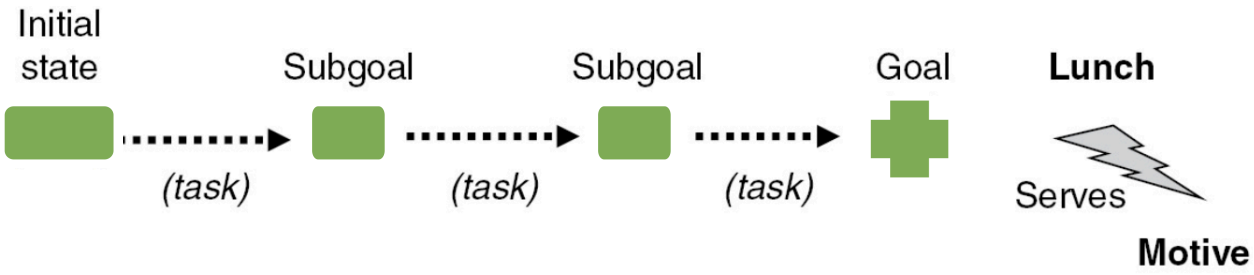


Figure 4, Simplified representation of Activity Theory showing the relationship between motives, goals, subgoals and tasks (adapted from Lahlou, 2017)

Applying Activity Theory to family meal preparation, the subjects, parents and children, have the objective of provisioning meals. Before intervention, parents dominate meal preparation, planning, shopping and cooking from familiar recipes, many lacking plant-based options. Their objective is to feed the family whilst ensuring well-being and harmony, with the outcome being a prepared and socially accepted meal.

The intervention redesigns this activity system by introducing children as active knowledge carriers and agents of change. As shown in the activity grid (Figure 3), it creates a structured pathway: introducing recipes in workshops (Subgoal-1), enabling home cooking through parent-child collaboration (Subgoal-2) and establishing familiarity via repeated exposure (Subgoal-3).

4.1.1 Why plant-based meals are systematically excluded

Activity Theory shows that plant-based meals are not rejected at the motive level, but filtered out at the task and sub-goal stages during planning and cooking.

At planning, parents face three compounding barriers: limited cooking confidence (Goni et al., 2014), uncertainty about family acceptance, and cognitive effort required for unfamiliar recipes. Under time pressure, familiar meat-centred recipes become the cognitively easier, lower-risk default. In cooking, a lack of vegetable preparation skills represents a considerable barrier, with young adults having low vegetable intake mainly due to inadequate cooking skills (Liu et al., 2024). Parents lack embodied procedural knowledge, making plant-based cooking feel effortful and uncertain compared to well-rehearsed dishes.

Activity Theory reveals meat-centred meals persist not due to preference or motivation, but how cooking is organised: the default pathway channels behaviour towards familiar, low-risk options while plant-based alternatives are filtered out despite alignment with parents' health and environmental values.

The intervention bypasses planning barriers as children bring recipes home from school, eliminating parental search and evaluation. Joint cooking transforms the cooking barrier into a supported learning opportunity, building procedural competence through guided repetition.

4.2. Installation Theory

In the next step, we turned to Installation Theory, as changing one element is insufficient. Installation Theory describes activities as embedded in installations that stabilise behaviour through three interconnected layers: Social regulation, Physical Affordances and Embodied Competencies (Lahlou, 2017).

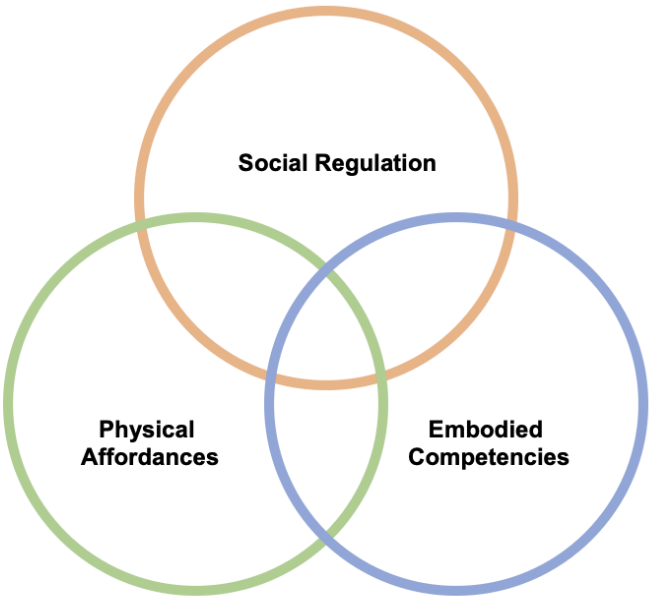


Figure 5, Installation Theory's three layers (Lahlou, 2017). Behaviour is shaped through the intersection of social regulation, physical affordances and embodied competencies.

4.2.1 Analysing the Current Installation

We treat the family food system as an installation which channels behaviour towards meat-based meals by default. Using Installation Theory to analyse the meal preparation process from planning to eating at home enables an understanding of how all three layers reinforce the exclusion of plant-based options.

Layer	Planning	Shopping	Cooking	Eating/Serving
Social Regulation	Parents anticipate family acceptance	Normative shopping lists based on habit	Parents expected to deliver "successful"	Fear of rejection or conflict

	Risk avoidance dominates decision-making Plant-based meals seen as “uncertain”	Social expectation to buy familiar ingredients	meals Time pressure reinforces routine choices	Children positioned as passive consumers
Physical Affordances	Lack of visible plant-based recipe options No prompts supporting alternative meal planning	Supermarket layout reinforces habitual purchases Plant-based options perceived as unfamiliar	Kitchen tools and routines adapted to known recipes No child-oriented cooking materials	Meals structured around familiar formats No affordances supporting discussion or experimentation
Embodied Competencies	Limited procedural knowledge of plant-based meals Cognitive effort perceived as high	Uncertainty about ingredient selection Low confidence in substituting familiar products	Parents lack embodied cooking routines for plant-based meals Children lack cooking skills and agency	Limited positive taste expectations Lack of familiarity reinforces rejection risk

Table 1, Installation Analysis revealing how social regulation, physical affordances and embodied competencies jointly reinforce meat-centered meal defaults across the meal preparation sequence.

Across all stages, social regulation is guided by risk avoidance and the hope for delivering "successful" meals. Simultaneously, the absence of plant-based affordances and low procedural confidence make plant-based options comparatively risky and cognitively costly. These three layers interlock to create a stable installation that systematically excludes plant-based meals despite parents’ stated willingness to cook them.

4.2.2 Design Requirements from Installation Analysis

Translating this analysis into design requirements for our intervention, we identified that change must occur across all three layers simultaneously:

1. Physical Affordances: Place plant-based recipe books as convenient and ready-to-use objects at home.
2. Embodied Competencies: Build cooking confidence through repeated joint cooking sessions.
3. Social Regulation: Legitimise the experimentation and reduce fear of rejection through school endorsement and peer normalisation between students.

