



lifeisyellow

Lesson Plan

Mastering the Addition Table

Lesson Objectives

- Master the Addition Table (1+1 up to 10+10) through a gaming activity that the kids play once a week in class, and many times a week at home.
- Track progress and mistakes, and report automatically to the teacher.
- Free up the teacher's time, so they can focus on the output, rather than the process.

Grade Level

This lesson is designed for Kindergarten, Year 1, Year 2, Year 3 and Year 4.

Classroom Requirements

At least 1 iPad.

Progression

The game introduces mental arithmetic calculations in this order:

Stage 1: Addition with a total up to 10 (5+5, 6+4, 7+3, 8+2, 9+1 are the most difficult questions here)

Stage 2: Addition of 1+, 2+ and 3+ (with each going up to +10, e.g. 2+10)

Stage 3: Addition of 4+, 5+, 6+

Stage 4: Addition of 7+, 8+, 9+, 10+

The game progresses from one stage to the next only when the child has shown proficiency in that stage.

The Maths Operations

The game covers simple addition, from 1+1 up to 10+10.

Subtraction, Multiplication and Division to come later in the year.

Syllabus Link

Email isuru@lifeisyellow.com if you have not received the Syllabus Link document. The Syllabus Link document outlines the specific links between this lesson and the state syllabus.

Email
isuru@lifeisyellow.com
for support

The Game

Each child will require an iPad. Classrooms with 1 iPad can allocate each child to a regular Life is Yellow session through the week, and the iPad is in rotation. Classrooms with 1 iPad per student can choose to have all children playing at the same time if they wish. Both options work equally well as the lesson is largely independent work.

The Game

The child will be running a takeaway shop, serving soup and bread to a never-ending line of hungry cats. The game has various difficulty levels for different age groups:

Little Chef: Cooking

[Kindergarten]

You run a kitchen. You cut up ingredients, throw it in a bowl, add bread, add a price tag, and deliver it. Setting the price tag involves the addition of the soup and the bread. You play at your own pace (no timer). This base level of difficulty is designed for Kindergarteners. They stay engaged for more than an hour, and the kids who are comfortable with quickly counting on their fingers can complete up to 40 orders/arithmetic-questions in that time. The kids who are still getting a grasp on counting with their fingers complete about 15.

Rookie Chef: Cooking + Timer

[Year 1 and Year 2]

You can turn on the timer to add time pressure. This is good for Year 1 and Year 2 students who are comfortable adding, and are trying to reduce their reliance on their fingers. You have to work fast. The child will fail frequently when the timer is on, but the game experience is designed such that they are always keen to Retry. It builds persistence, and helps them accept that failure is an important part of the process.

Commander Chef: Cooking + Timer + Hidden Recipes

[Year 3]

The orders usually show you what ingredients are required for that dish. You can choose to hide this ingredients list. The game will introduce the recipes one after the other as the game progresses and the child will need to memorise these recipes in order to cook. This is a test of memory that applies further pressure to the ongoing mental arithmetic.

Heroic Chef: Cooking + Timer + Hidden Recipes + Regular Customers

[Year 3]

Regular customers will be introduced one after another, along with their favourite dishes. Children come up with creative ways to remember these favourite dishes, usually with word association or using objects around them like blocks.

Legendary Chef: Cooking + Timer + Hidden Recipes + Regular Customers + The Merchant

[Year 4 and above]

Ingredients are now in limited supply, and at the start of each round a Merchant comes around to sell you tomatoes, carrots, onions, etc. This is a test of your ability to estimate how much you need, while juggling everything else. The Merchant is a very complex mechanic. Recommended for older kids.

The Lesson

First Time: Explicit Instruction (5 minutes)

If this is the child's first week playing the game, follow the instructions below for (1) setup and (2) understanding how to play. Subsequent weeks usually do not require instruction; the child remembers how to play.

Setup

- Launch the app.
- Tap the cat on the left.
- The default player name is 'Ria'. Tap the yellow pencil button to change it. Ask the child to type in his/her name.
- If this iPad will be used by multiple kids, tap the 'Add' button to add a new player.
- Tap the purple Back button in the top left.

How to Play

- Tap the 'Cook' button. The kitchen will launch.
- Orders come through in the top left. The order will also show you the ingredients required for that dish.
- Ingredients are in boxes in the top right. Drag an ingredient into the cutting board at the bottom to chop it up.
- Drag the chopped ingredient into the bowl in the centre.
- Proceed to add any other required ingredients.
- Drag bread onto the tray.
- Price tags are on the right. Use the + and - buttons to adjust the value. Drag the price tag onto the tray.
- Drag the tray into the delivery chute on the left.
- You just delivered your first order!

Independent Working Time (25 minutes)

Let the child run the kitchen on their own.

- The app will track all their activity for you to review afterwards.
- If the child calculates an addition incorrectly, the game will record this mistake and prompt the child to try again.
- If the timer is turned on, the child will likely fail often. This is part of the fun! The game will guide the child to retry.



Extend/Differentiation

Enrichment: There are 4 modules that can be turned on - the Timer, Hidden Recipes, Regular Customers and Merchant. Each of these adds pressure to the ongoing mental arithmetic. For gifted students, try challenging them by turning on another module. Provide coloured blocks, a box of coloured pencils and paper as props to help them. Children use these props to come up with creative ways to remember the Recipes and Regular Customers.

Support: Start with the lowest setting (Cooking only, all additional modules turned off). This is a safe mode where the child is not exposed to the risk of failure. This gives the child the time and space to calmly and slowly count on their fingers if they need to. They go at their own pace. When you notice the child starting to work quickly, we can consider turning on the first module (the Timer) to ramp up the difficulty. Introduce the parent to the game for play at home for further practice. If the child plays Life is Yellow a few times a week at home, the improvement in the next session in class will be significant.

Review (5 minutes)

On the home page of the game, tap the Brain icon on the left. This shows you:

- A list of all the arithmetic calculations attempted by each child. You can also filter for all mistakes made.
- An Addition Table for each child with an ongoing tally of the progress made thus far.

Assessment (10 minutes)

This assessment does not need to be done immediately after a play session with the game.

It is recommended to be done at a later time or a later day.

Assess whether the child remembers the addition facts from the game. For a Kindergarten student use chopped carrots to model an addition sentence like $4 + 3$. For older kids, put together a stack of 100 flash cards with number sentences like $4 + 3$ and $7 + 9$ on one side, and the answer on the other side. Use a physical timer or your smartphone to do a 60 second sprint where the student tries to answer as many flash cards as possible. Students can run this activity with you or with each other in pairs. Record how many flashcards each child gets through in the sprint to check for progression week after week.

