

LESSON PLAN TEMPLATE

Lesson Title	Rational Numbers: Exploring Fractions, Decimals, and Percentages in Filipino Daily Life
Learning Area/s	Mathematics
Name of Teacher/s	DEPED TAMBAYAN PH (Visit www.depedtambayanph.net for more downloads.)
Grade Level and Section	Grade 7
No. of Sessions	4 Sessions
References	None specified
Declaration of AI use	This lesson plan was co-created using Gemini AI to assist with unpacking competencies into a 4-session learning design, structuring activities, and assessment formulation.

Intentions.

Meaningful learning experiences are anchored in how we frame them. Start by deciding what you want learners to master by the end of the lesson – keep it clear and simple.

Learning Competency and Curriculum Standards:	Learning Competency: Week 7 Number and Algebra • Describe given rational numbers as fractions, decimals, or percentages. • Order rational numbers on a number line. Content Standards: The learners should have knowledge and understanding of: • regular and irregular polygons and their features/properties • determination of measures of angles and number of sides of polygons • application of percentages • use of rates • rational numbers • square roots of perfect squares, cube roots of perfect cubes, and irrational numbers Performance Standards: By the end of the term, the learners are able to: • draw, and describe the features/properties of, regular and irregular polygons. • use percentages in different contexts. • identify and use rates. • create a financial plan. • describe, order, and perform operations on, rational numbers. • determine square roots of perfect squares and cube roots of perfect cubes, and identify irrational numbers.
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	Session 1	Session 2	Session 3	Session 4
Learning Objectives:	- Define rational numbers within the context of Filipino household budgeting. - Convert fractions to decimals and vice versa using local market examples (e.g., kilograms of rice, liters of oil). - Explain why specific numbers are classified as rational.	- Express rational numbers as percentages in real-world Filipino settings. - Convert between fractions, decimals, and percentages fluently. - Analyze the relationship between a part and a whole using local discount scenarios.	- Locate and plot positive and negative rational numbers on a number line. - Represent Philippine-specific distances or elevations as points on a number line. - Differentiate the positions of fractions and decimals relative to integers.	- Compare and order a set of rational numbers (fractions, decimals, and percentages) from least to greatest and vice versa. - Justify the ordering of rational numbers using a number line as a tool. - Apply ordering skills to create a mock financial savings plan.
Learner Context:	Learners show high engagement when mathematical concepts are linked to household tasks or local market (palengke) scenarios. A majority are visual learners who struggle with abstract definitions but excel when using manipulative or concrete representations. However, several students show difficulty with long division when	Students are highly motivated by 'sale' and 'discount' signs often seen in local malls or 'ukay-ukay' shops. While they are familiar with the '%' symbol, they often struggle with the conceptual shift of moving decimal points. Some learners with lower numeracy levels require repetitive practice in multiplying by 100.	Learners have a strong grasp of horizontal movement (left/right) but struggle with the precision required to plot fractions between whole numbers (e.g., where exactly is $\frac{1}{3}$ between 0 and 1). They find 'negative' numbers abstract and often confuse the direction of decreasing values. Visual aids like thermometers or	Students are increasingly interested in the 'Ipon Challenge' (savings challenge). They often make errors when comparing fractions with different denominators or when comparing a decimal to a percentage. They need explicit strategies to convert all numbers to a single format (usually decimals)

	converting fractions to decimals, and some find it hard to express remainders as decimals.		sea-level diagrams are helpful.	for easier comparison.
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Learning Experience.

A learning experience is like a thoughtfully designed journey. Each activity and interaction builds towards meaningful understanding and growth. Identify activities and interactions to help learners gain knowledge, skills, or understanding in a purposeful way.

Pre-Lesson:	Review & Recall: Quick mental math activity called 'Palengke Race' where students identify fractional parts of a whole (e.g., 1/2 of a kilo, 1/4 of a liter) using pictures of common Filipino commodities.	Active Retrieval: 'Flash Card Drills' where students quickly convert simple fractions (1/2, 1/4, 1/5) into decimals from the previous session.	Physical Activity: 'Human Number Line' in the school hallway where students stand at integer marks and identify their 'neighbors'.	Review: 'War of Numbers' game where pairs of students flip cards with rational numbers and the one with the higher value wins the round.
Flow:	1. Scaffolding: Introduction of the concept of 'Rational' as 'Ratio-nal' using a 'Recipe for Adobo' where ingredients are listed in fractions. 2. Check for Understanding (CFU): Students identify which ingredients are written as fractions and which are decimals (e.g., 1.5 kg of chicken). 3. Active Retrieval: 'Think-Pair-Share' where partners convert 'pasahe'	1. Contextualization : Present a 'Sari-Sari Store' clearance sale scenario where items have '25% off' or '1/2 price' tags. 2. Scaffolding: Use a 10x10 grid (Hundred Chart) to visually represent percentages as 'parts per hundred' (e.g., 20% of a 100-bead 'kuwintas'). 3. Social Learning: 'Discount Detectives' activity where small	1. Scaffolding: Draw a large number line on the floor representing a 'Jeepney Route' from 'Kanto' (0) to 'School' (5km). 2. Active Retrieval: Ask students where a jeepney would be at 2.5km or 4 1/4 km. 3. Social Learning: 'Plotting the Pinoy Way'—groups receive cards with rational numbers (e.g., -1.5 degrees Celsius in Baguio, 3/4 meter of cloth) and must place them correctly on a	1. Modeling: Introduce the 'Golden Rule' of comparing: Convert all numbers to the same 'language' (format) before ranking. 2. Scaffolding: Use an 'Ascending Stairs' diagram where students place 'Alkansya' (savings) amounts (e.g., 0.50 pesos, 3/4 pesos, 60% of a peso). 3. CFU: Provide three numbers: 0.3, 1/4, and 20%. Ask students to rank