The intervention is therefore designed as a package across physical affordances, embodied competencies and social regulation, because changing one layer would leave the installation largely intact and meat-centred defaults would likely persist.

4.3. Point of Intervention

One of the main problems identified in the literature review and application of theoretical concepts was the information deficit of the parents. The critical bottleneck lies in the knowledge transmission into the household and the role distribution within the family. An effective intervention must introduce new knowledge into the household, redistribute roles within the cooking process and support the development of plant-based cooking skills.

5. Solutions Proposal: Kitchen Heroes

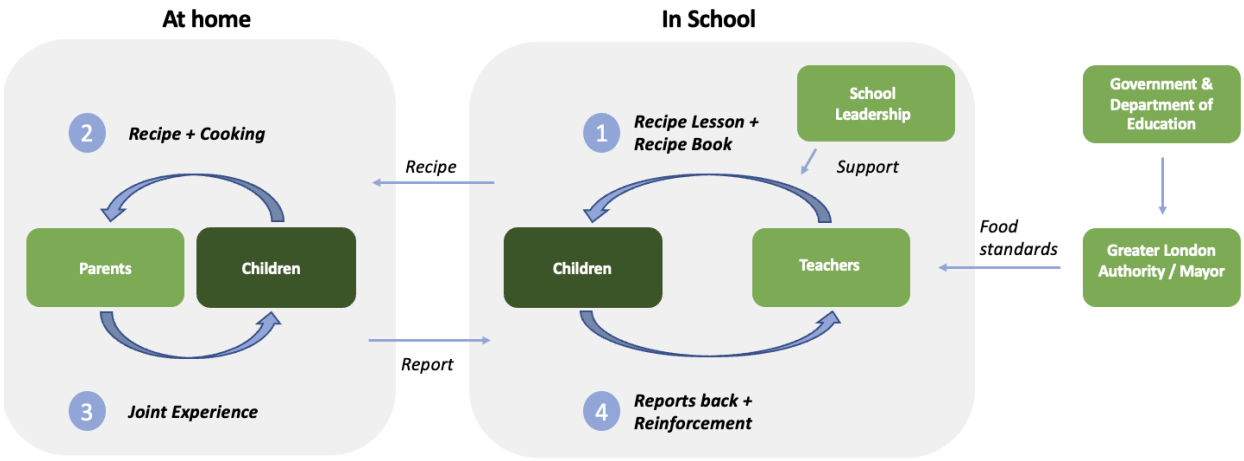


Figure 6: Kitchen Heroes positioned within the stakeholder ecosystem. The recipe book serves as the physical affordance connecting schools, children and families, while school reinforcement provides social regulation and joint cooking builds embodied competencies.

In the following section, we propose an intervention that leverages children as knowledge agents. We introduce new affordances, redistribute roles in the family and enable the development of embodied competences, namely plant-based cooking skills.

The intervention introduced a personalised, child-oriented recipe book in primary schools in London, designed to be used jointly by parents and children at home. The intervention is embedded in the existing school curriculum, establishing institutional legitimacy, continuity and reinforcement.

5.1 Physical affordances

The recipe book children will obtain from their workshops at school contains a curated collection of family-friendly recipes (Appendix A) designed to be easy to prepare, time-efficient, and based on commonly available, low-cost ingredients to target lower-GHGE foods consumption. The focus lies on enjoyable and familiar dishes rather than restriction or moral framing.

The figure below illustrates how this physical affordance, the recipe book, moves through a continuous cycle connecting school and home.

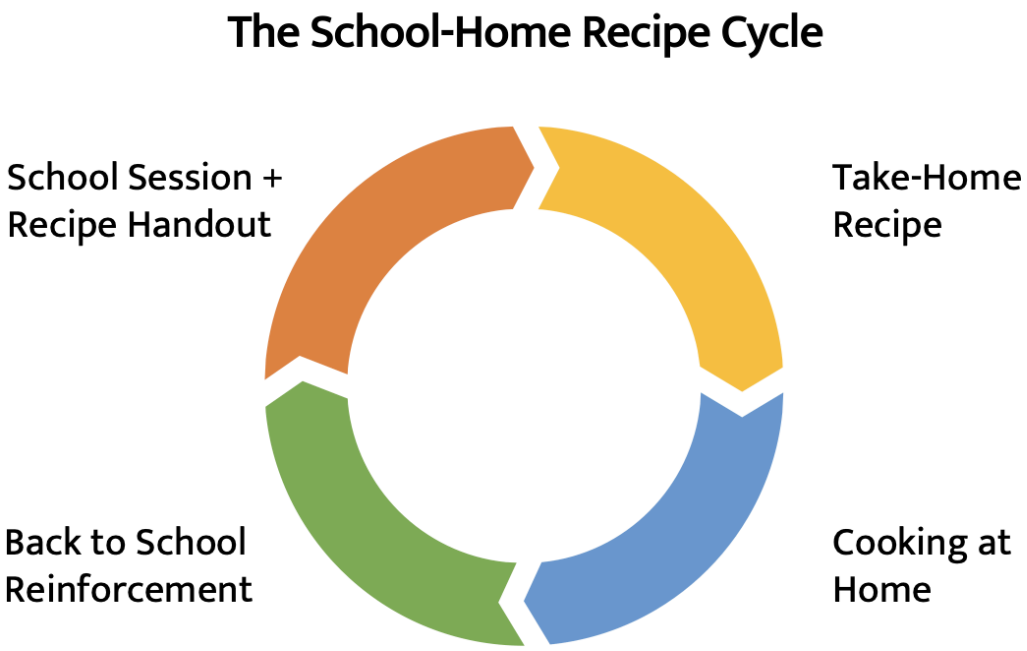


Figure 7: The school-home recipe cycle showing the continuous flow of the physical recipe book and cooking practice. The cycle begins with a school session where children receive the recipe (orange), continues at home where families cook together (yellow and blue) and returns to school for reinforcement (green), creating a sustained feedback loop.

Each cooking task is presented in a highly visual, child-friendly format. Recipes differentiate between “Kitchen Hero Tasks” (child-led activities such as selecting ingredients, mixing, assembling and decorating) and “Grown-up Tasks” (parent-led activities involving sharp tools, ovens or other safety-critical steps). Active cooking time is approximately 20–30 minutes. The workshops and recipes emphasise that adults must remain present and responsible for safety. Ingredient substitutions are welcome and

participation is encouraged but not compulsory, addressing barriers around time, cost and confidence identified in family-based cooking interventions (Dean et al., 2021).

The recipe book begins with a personalisation page, where each child creates their own “Kitchen Hero” character. This character accompanies the child throughout the programme and appears across recipes. This way, the book becomes a personal object owned by the child, increasing attachment and reducing the likelihood that it is discarded or ignored. Each completed recipe is framed as a mission, with progress visualised through colourful stamps. This presents the cooking process as a journey and process rather than a one-off task.

