THE RE&L NUMBERS

TEACHERS GUIDE

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An Introduction

Teaching economics and mathematics is about so much more than helping students learn definitions, formulas and solve problems. It is also about helping them understand how these subjects relate to the decisions people make every day. Yet, finding simple and relatable ways to make these connections can take time and creativity.

This guide was created to offer teachers some practical ideas for introducing economic concepts through situations students may already be familiar with. Across four modules, it explores easy ways to use everyday examples, make use of readily available materials, encourage students to explain their reasoning and connect classroom learning to concepts like sustainability and real-world decision-making. The activities and examples are also intended to be adaptable to different classes and age groups.

Above all, this guide is meant to be a helpful resource that teachers can draw on whenever they find it useful. We hope it encourages students to become more curious about the world around them and helps teachers bring that curiosity into the classroom!

From The Author's Desk

Dear Teacher,

I have always admired the work teachers do, not just in helping students learn, but in finding ways to make difficult ideas easier to understand. It takes patience, creativity and a genuine commitment to help every student feel that they are capable of learning something new.

It is this very respect that has inspired me to put together this guide. I have spent some time looking into ways to teach economics through familiar examples and practical activities, with the hope of creating something that could be genuinely useful to you. I know that every classroom is different, and you understand your students and their needs far better than any guide ever could.

Please treat these pages as a collection of ideas to go through, adapt or build upon in whatever way works best for you. My humble effort is only to offer a little support for the important work you already do.

Thank you for everything you bring to your classroom and to your students.

Warmly,

Madhava Miglani
Author, The RE&L Numbers Teacher Guide

Module 1:

Start With Their World, Not the Textbook

The opening page of an economics textbook can sometimes be filled with formal language and unfamiliar terms. This can make the subject seem difficult to young students, especially those learning in community classrooms and public schools.

The truth is that every child already encounters economics in everyday life. They see their parents manage money for meals or choose between items at a store. As teachers, the best starting point is not always the textbook, but what students already know from their own experiences.

When introducing a new concept, begin with a familiar situation and explain the formal term only after students have had a chance to think about it. This helps them connect new ideas to things they already understand.

Start With A Simple Question

For instance, suppose you want to teach students about scarcity. Instead of beginning with a formal definition, ask the class: “Imagine you have just five ripe mangoes, but there are eight hungry friends sitting together. How would you share them?”

Some might suggest cutting each mango into equal slices so everyone gets a share. Others might suggest different ways of distributing the fruit. Encourage them to explain their choices and listen to one another.
Through this simple activity, students begin to understand what happens when there is not enough of something for everyone to have as much as they would like. Once they understand the situation, introduce the word ‘scarcity’ and explain that it means having limited resources to meet people's needs and wants.

Bring Economics Into The Classroom

Local shops, bus fares and household spending offer many opportunities to teach economics alongside basic arithmetic. Here are three simple things you can use in the classroom.

- **Needs Versus Wants:**
    - Ask students to imagine that they are going to the local kirana shop with a single note of fifty rupees. What are the first things a family must buy? Rice, salt, and cooking oil are essential for everyday life and health. A packet of chocolates, a sparkly hair clip, or a plastic toy is a want.
    - Have students make a simple list of twenty typical neighborhood items on the blackboard. Then, have them divide the list into two columns.
    - The first column consists of goods a home cannot live without. The second column is things that are great to have, but only if there’s money left over at the end of the week.

- **Opportunity Cost:**
    - This choice can be explained by using daily bus fares and small change as an example. Suppose a student has twenty rupees in his pocket when he leaves school.
    - They can use it to take a bus ride home in the scorching sun. Or they can choose to get a cold, refreshing drink and walk home. They can't do both at the same time. Choosing one lovely thing implies you have to give up the other.
    - Only after children have talked about what they would give up, give this decision an economic term. The value of the choice you give up is called the opportunity cost. As children begin to learn that each option carries a hidden cost, they start to review their everyday decisions more closely.
- **Budgeting And Practical Arithmetic:**
    - Introduce budgeting through a family's monthly grocery list. Write down everyday items such as wheat flour, lentils, spices and soap.
    - Ask students to estimate how much each item might cost, then compare their estimates with actual shop prices where possible.Next, have them calculate the total cost of the items and divide it by four to estimate a weekly expense.
    - If appropriate, compare prices at a local market and a kirana shop.

These activities help students practise things like addition, multiplication, estimation and mental math calculations.

Where students are more comfortable speaking in their mother tongue, allow them to discuss the idea in that language before introducing the English term.

A Final Thought

When children can explain an idea using their own experiences and words, they are more likely to remember it for longer and apply it outside the classroom.

Economics does not have to begin with a textbook. It can begin with five mangoes, a ₹20 note or a family's grocery list. By starting with familiar situations, you have the power of helping students see that economics is not just a school subject, but a way of understanding the choices people make every single day.

