

Set "Parts of the Whole on a Circle"

LABOTRIX FRACTIO M5

PRODUCT PASSPORT

Kyiv

2026

Contents

1. General Information about the Product.....	2
2. Technical Specifications.....	2
3. Package Contents.....	3
4. Safety Precautions.....	3
5. Preparation for Use.....	4
6. Operating Procedure.....	4
7. Care, Maintenance and Troubleshooting.....	5
8. Storage and Transportation Conditions.....	6
9. Warranty Obligations.....	6
10. Product Disposal.....	7
Contacts.....	8
WARRANTY CARD.....	9
Service Records.....	11

1. General Information about the Product

- 1.1. **Product name** — Set "Parts of a whole in a circle".
- 1.2. **Trademark** — Labotrix.
- 1.3. **Model** — Fractio M5; full trade designation — LABOTRIX FRACTIO M5.
- 1.4. **Manufacturer** — Labotrix Group Limited, China.
- 1.5. **Intended use:** the set is designed to provide a visual introduction to the method of dividing a whole into equal parts, the formation and notation of common fractions, their comparison, and operations with them, as well as the conversion from a fraction to a decimal fraction and a percentage. The product is used in mathematics lessons in grades 5–6 when studying parts, fractions, operations with them, percentages, and constructing pie charts.
- 1.6. **Design features:** the set consists of individual flat circle sectors of different denominations. Each sector has triple marking — a common fraction, a decimal fraction, and a percentage value. Sectors of the same denomination make up a full circle, which allows comparing parts and checking the relationships between them by overlay. All sectors in the set have the same radius and are equipped with a magnetic base for mounting on a classroom board.

2. Technical Specifications

- Brand — Labotrix
- Model — Fractio M5
- SKU — LTX-FRACTIO-M5
- Product type — a set of models for demonstrating fractions
- Circle diameter (millimeter) — 210
- Sector denominations — $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$, $\frac{1}{12}$
- Sector marking — triple (common fraction, decimal fraction, percentage)
- Total number of sectors — 32
- Central angle of the $\frac{1}{2}$ sector (degree) — 180
- Central angle of the $\frac{1}{3}$ sector (degree) — 120
- Central angle of the $\frac{1}{4}$ sector (degree) — 90
- Central angle of the $\frac{1}{5}$ sector (degree) — 72
- Central angle of the $\frac{1}{6}$ sector (degree) — 60
- Central angle of the $\frac{1}{12}$ sector (degree) — 30
- Sector material — dense plastic
- Sector coloring — individual for each fraction denomination
- Mounting method — a magnetic base on each component of the set
- Work surface type — a magnetic (metal) board or table
- Power — not required
- Operating conditions — premises of an educational institution, air temperature from +5 to +40 °C, relative humidity from 40 to 60 % without condensate
- Language of marking and operating documentation — Ukrainian
- Product marking — trademark, model and a space for the inventory number
- Packaging — individual box of corrugated cardboard with the contents secured

- Documentation supplied — product passport with warranty card and operating manual
- Work organization — suitable for frontal demonstration to the class on the board
- User requirements — laying out and putting away the sectors is done by the teacher or by a student under supervision
- Service life (year) — 5
- Warranty period (month) — 12

3. Package Contents

- 1/2 sectors — 2 pcs
- 1/3 sectors — 3 pcs
- 1/4 sectors — 4 pcs
- 1/5 sectors — 5 pcs
- 1/6 sectors — 6 pcs
- 1/12 sectors — 12 pcs
- Product Passport and Warranty Card — 1 pcs
- Individual transport packaging — 1 pcs

Total number of sectors in the set — 32 pcs The product does not require assembly before first use.

4. Safety Precautions

4.1. General requirements

- Before first use, read this passport and keep it together with the product and the document of purchase.
- The set is designed for classroom learning activities under the teacher's supervision. Younger students and children require preliminary instruction before working with it.
- Inspect the unpacked set to detect possible damage. Sectors with cracks, visible chips, or sharp edges must not be used.
- Do not leave the sectors unattended in lower grades, and do not swing them around.

4.2. Work with magnetic elements

- Every part of the set is equipped with a magnetic base: keep the sectors at a distance of not less than 10 cm from bank cards, magnetic data storage media, and mechanical watches.
- Do not bring the magnetic sectors closer than 30 cm to pacemakers or other implanted medical devices.
- Do not give the magnetic sectors to younger students without constant supervision.

4.3. Protection against injuries

- The edges of the sectors are hard, and an impact to the face is dangerous. Carry the sectors carefully, without swinging them.
- Do not leave the sectors on the floor or in walkways: stepping on a smooth plate can cause slipping.
- Do not drop the sectors from a height or throw them.