The child will also be supplied with a simple log and evaluation tool to record basic liking and repeat intention using child-friendly scales (e.g. smiley faces). These logs act as a light behavioural prompt, reminding and reinforcing families of environmental values.

5.2 Embodied Competencies

All recipes are plant-based and structured according to difficulty (easy, medium, hard) starting from ‘easy’ to facilitate habituation, enabling families to adapt at their own pace and lowering the likelihood of early refusal.

Families are encouraged to cook one recipe together at regular intervals (approximately once every two months), ensuring repeated engagement while keeping time demands low. This ensures families are not overwhelmed by the level of engagement being too high, therefore abandoning the programme overall.

5.3 Social Regulation

Reinforcement at school is a central component of the intervention. At the start of the lesson following each cooking task, teachers conduct a brief “recipe roll-call” in which children are invited to share what they cooked, who helped them, and what worked or did not work. The class maintains a shared “recipe wall”, where children post photos or drawings of their dishes and indicate whether their family would cook the recipe again. This creates visibility, peer modelling and social recognition, and helps normalise plant-based family meals.

Additionally, the programme includes a class-level puzzle. Each time a child completes a recipe at home and provides a photo, the child receives a puzzle piece, which contributes to a larger puzzle, displayed in the classroom. This puzzle can be completed collectively, strengthening a feeling of shared participation. If completed, the class teacher can decide on a class-based reward or collective activity.



Image 1. Example classroom puzzle during the "recipe roll-call". This picture was AI-generated using Google's Nano Banana. Thus, it might contain graphical errors.

Additional reinforcement mechanisms further strengthen the school–home loop. Teachers can also periodically aggregate class-level log data (e.g. how many families tried a recipe and how many would cook it again) and share these results with pupils, framing plant-based cooking as a growing collective practice rather than an individual exception.

5.4 Installation Theory across Time

Application of Installation Theory across time

Layer	Before Intervention	During Intervention	After Intervention
Social Regulation	• Meat-centred meals perceived as default family norm • Parents seen as sole decision-makers for food choices • Plant-based cooking framed as niche, effortful, optional or even worse • School and home food practices weakly connected Parents experience fear of rejection	• School legitimises plant-based eating through programme endorsement • Teachers frame plant-based meals as normal and desirable • Children gain socially accepted role as contributors to food decisions • Children influence family food decisions • Joint cooking framed as valued family practice • Parents are happy to cook and bond with their children	• Plant-based meals socially normalised within household • Child involvement in cooking becomes expected rather than exceptional • Family norms shift toward openness and experimentation • Reduced social friction around plant-based choices • Children grow and will passively and/or actively impart routine and knowledge to next generation

Physical Affordances	• Lack of accessible plant-based recipes at home • Cooking infrastructure oriented toward usual meals including meat • No child-oriented food materials or recipes	• Personalised recipe book physically present in the home • Child-friendly visuals, narratives and simple instructions • Recipes designed for shared child - parent cooking • Ingredients and tools explicitly referenced and simplified	• Plant-based recipe book integrated into kitchen routine • Familiarity with plant-based ingredients and tools • Reduced need for external prompts • Kitchen environment supports habitual repetition
Embodied Competencies	• Children lack cooking skills and food-related agency • Parents lack knowledge and/or skills of plant-based cooking • Plant-based meals perceived as cognitively demanding and/or time-consuming • Limited/missing familiarity with plant-based dishes • Limited/missing plant-based nutrition education at schools	• Children acquire basic cooking skills through practice • Parents learn plant-based recipes through joint action rather than instruction • Shared experience reduces uncertainty and create memories • Competence and familiarity built through repetition and guidance	• Cooking plant-based meals becomes embodied routine • Reduced cognitive and practical effort for parents to cook plant-based meals • Children confidently participate in meal preparation • Positive taste expectations become internalised

Table 2: Installation Theory across time showing how the intervention transforms each layer from the current state (before) through the transition period (during) to the desired end state (after).

Refer to Appendix B for full installation grid. During the intervention, the recipe book as well as school reinforcement led to reduced perceived risk and lower cognitive cost of planning for plant-based meals. After repeated cycles of the programme, the aim is that plant-based recipes become the routineised defaults and acceptable social options in the household.

6. Why the intervention works: Psychological & Installation mechanisms

The proposed intervention utilises several well-established psychological mechanisms of learning, motivation and habit formation in children to configure cooking practices within their families.

First, the intervention supports the three basic psychological needs identified by Self-Determination Theory (Ryan & Deci, 2000): autonomy, competence ,and relatedness. Children are granted autonomy through their own choice between the recipes in the book, as well as through the personalised hero character. Competence is built through the increasing difficulty of the recipes and repeated hands-on cooking practice. Relatedness is created through a shared parent-child activity, which is later acknowledged in school. Prior research shows that learning environments that satisfy these needs are more likely to produce sustained engagement and internalised motivation, especially in children.

Second, the intervention avoids using individual, conditional external rewards. Therefore, it does not undermine intrinsic motivation. Research on the overjustification effect demonstrates that "if-then" rewards can reduce intrinsic motivation (Lepper, Greene & Nisbett, 1973; Deci, Koestner & Ryan, 1999). Instead of individual performances and competition, the intervention relies on narrative framing and joint progress in the form of a puzzle.

Third, the design harnesses children's strong response to collection and progress mechanics. Developmental research shows that children value completing collections and visualising progress (British Journal of Developmental Psychology). In addition to that, it leverages the Zeigarnik effect, where incomplete tasks create psychological tension that motivates continuation (Zeigarnik, 1927). Framing the recipes as a mission within a larger journey achieves sustained engagement.

Fourth, the intervention benefits from the endowment effect, where children value objects more if they perceive it as "their" object (Kahneman, Knetsch & Thaler, 1991). Through personalisation and repeated use at home, it becomes a meaningful artefact, rather than a disposable learning book that may be thrown away.

Finally, we briefly touched upon the topic of cooperation instead of competition. Research indicated that cooperative learning environments create more sustained outcomes than competition (Johnson & Johnson, 2009). Reward systems like leaderboards and others can demotivate children and reduce participation. By stressing collective progress, the intervention aims to establish a collective practice rather than individual achievement.

These mechanisms map on installation layers, the recipe artefact and progress tools create affordances, repeated cooking skill development and classroom engagement reinforce social regulation.

Together, these mechanisms explain why the intervention is likely to produce a positive effect in the cooking behaviour. It does not rely on individual pressure or persuasion, but rather on repeated and enjoyable activities that support intrinsic motivation and skill acquisition.

6.1. Why now?

Beyond the behavioural logic, we believe the intervention to be well-suited to the current institutional and social context in the UK.

Primary school age (4-11) represents a critical development period for shaping food-related routines. During this period, children are still forming taste preferences and

routines. Evidence from school-based culinary interventions indicates that repeated, hands-on cooking experiences, even at relatively low intensity, can improve children's cooking self-efficacy and willingness to consume vegetables (Muzaffar et al., 2018; Vaughan et al., 2024). Intervening at this point could potentially offer sustained plant-based preferences and initial cooking skills.