Module 2:

Your Classroom Already Has Teaching Resources

Many teachers feel limited when their school does not have enough funding for computers, printed activities or other teaching materials. But an effective and memorable lesson in maths and economics does not actually require expensive equipment. Some of the most useful teaching resources are already in our pockets, kitchen cupboards and neighbourhoods.

An old newspaper, a shopping receipt, a family electricity bill, can all become tools for learning. When students work with familiar objects like these, the formulas on the blackboard no longer feel like symbols that don't make sense. They become ideas that children can see, handle and connect to their own lives

Everyday Objects, New Ideas

- **Percentages Through Shop Discounts**
    - Newspaper advertisements and shop flyers are a simple way to introduce percentages. Collect festive printed advertisements or cutouts from local newspapers depicting shop banners.
    - Look for recognizable signs like "10% Discount on School Bags" or "20% Discount on Cotton Clothes".
    - You can place a product on the table with an imaginary price tag of 200 INR. Pretend that the shop is offering 10% off. Step-by-step, work through the numbers together.
        - How much is
        - How much is 10 percent of 100 rupees? Ten rupees.
        - What is ten percent of two hundred rupees? It's twenty rupees.
- Ask the students:
    - How much is the family spending at the counter?
    - How much money do they have left?
    - (The family pays one hundred and eighty rupees and has twenty rupees left in their wallet.)
- **Ratios Through Shared Recipes**
    - A measuring cup or small steel bowl can help students understand ratios through a familiar activity: cooking.
    - Suppose a recipe uses one cup of lentils and three cups of water to prepare dal for four people. Ask students how much of each ingredient would be needed to serve twelve people at a family gathering.
    - Since twelve people is three times four, the recipe needs three times the ingredients: three cups of lentils and nine cups of water. Let students work this out in pairs before discussing the answer as a class. If measuring cups are available, demonstrate the quantities physically.

- **Averages Through Rainfall And Market Data**
    - Newspapers can also provide useful information for lessons on averages. Find a report showing daily rainfall over five days or the quantity of vegetables arriving at a local market.
    - Write five figures on the blackboard and ask students to add them together. Then divide the total by five. Explain that the result is the average, or the amount each day would have had if the total were distributed equally across all five days.
    - For example, if the rainfall over five days was 2 mm, 4 mm, 6 mm, 3 mm and 5 mm, the total would be 20 mm. Dividing by five gives an average of 4 mm per day.
    - Ask students why the rainfall might differ from one day to another, even when the average is four millimetres. This helps them understand that an average summarises a set of figures, but does not mean every day's value was the same.
- **Inflation Through Price Comparisons**
    - To introduce inflation, bring an old grocery bill or electricity bill to class, or ask students to find out from a parent or grandparent what common items cost several years ago.
    - Compare an older price with today's price for the same quantity of an item, such as a litre of milk or a kilogram of rice. Ask the class: “Why might we need more money to buy the same item today than we did a few years ago?”
    - Explain that inflation is a general rise in the prices of goods and services over time. When prices rise, families may need to spend more of their money on everyday needs. Encourage students to discuss how families might adjust their budgets when prices change. Make sure comparisons use the same quantity and, where possible, similar products so that the discussion is fair.

Make It A Weekly Habit

You do not need to collect every teaching resource yourself. Invite students to bring one clean, everyday object from home or their neighbourhood for a future lesson.

At the beginning of the next class, ask the student who brought the item to explain what it is and where they found it. Together, think about what it could teach the class. A bus ticket might lead to a discussion about travel costs, while a biscuit wrapper could introduce price comparisons.

By making this a regular part of teaching, you can encourage students to observe their surroundings with and bring their own experiences into the classroom. Sometimes, the simplest object can lead to the most memorable lesson.

Module 3:

Ask Better Questions, Get Better Thinking

Sometimes, one good question can teach students more than a long explanation. When students are asked to remember information, they may learn the correct answer without fully understanding it. But as we've gone over in previous modules, when they have to explain their thinking, compare different ideas or justify a decision, they begin to understand why an answer makes sense.

As teachers, you can encourage this kind of thinking by asking questions that go beyond simply recalling facts. This of course, does not mean making every question difficult. It simply means giving students opportunities to explain how they reached an answer and connect what they learn to situations they already know.

Move From Answers To Reasons

Questions such as "What is inflation?", "What is a percentage?" and "What is a budget?" are useful for introducing a topic. But they can be followed by deeper questions.

For example, instead of only asking "What is inflation?", try asking, "Why do you think the price of a packet of biscuits might have increased?"

Students may suggest that transport has become more expensive, the ingredients cost more or more people want to buy the product. Encourage them to explain where these ideas come from. You can then connect their answers to the concept of inflation and its causes.

Try asking follow-up questions such as:

- "What makes you think that?"
- "Have you noticed something similar near your home?"
- "Can you give an example?"