4.4. It is strictly prohibited

- Bend, break the sectors, or crush them — sharp edges form at the break.
- Write on the sectors with a pencil, pen, or permanent marker.
- Heat the sectors, place them on a heating radiator, or leave them in direct sunlight.
- Leave the sectors in places with high humidity or temperature fluctuations.
- Use solvents, alcohol, or acetone for cleaning.

5. Preparation for Use

- 5.1. Unpack the set and check its contents against the packing list. Count the sectors of each denomination and write down the quantity.
- 5.2. Inspect the sectors for mechanical damage — the edges must be smooth, without burrs or chips.
- 5.3. Wipe the sectors with a dry or slightly damp soft cloth to remove dust after storage.
- 5.4. Check how well the sectors' magnetic base holds on your board: place one sector on it and gently pull it downward. The sector should not slide off.
- 5.5. If the board is not magnetic (glass or plastic), work on a table, a demonstration stand, or attach a metal sheet to the board.
- 5.6. Sort the sectors by denomination and arrange them in separate compartments or groups — this saves time during the lesson and immediately shows whether all the parts are present.

6. Operating Procedure

6.1. Assembling the Circle on the Board

- Take sectors of the same denomination — as many as needed for a full circle.
- Place the first sector so that its vertex coincides with the center of the circle and one of its straight edges is horizontal.
- Add the next sectors clockwise, tightly aligning the vertices at the center and the straight edges of adjacent sectors.
- The last sector must exactly close the remaining gap, without gaps or overlap.

6.2. Comparing Fractions by Overlay

- Place the larger sector on a flat surface with the marking facing up.
- Place a smaller sector on top of it so that the vertices coincide and one straight edge lies along the straight edge of the larger one.
- Look at what remains uncovered. If the smaller sector completely covers the larger one — the parts are equal; if a strip remains uncovered — the larger sector is larger by that amount.
- To compare fractions, lay them out in a fan shape from one vertex and overlay one figure on the other.

6.3. Addition and Subtraction of Fractions

- Lay out the required sectors from one vertex.

- For addition, count the number of sectors of the same denomination. Write the number of sectors as the numerator, and their denomination — as the denominator.
- For subtraction, remove the required number of sectors and count the remainder.
- Check the result by overlaying it on a sector with the same marked area.

6.4. Equivalent Fractions and Common Denominator

- Place a sector of one denomination and replace it with sectors of another denomination so that they completely cover it.
- Write the equality: for example, $1/2 = 2/4 = 3/6$.
- Determine the common denominator — the denomination whose sectors can be used to lay out both fractions.

6.5. Finishing the work

- Take the circle apart and return the sectors to their places or boxes, sorted by denomination.
- Write the answer to each exercise on the board — students need to see the connection between the model and the mathematical notation.

7. Care, Maintenance and Troubleshooting

7.1. Cleaning

- Wipe the sectors with a soft dry cloth or one slightly dampened with water, then wipe dry.
- For stubborn stains, use a weak solution of a neutral dishwashing detergent.
- Do not use solvents, alcohol, acetone, abrasive powders, or stiff brushes — they wear off the marking.
- Dry the sectors at room temperature, without using heating appliances.

7.2. Periodic inspection

- At least once a month, check the clarity of the marking on the sectors.
- Check whether the edges of the sectors have delaminated or whether they have become deformed.
- If a sector has cracked, chipped, or has a sharp edge — remove it from the set. Repairs must be performed only by an authorized service center.

7.3. Possible malfunctions and methods of their elimination

Symptom	Possible cause	User actions
The sectors do not form a complete circle	Sectors of different denominations are mixed up or one sector is missing	Check the marking on all sectors, verify the quantity against the packing list
The last sector does not fit	The vertices are not brought together at a single point, there are gaps between them	Take the circle apart and reassemble it from the center, tightly aligning the vertices

Symptom	Possible cause	User actions
The sectors do not stay on the board	The board surface is not magnetic or is dirty	Check the magnetic properties of the board, wipe it down; work on a table or a metal panel
The sectors slowly slide down	The board is dusty or dirty	Wash the board and wipe it dry, press the sector more firmly
The marking has worn off	Cleaning with solvent or abrasive	After that, clean only with soap and water
The sector has become deformed	Storage near heat or under a load	Place the sector on a flat surface at room temperature

8. Storage and Transportation Conditions

- Store the set in its complete packaging, sorted by denomination, in a dry, enclosed room at a temperature of not lower than +5 °C and not higher than +40 °C, and a relative humidity of not more than 80% without condensation.
- Store the sectors flat in a horizontal position, without placing heavy objects on them — this way they will not warp.
- Protect the product from dust, direct sunlight, impacts, and exposure to aggressive substances.
- Owing to the magnetic base, do not stack the sectors in a tight pile with their magnetic surfaces pressed together for long periods of time; place a sheet of paper between them.
- Transport the product in the original or a similar rigid packaging by any type of closed transport.
- The storage period before commissioning is unlimited provided that the stated requirements are observed.