Also, recent UK-based programmes demonstrate that school-embedded, low-burden interventions using physical, child-owned materials can achieve strong effects. Veg Power's Eat Them to Defeat Them campaign successfully used narrative reframing and collective engagement to increase children's vegetable consumption. Similarly, the Summer Reading Challenge reached over 700,000 children annually by relying on collection mechanics, milestones and certifications. Scotlands, Childsmile, achieved above 90% participation rates by distributing take-home packs through schools (Macpherson et al., 2013). These examples show that schools work very well as trusted hubs for distributing physical materials.

Finally, the approach fits current priorities around child health, cost pressures on families and sustainable school food, suggesting a good window of opportunity for the intervention.

6.2. Feasibility Check & Survey

We assessed the feasibility of the intervention at two levels: 1) operational viability (cost, delivery, timeline), and parental support (survey).

For potential funding we looked into ProVeg, UK Greater London Authority School Budgets, Charitable Grants, and Corporate Sponsorships. Though ProVeg did not get back to us on how they receive their funding, discussing with them would be helpful in navigating the options available. Appendix (C) outlines a first cost estimate for producing the recipe books and implementing the programme in schools. A one-school, one-year pilot for 240 children in years 3-6 was estimated at £4,760–£5,000 in Year 1, corresponding to ~£20 per pupil. At scale, this intervention would become much cheaper: a scenario for 10 schools reducing the cost to around £7 (63% Reduction) due to print volume and shared fixed cost. Additionally, we provided a realistic implementation timeline aligned with the UK school year using the aforementioned cycles (Appendix D). Finally, we included a letter from the school to the parents, to gather support amongst the main stakeholders, outlining the proposal and role of parents (Appendix E).

Secondly, we conducted a survey of 33 participants amongst London-based parents (Appendix F). Through this, we found that most parents reported that their children already learn about food in their curriculum. Though some teaching exists in this area, in

order to make an impactful change in family homes, our conclusion is that the intervention suggested is more effective than what is currently being done in the London schooling system. Overwhelming support was shown for the question “Would you support your child taking part in school activities related to food and sustainability (e.g., cooking lessons, gardening, farm visits, tasting sessions)?”, with 91% of respondents confirming “Yes”. Also, 61% of respondents answered “Do you think learning about healthy meat-free meals could benefit your child” with “Probably Yes” and “Yes”. Most crucially, for the programme’s reception, 68% responded “Yes” to “Would you be interested in receiving resources (e.g. simple recipes, shopping tips, meal ideas) related to what your child learns?”. By creating an interactive approach and having parents' involvement, it is more likely to make a long-term difference in the lives of both the parents and the children for years to come in making more sustainable, plant-based food choices. These responses show support from current parents within the London schooling system which shows our choice of a low-burden, cooking skill-building intervention through school programmes could be well-received.

7. Discussion & Limitations

Our findings present insights into current literature, stakeholder analysis, as well as a small explorative survey with parents in London as shown in the appendix. This shows the parents in this study are receptive to these changes in curriculum. Hearing from ProVeg, we learned more about the inner workings of their organisation and how they are funded.

Across these sources, a consistent pattern emerged; while many parents express willingness to reduce meat consumption and integrate more plant-based food into their diets, there is a gap between intention and the cooking process in the households. There is also the issue of a societal norm and system that exists in terms of what is taught and reinforced about food in London schools and reinforced by social norms that be. As Meadows’ diagram illustrates, the points of intervention that are most vital to change are “1. The Power to Transcend Paradigms and 2. The mindset/ paradigm out of which the system arises“. (Meadows, 1999). The intervention we propose serves as an important knowledge transfer which directly emulates the deepest points of change in shifting mindsets of teachers, parents, and children.

Aspects of our intervention are driven less by motivational barriers, and more by practical problems, such as limited knowledge about plant-based cooking and dishes, as well as concerns around time pressure and child acceptance. Our analysis further revealed that children are strategically well-positioned, as they receive cooking programmes in school as well as dietary information. This shows a strong potential to act as knowledge carriers, to bring the knowledge into the households. Together, these findings informed the design of a recipe-based, school-home intervention that targets to reduce practical barriers

at home, rather than attempting to change preferences or values. The key contribution is shifting the intervention focus from attitude change to reconfiguration of everyday cooking installations, which filter out plant-based options at the task-level.

By leveraging children as knowledge agents, our proposal adds another layer on top of existing programmes such as ProVeg. After speaking with the communications manager at ProVeg, they let us know they do not currently offer recipe books for children, but have indicated they thought the idea was a fantastic one. They do work directly with caterers and adhere to the guidelines of the World Resources Institute that include the promotion of plant-based foods and gentle nudges (Pollicino et al., 2024).

However, it is important to address several barriers and limitations our intervention faces. First, participation in the programme is likely to be unequal. Families with high motivation, more time or already positive attitudes towards plant-based food will be more likely to participate, whereas households that are already under pressure, such as single-parent setups may engage less. Similarly, budget constraints, or strong opinions against plant-based diets might reduce engagement. So the intervention could unintentionally widen the gap between already unequal households.

As parents are the main gatekeepers of shopping, meal decisions and cooking, the child's influence might be more limited than we expected, especially in resistant households. The initiative could provoke backlash if parents view it as too moralising or intrusive. Implementation of the programme depends on the school’s capacity and leadership engagement, particularly that of the teacher. Already small parts like recipe collection and periodic reminders can add workload, whereas gamified elements like stamps or puzzles really require physical and mental effort from the teacher. Ethical concerns include the effect on children who don’t pick up cooking easily or are blocked by their parents, as this increases the probability of falling behind and being bullied or socially excluded. Other issues include data protection and consent concerns around photo sharing.

Finally, concerns about the risk of placing too much pressure on the children as change-makers and the broader concern around shaping their behaviour were raised. These interventions require transparency, voluntary participation and framing without judgement.

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Appendix A: Exemplary Recipe-Book Pages

Disclaimer: Artificial Intelligence was used for language refinement, cost estimation and visual illustrations. The following pictures were generated using AI (Google's Nano Banana) for illustrative purposes. While the pictures represent the intended design and layout of the recipe book, they might contain minor AI-generated errors and misspellings.

MISSION #3: CRUNCHY TOFU NUGGETS

DIFFICULTY: ★★
TIME: 25 MIN

Help Captain Crunch defeat the Boring Dinner Monster!



YOUR MISSION

You're the chef. Your grown-up is your assistant. Today, you will build a mountain of crunchy nuggets!