There Can Be More Than One Answer

Some questions have a clear numerical answer, while others depend on the situation. Both are useful for developing students' reasoning skills.Think of this question: "Would buying things in bulk always save money?"
Some students may say yes because buying a larger quantity can reduce the price per item. Others may point out that a family could spend more overall, buy things it does not need or waste food before it can be used.

Ask students to support their answers with examples or simple calculations. For instance, if one packet of biscuits costs ₹10 and a pack of five costs ₹45, the larger pack is cheaper per packet. But if a family only needs two packets, buying five may not be the best choice for its budget. You can encourage further thinking again, by asking things like:

- "Can you show this using numbers?"
- "Would your answer change for a larger family?"
- "What other information would help you decide?"

The aim isn't to confuse them but rather help them realise that a smart economic decision often depends on more than one factor.

Make Room For Different Opinions

A classroom discussion becomes much more meaningful when students understand that disagreeing does not have to mean being rude or dismissive. We already know that a question can have more than one answer. So if one student believes buying in bulk is always cheaper and another disagrees for example, invite both to explain their reasoning!

You can introduce simple sentence starters to help students share their views respectfully:

- “I think this because...”
- “I agree with you because...”
- “I see it differently because...”
- “Could you explain how you reached that answer?”

One Final Thought

Before ending a lesson, try asking one question that students can continue thinking about even after class.

For instance, after a lesson on percentages, you might ask, “Where have you seen percentages used today?” After discussing household budgets, you can ask, “What should a family consider before deciding to spend money?”

These questions encourage students to notice how maths and economics appear in their surroundings even outside of textbooks and exams.

By asking students to explain their ideas, support their answers and listen to others, you’re doing a great service in helping build an environment where understanding matters much more than just memorizing facts.

Module 4:

Showing Why Economics And Maths Matter

Start With Everyday Decisions

Begin with a decision that students can easily picture. For example, when teaching about water conservation, ask: “What happens to the amount of water we use if we leave the tap running while brushing our teeth?”

Students can estimate how much water is wasted in one minute and calculate how much that could add up to over a week or a month. If exact figures aren’t available, they can be approximated.

You can also connect maths and economics to household expenses. Suppose a family has ₹1,000 to spend on groceries. Ask students to prepare a list of essential items, estimate their prices and calculate the total. They can then check whether the family would stay within its budget and what changes might help if the total exceeds ₹1,000.

Explore Sustainability Through Numbers

Sustainability means using resources carefully so that they remain available for the future. So rather than only explaining it through a definition, you can try and help students understand what it means through simple comparisons.

For example, ask students to compare disposable plastic bags with reusable cloth bags. Suppose a family uses five disposable bags every week. Over a year, that adds up to 260 bags. If the family instead uses a cloth bag repeatedly, it may need far fewer bags over the same period.

Ask students to consider a few questions:

- How many disposable bags does a family use in a month or year?
- How much would these bags cost over that period?
- How many times could a cloth bag be reused?
- What would the family need to consider before deciding which option works best?

Look At Local Environmental Problems

Students can also use simple calculations to observe present environmental issues they see around them.

- Saving water:
    - Suppose a household uses 10 litres of water each day for a particular activity. Over 30 days, that amounts to 300 litres.
    - If the household reduces its use for that activity by 20%, it would save 2 litres a day, or 60 litres over 30 days.
    - Ask students where similar savings might be possible at home or school.

- **Reducing Food Waste:**
    - Imagine a family throws away two rotis each day. Over 30 days, that becomes 60 rotis.
    - Students can estimate the cost of the wasted food and discuss the resources that are involved in producing it, including water, energy and ingredients.
    - They can then suggest some ways to reduce waste, such as preparing suitable quantities and storing leftover food safely.
- **Rainwater Harvesting:**
    - Explain that rainwater can sometimes be collected and stored for suitable uses, depending on local conditions and the collection system.
    - Suppose a roof collects an estimated 100 litres of rainwater on a particular day. If this happens on five rainy days, the total collected would be 500 litres.
    - Students can calculate how much water might be collected over a longer period, while recognising that rainfall and collection efficiency vary.

These examples help students see how arithmetic can make environmental challenges easier to understand and how small changes can add up over time.

Connect Money With The Environment

Many choices affect both a family's budget and the environment. Buying only the food a home needs can reduce spending and food waste. Switching off unused lights can reduce the electricity bill.

Ask students to choose one such example and compare two possible approaches. What would each option cost? How much water or food might it use? What other factors should the family consider?

The goal is to help them realise that environmental choices can depend on three important factors - affordability, availability and local circumstances.

A Question To Bring Home

At the end of the lesson, invite each student to take one practical question home and discuss it with their family. They might ask:

- How much electricity does our household use in a month?
- Which items make up the largest share of our household expenses?
- What is one change we could make to use fewer resources?

The activity is about learning rather than judging how any family spends its money or uses resources.

At the end of it, we know that mathematics helps us measure and compare, while economics helps us understand choices and the use of limited resources. Together, they can help us make more good, thoughtful decisions about money, the environment and our lives.

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