9. Warranty Obligations

- 9.1. The warranty period of operation of the product is 12 months from the date of sale specified in the warranty card.
- 9.2. The manufacturer guarantees that the product conforms to the declared technical specifications provided that the transportation, storage and operating rules set out in this passport are observed.
- 9.3. During the warranty period, defects of the product that have arisen through the fault of the manufacturer are remedied free of charge. The method of remedy (repair, replacement of a component or replacement of the product) is determined by the service center.
- 9.4. Warranty service is provided on presentation of a correctly and completely filled-in warranty card and of a document confirming the fact and the date of purchase.
- 9.5. The warranty does not cover cases where the malfunction is caused by:

- mechanical damage, in particular cracks, chips and deformation of the housing and of the components of the product;
- violation of the operating, storage or transportation rules set out in this passport;
- ingress of liquid or foreign objects into the product, and also the action of insects and animals;
- independent disassembly, repair or modification of the product, in particular repair at unauthorized workshops;
- use of the product other than for its intended purpose;
- force majeure circumstances (fire, flood, earthquake, etc.).

9.6. The warranty does not cover the natural wear of the coating and of the appearance of the product, nor consumables.

10. Product Disposal

- The product is not electrical or electronic equipment, therefore the marking in the form of a crossed-out container does not apply to it.
- After the end of the service life, the product is disposed of according to the rules established at the institution that operated it, with prior separation by materials.
- Hand over the packaging elements (cardboard, polymer materials) to the corresponding streams of recyclable materials.

Contacts

LABOTRIX GROUP LIMITED

Room 910, Isteeasia 1 No. 18 Fu'an Blvd, Pinghu Subdistrict,
Longgang District, Shenzhen City,
Guangdong Province, China 518111
Phone: +86 13925261264
E-mail: salesmanager@labotrix.com
Website: <https://labotrix.com/>

Address in Ukrainian:

LABOTRIX GROUP LIMITED

Room 910, Istilazia 1, Fuan Boulevard No. 18,
Pinghu Subdistrict, Longgang District,
Shenzhen, Guangdong Province, China 518111
Telephone: +86 13925261264
E-mail: salesmanager@labotrix.com
Website: <https://labotrix.com/>

Conditions of use and storage of the product

The product is intended for educational work in general secondary education institutions and is used only under the control and supervision of a teaching staff member; the recommended age of students — from 10 years, that is, students of grade 5 and of higher grades. Keep the product in a dry, clean and ventilated room at a temperature from +5 to +40 °C and relative air humidity up to 80 % without condensation, separately from heat sources and out of direct sunlight, moisture and dust. Use the product exclusively for its intended purpose and do not allow drops, impacts or other mechanical damage. If you notice damage, a crack or any malfunction, stop working with the product immediately and inform the teacher or the responsible person of the educational institution; repairing the product on your own is prohibited.

WARRANTY CARD

Name:	Set "Parts of the Whole on a Circle"
Product model:	LABOTRIX FRACTIO M5
Serial number:	
Date of sale:	
Warranty period:	12 months from the date of sale
Trading organization:	
Signature of the seller:	

The goods have been received in working order, without visible damage, complete, and have been checked in my presence. I have no claims regarding the quality of the goods; I have read and agree to the operating and warranty service conditions.

Full name of the buyer _____

Telephone of the buyer _____ Signature of the buyer _____

Dear Customer!

Thank you for choosing Labotrix products. After-sales service of this product is provided in accordance with the regulations of the company and the legislation of the country of sale. So that we can serve you quickly and without unnecessary formalities, check that this warranty card is filled in correctly at the moment of purchase and keep it together with the payment document throughout the entire warranty period. When applying for repair, hand the product over to the seller or to the service center together with the filled-in card.

Procedure for applying

1. The right to free warranty service of the product is valid for 12 months from the date of sale specified in the warranty card. Within this period, components that have failed because of a manufacturing defect are repaired or replaced at no cost to the buyer.
2. Before applying, make sure that the malfunction is not caused by the reasons listed in section 9 of this passport and, if possible, use the table of possible malfunctions in subsection 7.3.
3. After the end of the 12-month warranty period, repairs are performed on a paid basis; the cost of the work and of the spare parts is determined depending on the nature of the malfunction.

Grounds for refusal of warranty service

The company reserves the right to refuse free service or to perform the work on a paid basis if at least one of the following circumstances is established:

- absence of the warranty card, its incomplete or corrected completion, and also the absence of a document confirming the purchase;
- non-conformity of the serial number of the product with the number specified in the card, or damage to the factory marking;
- traces of independent disassembly, repair or modification of the product;
- damage caused by violation of the operating rules, connection to an unsuitable power source or external mechanical impact;
- damage as a result of force majeure circumstances.

Service Records

Date of entry	Description of the malfunction	Work performed	Position, signature, full name of the responsible person