KITCHEN HERO TASKS

- [ ] Crush cornflakes with rolling pin
- [ ] Dip tofu in batter
- [ ] Pouso-in sauce
- [ ] Dip wtivcrew sauce
- [ ] Putt the nuggets

1. **SMASH IT!** Crush cornflakes... - Make the batter...
3. **DIP IT!** Coat the tofu...
4. **BAKE IT!** Grown-up puts it in oven...
5. **EAT IT!** Serve with sauce!

GROWN-UP TASKS

- [ ] Slice tofu into cubes
- [ ] Oven bake the nuggets

PLAN DAILY 24 ᵖᵘ COMPLETS

- [ ] Grown-up puts it in oven
- [ ] Serve take the nuggets

SUPPLY LIST

FRESH ITEMS
- [ ] Slicw cornflakes
- [ ] Fresh items

PANTRY ITEMS
- [ ] Freery and more
- [ ] Pantry items

SPICES
- [ ] Spices
- [ ] Spices

Got everything? ☐

SAFETY ZONE

Grown-ups read this!
- Hot surfaces!
- Use oven mitts!
- Sharp knife alert!
- Adult supervision required!

MISSION COMPLETE — TEACHER'S STAMP HERE — MISSION COMPLETE

PLANET POINTS

This meal saves 1.8 kg CO_2 = the weight of a guinea pig = charging your tablet for 90 hours

Nutritionts: Protein, Calcium, Iron

Today I made *CRUNCHY TOFU NUGGETS* with *MY GROWN-UP*. It tasted *AMAZING!*

PROJECT: Kitchen Heroes Recipe Book – Page Design



MISSION #1: PIZZA PITA POCKETS

Design your own mini pizzas – YOU'RE the pizza chef!

DIFFICULTY: ★★☆ EASY
TIME: 15 MIN
AGE: 6+



YOUR MISSION

Today YOU design your perfect pizza! Pick your toppings, spread the sauce, make it YOUR way. Your grown-up just handles the hot stuff.

KITCHEN HERO TASKS

- ✓ Mix the magic sauce (passata + herbs)
- ✓ Spread sauce like a pro
- ✓ CHOOSE your toppings (this is YOUR pizza!)
- ✓ Arrange & decorate
- ✓ Sprinkle the cheese – make it rain!

GROWN-UP TASKS

- ✓ Preheat oven/grill
- ✓ Chop any toppings
- ✓ Handle hot oven
- ✓ Watch for burning
- ✓ Remove safely

WHAT YOU NEED

- ☐ **BASE:** 3-4 wholemeal pitas or thick bread
- ☐ **SAUCE:** 4-5 tbsp passata, 1 tsp olive oil, ½ tsp herbs
- ☐ **TOPPINGS** (pick 3-4!): sweetcorn, mushrooms, peppers, olives, pineapple
- ☐ **CHEESE:** Dairy-free grated cheese OR hummus blobs

Got everything? Let's GO! ☐

MISSION STEPS

1. Grown-up fires up the oven to 180-200°C (or grill on medium)
2. YOU mix passata + oil + herbs = your **SECRET SAUCE**
3. Spread 1-2 tbsp sauce on each pita – edge to edge!
4. **NOW THE FUN PART:** Decorate with YOUR chosen toppings!
5. Sprinkle cheese on top – don't be shy!
6. Grown-up bakes 8-10 min (or grills 5-7 min) until golden & bubbly
7. Cool 2-3 min, slice it up, **DEVOUR** with salad!

⚠ SAFETY ZONE – Grown-ups read this!

- Adult ONLY handles oven/grill
- Melted cheese is VERY hot – wait before eating!
- Use oven mitts
- Watch for burning under grill

MISSION COMPLETE! TEACHER STAMP MISSION COMPLETE!

PLANET POINTS

This meal saves ~1.2 kg CO_2

That's like NOT driving 5 km in a car! or = The weight of a pineapple you saved the planet!

Good for: Energy, veggies, whole grains

My pizza had ....., ... and ..... . My rating: ☆☆☆☆☆

MISSION #4: SUPER-POWER SHEPHERD'S PIE

DIFFICULTY: ★★
TIME: 40 MIN

Help Captain Crunch build a fortress of flavor!



20%

YOUR MISSION

You're the chef. Your grown-up is your sidekick. Today, you will construct a mighty pie fortress!

SUPPLY LIST

10%

FRESH ITEMS
- ☐ Sweet potatoes
- ☐ Cooked brown lentils
- ☐ Carrots & Peas, Onion

PANTRY ITEMS
- ☐ Vegetable broth
- ☐ Tomato paste
- ☐ Dried herbs (thyme/rosemary)

SPICES
- ☐ Pepper
- ☐ Paprika

Got everything? ☐

KITCHEN HERO TASKS

- ☐ Mash the cooked sweet potatoes
- ☐ Mix lentils with veggies & sauce
- ☐ Spoon lentil mix into dishes
- ☐ Spread sweet potato topping

1. **SMASH IT!** Crush cornflakes... - Make the batter...
2. **DIP IT!** Coat the tofu...
3. **BAKE IT!** Grown-up puts it in oven...
4. **EAT IT!** Serve with sauce!

20%

GROWN-UP TASKS

- ☐ Peel, chop & boil sweet potatoes
- ☐ Sauté onions, carrots & peas
- ☐ Oven bake until

15%

PLAN DAILY 24 PIT COMPLETS

- ☐ Grown-up puts it in oven...
- ☐ Serve carefully (it's hot!)

⚠ SAFETY ZONE

Grown-ups read this!
- Hot oven & pans!
- Use oven mitts!
- Sharp knife alert!
- Adult supervision required!

5%

MISSION COMPLETE
TEACHER'S STAMP HERE
MISSION COMPLETE

15%

PLANET POINTS

This meal saves 2.1 kg CO_2 = the weight of a chihuahua = charging your tablet for 105 hours

Nutritionts: Protein, Iron, Vitamin A

5% Today I made *SUPER-POWER SHEPHERD'S PIE* with *MY GROWN-UP*. It tasted *AMAZING!*

MISSION #5: RAINBOW VEGGIE PIZZA

DIFFICULTY: ★☆
TIME: 20 MIN

Help Captain Crunch create a colorful masterpiece!



20%

YOUR MISSION

You're the artist. Your grown-up is your assistant. Today, you will paint a delicious pizza picture!

SUPPLY LIST

FRESH ITEMS
- ☐ Whole wheat pizza bases
- ☐ Bell peppers (red/orange)
- ☐ Broccoli florets
- ☐ Red onion
- Sweet corn

PANTRY ITEMS
- ☐ Tomato pizza sauce
- ☐ Dried oregano

SPICES
- ☐ Black pepper

Got everything? ☐

10%

KITCHEN HERO TASKS

- ☐ Spread tomato sauce on base
- ☐ Arrange veggies in a rainbow!
- ☐ Sprinkle oregano on top
- ☐ Tell your grown-up it's ready!

1. **1. SMASH IT!** Crush cornflakes... - Make the batter...
2. **3. DIP IT!** Coat the tofu...
4. **4. BAKE IT!** Grown-up puts it in oven...
5. **5. EAT IT!** Serve with sauce!