	(jeepney fare) increments into fractions. 4. Social Learning: Groups use 'Fraction-Decimal Dominoes' featuring Philippine currency and measurements to match equivalent values. 5. Step-by-step: Teacher demonstrates the division method to convert $\frac{3}{4}$ to 0.75 using the 'Alkansya' (piggy bank) analogy.	groups calculate the decimal and percentage equivalents of various fraction-based discounts. 4. CFU: 'Poll Everywhere' or hand signals to check if students know to move the decimal two places left or right. 5. Hands-on: Students create their own 'Store Flyer' using fractions, decimals, and percentages for five local products.	string number line across the room. 4. CFU: Direct questions: 'Is 0.7 closer to 0 or 1?' 'Why is $-\frac{1}{2}$ to the left of 0?'. 5. Modeling: Teacher demonstrates how to divide the space between integers into equal segments based on the denominator of a fraction.	them and explain their reasoning. 4. Social Learning: 'Budget Battle'—groups are given five different expense categories with mixed rational formats and must order them from most expensive to least expensive. 5. Synthesis: Create a collective number line on the board where every student contributes one ordered point.
Learning Resources:	• Projector/Smart TV • PowerPoint presentation on 'Market Math' • Printed 'Fraction-Decimal Dominoes' • Whiteboard/Chalkboard	• Sample grocery receipts and 'Sale' flyers • 10x10 grid worksheets • Markers and art materials • Calculators (for verification)	• Masking tape (for floor number line) • Rope and clothespins • Flashcards with varied rational numbers • Rulers and graphing paper	• 'Alkansya' icons/cutouts • Comparison symbol cards ($>$, $<$, $=$) • Worksheets for the 'Ipon Challenge' • Chalkboard/Whiteboard
Opportunities for integration:	Araling Panlipunan (Economics): Discussing the value of the Philippine Peso and basic consumer literacy. TLE (Home Economics): Proper measurement of ingredients in cooking.	Values Education (EsP): Discussing wise spending and the difference between 'needs' and 'wants' during sales. English: Interpreting advertisements and promotional language.	Science: Representing temperatures (boiling point, freezing point) and elevations (above/below sea level). PE: Concept of distance and displacement during running drills.	Financial Literacy: Prioritizing savings and tracking expenses. Social Studies: Comparing poverty rates or literacy rates of different Philippine regions expressed as percentages.

Assessment.

Assessments reveal what learners have gained and what they still need help with. These are helpful in providing you with information to guide your future instruction throughout the entire session.

Formative Assessment:	Integrated 'Exit Ticket': Students must write one fraction found in their home (e.g., 1/2 bar of laundry soap) and convert it into a decimal representation on a post-it note before leaving.	Ongoing observation during the 'Discount Detectives' activity. A 'Show-Me-Board' (mini-whiteboard) exercise where students must instantly convert 0.45 to 45% and 9/20 to 45%.	'Number Line Bingo': Students are given a blank number line and must plot points as the teacher calls out different rational formats (e.g., 'Plot 75%', 'Plot -0.2', 'Plot 1/2').	Performance Task: 'The Wise Spender.' Students are given five prices of the same item from different stores (written as fractions, decimals, and percents) and must order them to find the best deal. The ordered list serves as evidence of mastery.
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Ways Forward.

Meaningful learning can also happen beyond the classroom – for both the learners and the teacher. Pause and reflect on what happened today.

Extended learning opportunities:	Provide a 'Home Math Log' where students record three items from a grocery receipt, listing their prices and identifying the fractional part of a hundred pesos they represent.	Interview a family member who owns a small business or 'sari-sari' store about how they determine markups or discounts, then express those as percentages.	Students create a 'Map of My Street' on a coordinate-like number line, marking their house at 0 and plotting landmarks (e.g., church at 1.5 units, bakery at -2 units).	Ask students to find a news article or infographic online (or in a newspaper) that uses percentages or decimals and write a short paragraph comparing at least three values mentioned.
Reflections:	Reflect on: Which conversion method (division or base-10) did students find most intuitive? Did the 'palengke' context successfully bridge the gap for struggling	Reflect on: Did the visual 10x10 grid help learners with dyscalculia or low numeracy understand the concept of 'percent'? How can the 'ukay-ukay' context be	Reflect on: How effective was the 'Jeepney Route' analogy in explaining increments between whole numbers? Were students able to transition from the	Reflect on: Did the 'Budget Battle' clarify the necessity of conversion? Which format (decimal or percent) did the majority prefer as their 'standard' for comparison?

	learners?	improved?	floor model to their paper worksheets?	
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