20%

GROWN-UP TASKS

- ☐ Slice all the vegetables
- ☐ Preheat the oven
- ☐ Oven bake until crispy

15%

PLAN DAILY 24 Pᵗᵗ COMPLETS

- ☐ Grown-up puts it in oven...
- ☐ Slice and serve the pizza

⚠ SAFETY ZONE

Grown-ups read this!
- Hot oven!
- Use oven mitts!
- Sharp knife alert!
- Adult supervision required!

5%

MISSION COMPLETE
TEACHER'S STAMP HERE
MISSION COMPLETE

15%

PLANET POINTS

This meal saves 1.5 kg CO_2 = the weight of a large dictionary = charging your tablet for 75 hours

Nutritionts: Fiber, Vitamin C, Protein

5% Today I made *RAINBOW VEGGIE PIZZA* with *MY GROWN-UP*. It tasted *AMAZING!*

MISSION #6: CREAMY MAC 'N' TREES

DIFFICULTY: ★★
TIME: 30 MIN

Help Captain Crunch explore the tasty green forest!





20%

YOUR MISSION

You're the explorer. Your grown-up is your guide. Today, you will discover a creamy forest!

SUPPLY LIST

10%

FRESH ITEMS
- ☐ Broccoli florets
- ☐ Sweet potato or carrot
- ☐ Onion

PANTRY ITEMS
- ☐ Macaroni pasta
- ☐ Plant-based milk (unsweetened)
- ☐ Nutritional yeast
- ☐ Cashews (soaked)

SPICES
- ☐ Garlic powder
- ☐ Salt

Got everything? ☐

KITCHEN HERO TASKS

- ☐ Break broccoli into small 'trees'
- ☐ Add ingredients to blender (with help)
- ☐ Stir the sauce into the pasta
- ☐ Eat your delicious forest!

1. **SMASH IT!** Crush cornflakes... - Make the batter...
2. **3. DIP IT!** Coat the tofu...
4. **4. BAKE IT!** Grown-up puts it in oven...
5. **5. EAT IT!** Serve with sauce!

20%

GROWN-UP TASKS

- ☐ Boil pasta and broccoli
- ☐ Cook sweet potato & onion
- ☐ Blend sauce ingredients until smooth

15%

PLAN DAILY 24 PIT COMPLETS

- ☐ Grown-up operates blender...
- ☐ Combine everything & heat gently

⚠ SAFETY ZONE

Grown-ups read this!
- Hot stove & water!
- Blender safety!
- Sharp knife alert!
- Adult supervision required!

5%

15%

MISSION COMPLETE
TEACHER'S STAMP HERE
MISSION COMPLETE

PLANET POINTS

This meal saves 1.9 kg CO_2 = the weight of a brick = charging your tablet for 95 hours

Nutritionts: Protein, Calcium, Vitamin B12

5% Today I made *CREAMY MAC 'N' TREES* with *MY GROWN-UP*. It tasted *AMAZING!*

MISSION #4

CHEESY & LENTIL BOLGANZA

Help Captain Crunch outrup up a flavor fiesita!

DIFFICUITY: ☆ ☆ ☆ ☆ TIME: 35 MIN

SUPPLY LIST



FRESH ITEMS
Canned crushet (cannel)
Plant-based cheddar cheese
Carrots
Sweet paasta
Onion
Dried herbs (basi(basil/U)
Garlic powder
Salt
Got everything? ☐

PANTRY ITEMS

FRESH ITEMS
Blac'based cheddar letese
Sweet corn
SPICES

Tomato salsa
Appis s cider vinegar
Garlic powder
Got everything? ☐

TEACER' TEACKER'S STAMP HERE



PLANET POINTS

2.0 kg CO_2
Protein for 90 hours

Nutritions:
This meal saves 1.8 Kg =
= the weight of soccer ball =
= tablet Vitamin A

MISSION #5

BROCCOLI & 'CHEESE' POWER BITES

Help Captain Crunch outrrar if the veggien monste!
the hidden treasurr!

DIFFICUITY: ☆ ☆ ☆ ☆ TIME: 25 MIN

YOUR MISSION

You're the bulider.
Your grovin up i3 cnete is your helper. Today you wiil your tower!
Vgpatw broth
Inageśadś bartros (sorsura) you will create & cobimg tover!
...AMAZING!..... ☐

You're I made
Your grownup is your map chef.
Theat beas & hadne
Today wilAY GROWN-UP. It tasted
AM! ...AMAZING!.....

TEACER' TEACHER'S STAMP HERE

KITCHEN HERO TASKS

Sir the tarcilas (migremave)
☐ Mair the beans (grownup hip!)
☐ Add the cooked sauce
☐ Fold the taste test!
☐ Give with taste test!
☐ DUNK & EAT!

GROWN-UP FASKS:
X Dice chornas sous at chef
Batrrg brotiX
☐ Hest lenıst l hader carefully!
☐ Garlic powcks

☐ Grownup supervsies torrefully!
Help vh tachei o carefully!
Adult supervision required!

GROWN-UP TASKS

PLAN DAILY 24 Pts COMPELITES

TEACIER? TEACHER'S IARFET MED HERE

☐ Grown up head this! !Hot stove & house & pots!
• Use kitlhen tools carefully!
Adult supervision required!

SAFETY ZONE

Grown-ups read this!
• Hot stove t flour! Hot:ve & stve...
• Swerpsve youst su:ptett for 100 hours!
Adult supervision required!

TEACER' TEAASER'S STAMP MEF HERE

PLANET POINTS

2.0 kg Supnavein
Fiber Calcium

Nutritions:
This meal saves 1.8 kg CO_2 =
= charging your bat for 90 hours
Nutritions: Vitamin A

MISSION #6

SUNNY MANGO LINSEN-CURRY

Help Captain find the sunny treasure!

DIFFICUITY: ☆ ☆ ☆ ☆ | TIME: 35 MIN

SUPPLY LIST



FRESH ITEMS
Mango (fressh (cannel)
Reed ieenfovac betels
Onion
Onion
Vegetable broth
Salt
Basmait rice
Salt
Got everything? ☐

PANTRY ITEMS

FRESH ITEMS
Blac ibased ch, ddr icheer
Swest com-by tatıcller
SPICES

Tomato salsa
Ceıat leouka aolein
Bacced broth
Got everything? ☐

TEACER' TEACKER'S STAMP HERE



MISSION COMPLETE

Today I made **SUNNY MINGENY** with **MY GROWN-CURRY**. It tasted It tasted **AMAZING!**

MISSION #6

SUNNY MANGO LINSEN-CURRY

Help Captain Crunch find the sunny reennonste!

DIFFICUITY: ☆ ☆ ☆ ☆ | TIME: 35 MIN

YOUR MISSION

You're the bullder.
Your ˙rown up is cfete is your indna grown up hiid wera your helper. Today you will cook! tewer!
Vegetalle broth
Stequiit tartms (soreura) you the saatf creste & talonor!
...AMAZING!.... ☐

You're I made
Your growrup souour map io chef.
Thest beas & mmine
Today wilY GROWN-UP. It tasted
AM!...AMAZING!.....

TEACER' TEACKER'S STAMP HERE

KITCHEN HERO TASKS

Rinse lentils teatis
☐ Stir the ponuh milp
☐ Stir the couder mil)
☐ (Mfıs powdn')
☐ Stir ietfectfas tast'
☐ DUNK & EAT!

GRON-UP TASKS:
× Chop onioas garlic & bıes coılmrfk Gucteej to fudh
☐ Sauèt lenat &lertalis carefules stparits
☐ Cook sapeim

☐ Grown-up serves tor ards wih Help wh tache conision thip loth dhtat eotse)

GROWN-UP TASKS

PLAN DAILY 24 Pts COMPELLTES

☐ Grown-up head this! :Hot stove & house & pots!
• Uset hiss pıolder!

TEACIER' TEAEFER'S STAMP MGF HERE

SAFETY ZONE

Grown-ups read this!
• Hot stove f flour! 😊 Hotıve & stıve...
• Svarpsive youst surplert for 1010 hours). Adult supervision required!

TEACIER' TEALEER'S STAMP MIF HERE

PLANET POINTS

2.0 kg Suprevein
Fiber Calcium

Nutritions:
This meal saves 1.8 kg CO_2 =
= charging your let for 90 hours
Nutritions: Vitamin C

Appendix B: Installation Grid by Stakeholder

Stakeholder	Task	Actors's Motives & Goals	Contributions from Actor	Actors's Rewards	Affordances	Competences	Regulations	Comments
Children	Go to school; Receive Recipe book; Bring recipe book home; select recipes; cook together with parents; share knowledge	Fun; curiosity; sense of agency; pride; social recognition; enjoyment of food	Engagement; Own cooking skills; motivation of parents; knowledge transfer; norm diffusion into household	Enjoyment; feeling grown-up; bonding with parents; praise; tasty food	Personalised recipe book; colourful design; narratives; simple recipes; child-friendly language	Basic cooking skills; reading; social influence within family; Knowledge of tasty plant-based food	School curriculum; Kitchen Safety; food safety rules; parental supervision	Children act as knowledge agents and norm carriers rather than decision-makers
Parents/Tutors	Support Child; Cook plant-based meals; support child's cooking; integrate recipes into routine	Health; sustainability; convenience; childs happiness, family wellbeing; responding to child's enthusiasm and requests	Meal preparation; support with harder and potentially dangerous tasks reinforcement of behaviour; repetition at home; influence over school	Healthier meals; happy child, reduced cognitive effort; family bonding; satisfaction	Easy recipes; low ingredients; child enthusiasm; shared activity	Cooking; household planning; nutritional judgement	Budget constraints; time constraints; cultural food norms	Intervention reduces knowledge and effort barriers rather than motivation
Teachers	Introduce programme; distribute recipe books; frame intervention positively;	Educational mission; wellbeing of pupils; alignment with sustainability values;	Legitimisation; framing; coordination; shift in cultural norms; regular check-ins	Professional fulfilment; curriculum alignment	Ready-made materials; recipe books, external programme support	Classroom management; basic food education	National curriculum; school policies; parents' representatives	Teachers provide symbolic authority and legitimacy

	maintaining food program; ensure students participation	alignment with school leadership						
School Leadership	Approve programme; integrate into school culture; support it in front of teachers and parents	Reputation; pupil wellbeing; sustainability goals; compliance	Institutional support; scheduling; approval	Positive image; alignment with policy goals; parental appease	External programme credibility; low-cost intervention; budget	Strategic planning; stakeholder coordination	School governance; Ofsted;	Enables installation at organisational level
Community Cookery Hubs	Support workshops; offer expertise; community outreach	Community health; engagement; mission-driven goals	Infrastructure; expertise; outreach	Increased participation; visibility; impact;	Physical kitchens; local networks	Cooking education; facilitation	Health & safety standards	Optional reinforcement node of installation
Caterers	Provide plant-based options at school	Cost efficiency; compliance; customer satisfaction	Food provision; exposure effect;	Stable contracts; reduced costs	Existing kitchens; supply chains	Large-scale cooking; menu planning; cooking skills	Procurement contracts; nutrition standards	Supports consistency between school and home
ProVeg London	Design programme; integrate recipe books; maybe cook one of the recipes training; coordination	Increase plant-based consumption and recipes ; policy impact; behavioural change	Educational lessons (children); Skills and knowledge (schools and catering); narrative framing; logistics;	Measurable impact; funding justification; mission fulfilment	Access to schools; funds; networks	Behavioural design; nutrition; advocacy	Charity governance; funding constraints; program constraints	Core installation designer

London Authorities	Support or endorse programme; maybe provide funding; fund / scale intervention; bring programs to more schools	Public health; sustainability; social outcomes; community outcomes; support family bonding; climate targets; public health; innovation; support new healthy generation	Policy support; coordination; funding; political support	Progress toward targets; KPI achievement; visibility	Access to schools; legitimacy; city-wide infrastructure	Policy design; coordination; strategic governance	Local food standards; education policy; city-level health and education policy	Enables scaling; Long-term diffusion

Appendix C: Feasibility Analysis

1. Recipe-Book Production Costs

Item	Unit Cost	Notes
Recipe book (12 pages, A5, gloss)	£3.50 - £4.50	Bulk print (500+)
Design and layout (one-time)	£1,500 - £2,500	Professional design
Personalisation stickers/inserts	£0.30 - £0.50	Hero character sheet
Progress stamps/stickers	£0.20	Per book set

2. Pilot Programme Estimate (1 School, 1 Year)

Assumptions: 1 primary school, 420 pupils (2-form entry), Years 3-6 participating (240 pupils)

Cost Category	Estimate	Calculation
Recipe books (240 pupils)	£960 - £1,200	240 × £4-5
Design (across pilot)	£2,000	One-time
Teacher training session	£500	Half-day
Classroom materials (puzzle)	£300	8 classes × £37.50
Coordination/admin	£1,000	Programme lead time
TOTAL PILOT COST	**£4,760 - £5,000**	
Cost per pupil	£19.80 - £20.80	Year 1 only

3. Scenario 10 Schools

Cost Category	Estimate	Notes
Recipe books (2,400 pupils)	£8,400	£3.50 at volume
Design	£2,000	Shared across schools
Teacher training (group)	£1,500	Central session
Materials and coordination	£5,000	Economies of scale
TOTAL (10 schools)	**£16,900**	

Cost per pupil (at scale)	£7.04	63% reduction

Appendix D: Implementation Timeline

Academic year schedule for the Cooking Up Change intervention, aligned with UK school terms.

Legend: Book Distribution Home Cooking Classroom Activity Milestone Parent Communication

Activity	*Sept*	*Oct*	*Nov*	*Dec*	*Jan*	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*Jul*
UK School Term	*Autumn 1*		*Autumn 2*		*Spring 1*		*Spring 2*		*Summer 1*		*Summer 2*
Parent Introduction Letter	✓										
Recipe Book Distribution	✓										
In-School Cooking Lesson	*Lesson 1*		*Lesson 2*		*Lesson 3*		*Lesson 4*		*Lesson 5*		
Home Cooking Task		*Recipe 1*		*Recipe 2*		*Recipe 3*		*Recipe 4*		*Recipe 5*	
Recipe Roll-Call & Sharing		✓		✓		✓		✓		✓	
Class Puzzle Update		✓		✓		✓		✓		✓	
Parent Progress Update				✓			✓				

Milestone Celebration				*End of Term*			*End of Term*				*Year End*

Cycle Structure (Bi-monthly)

Week	*Activity*	*Location*	*Description*
Week 1	*Cooking Lesson*	*School canteen/provided cookery hub*	*Teacher introduces recipe; children complete Kitchen Hero tasks in class; recipe book distributed*
Week 2-3	*Home Cooking*	*Home*	*Children cook recipe with parent; complete reflection page in book; optional photo for class wall*
Week 4	*Recipe Sharing Session*	*School (Classroom)*	*5-10 min sharing session; children who cooked share experiences; puzzle pieces awarded; recipe wall updated*
Week 5-8	*Consolidation*	*Home*	*Families encouraged to repeat good recipes; builds routine before next cycle*

Appendix E: Parents Letter

Dear Parents and Carers,

Introducing: Kitchen Heroes

We are excited to announce that __Insert School Name____ is launching ***Kitchen Heroes*** – a new programme designed to help children develop cooking skills and explore tasty and healthy recipes together with their families together at home.

What is Kitchen Heroes?

Your child will receive a personalised recipe book with simple, family-friendly recipes. Throughout the year, they will learn new cooking skills at school and then try recipes at home together with you. The recipes are designed to be:

- ✓ **Quick and easy** – most recipes take 20-30 minutes
- ✓ **Budget-friendly** – using affordable, everyday ingredients
- ✓ **Healthy and nutritious** – balanced plant-based meals the whole family can enjoy
- ✓ **Fun for children** – with special 'Kitchen Hero' tasks designed for young cooks

How does it work?

1. Your child learns a recipe at school during their cooking lesson

2. They bring home their recipe book with easy instructions

3. You cook the recipe together as a family, whenever it suits you

4. Your child shares their experience with the class and earns rewards

What do we need from you?

Participation is entirely voluntary. We simply ask that you:

• Try to find time to cook with your child when you can

• Let them take the lead on the 'Kitchen Hero' tasks

• Optionally, take a photo of your creation to share with the class!

Please note: Recipes can be changed or omitted for dietary requirements and allergies. Ingredient substitutions are welcome. The goal is cooking together, not perfection!

We believe that cooking together is a wonderful way to spend quality time as a family while building lifelong healthy habits. We hope you enjoy the programme!

If you have any questions, please contact __School Contact__ at __their email/ phone number__.

Warm regards,
The School Leadership

Appendix F: UK Parents Survey

We are sending out a short questionnaire as part of a project at the London School of Economics and Political Science (LSE). The purpose of this is to better understand parents' views on children learning about food, the environment, where food comes from, and healthy meal options, including meals without meat. Your participation is entirely voluntary. All responses will be anonymised and used solely for academic purposes. The questionnaire should take no longer than 10 minutes to complete. You may choose to withdraw your data at any time without providing a reason. If you have any questions about the study or would like to request the removal of your data, please contact us at r.merritt@lse.ac.uk. Please answer all questions for submission, by submitting you are consenting to participate in this research. Thank you for your time and contribution.

Q17: I live in London 32

Q17 - I live in London	Count	Count
Yes	91%	29
I used to, but no longer live there	6%	2
No	3%	1

Q1: How old is your child/are your children? 33

Q1 - How old is your child/are your children?	Count	Count
Under 2	15%	5
2-4 Years Old	6%	2
5-7	12%	4
8-11	33%	11
12-14	45%	15
15-18	36%	12

Q2: Does or did your child receive any education at school about food, nutrition, or the environment? 32

Q2 - Does or did your child receive any education at school about food, nutrition, or the environment?	Count	Count
Yes	72%	23
No	13%	4
Not Sure	16%	5

Q3: How would you describe your household's typical diet? 32

Q3 - How would you describe your household's typical diet?	Count	Count
Includes meat most days	50%	16
Mix of meat and vegetarian meals	47%	15
Strictly or mostly vegetarian or vegan	3%	1

Q4: How important do you think it is for children to learn about where their food comes from (e.g., farming, production, sourcing)? 32

Q4 - How important do you think it is for children to learn about where their food comes from (e.g., farming, production, sourcing)?	Count	Count
Neutral	3%	1
Somewhat important	41%	13
Extremely important	56%	18

Q5: How important do you think it is for children to learn about the environmental impact of food (e.g., climate, waste, sustainability)? 32

Q5 - How important do you think it is for children to learn about the environmental impact of food (e.g., climate, waste, sustainability)?	Count	Count
Neutral	9%	3
Somewhat important	31%	10
Extremely important	59%	19

Q6: To what extent do you agree with the following statement: "Schools should play a role in teaching children about food systems and sustainability." 32

Q6 - To what extent do you agree with the following statement: "Schools should play a role in teaching children about food systems and sustainability."	Count	Count
Neither agree nor disagree	13%	4
Agree	31%	10
Strongly agree	56%	18

Q9: Do you think learning about healthy meat-free meals could benefit your child? 31

Q9 - Do you think learning about healthy meat-free meals could benefit your child?	Count	Count
No	3%	1
Probably not	10%	3
Might or might not	26%	8
Probably yes	29%	9
Yes	32%	10

Q10: Would you support your child taking part in school activities related to food and sustainability (e.g., cooking lessons, gardening, farm visits, tasting sessions)? 32

Q10 - Would you support your child taking part in school activities related to food and sustainability (e.g., cooking lessons, gardening, farm visits, tasting sessions)?	Count	Count
Maybe	9%	3
Yes	91%	29

Q12: How likely would you be to try new meat-free or healthier recipes at home if your child learned about them at school? 31

Q12 - How likely would you be to try new meat-free or healthier recipes at home if your child learned about them at school?	Count	Count
Extremely unlikely	6%	2
Neither likely nor unlikely	10%	3
Somewhat likely	48%	15
Extremely likely	35%	11

Q13: Would you be interested in receiving resources (e.g., simple recipes, shopping tips, meal ideas) related to what your child learns? 31

Q13 - Would you be interested in receiving resources (e.g., simple recipes, shopping tips, meal ideas) related to what your child learns?	Count	Count
No	16%	5
Maybe	16%	5
Yes	68%	21