Ratna Sagar

... Always with you!

NEP 2020

&

Living Maths 1–5

A landmark document, **the National Education Policy 2020 (NEP)** is a framework that emphasizes the holistic development of learners through experiential learning, arming them with twenty-first-century skills.

Ratna Sagar has always been at the forefront whenever any change is introduced by the government, the CBSE, the NCERT or other boards.

We updated our books and provided support for:

- **COMMUNICATIVE APPROACH**
- **NCF (2005)** • **CCE (2010)**
- **NEP (2020)** • **CBA (2021)**
- **NIPUN BHARAT (2021)** • **SAFAL (2021)**

All our major courses are fully compliant with NEP 2020 guidelines.
Here we present Living Maths 1–5.

The Living Maths set includes books A and B.

Some Major Skills & Focus Areas

In Living Maths 1–5

1. Manoj has two books weighing 320 g and 680 g. What is the total mass of the two books?
2. Meena purchased two potted plants. One potted plant weighed 7 kg while the other weighed 8 kg 400 g. What was their total mass?
3. Meeta's suitcase weighs 12 kg 900 g and Raman's suitcase weighs 20 kg 800 g. What is the difference in the mass of the two suitcases?
4. Mr Rao bought 35 kg 500 g of rice. At the end of the month, 6 kg 750 g of rice was left. What was the quantity of rice consumed?

HOTS Questions

My uncle is travelling to Guwahati. He is allowed to take 2 suitcases, each of which can weigh not more than 20 kg. One of his suitcases is full and weighs 20 kg. The other suitcase has things that weigh 12 kg.

He wants to take as many gifts as possible for his relatives.

Which of these gifts will he have to leave behind?

2 kg   1 kg 200 g   800 g   1 kg   4 kg   3 kg

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> **Creativity** refers to new ways of seeing or doing things and includes generating new ideas, flexibility, originality, and building on others' ideas.
> – 21st Century Skills Handbook by CBSE

Critical Thinking

All HOTS questions & brain teasers:

BK 1   pp. 12, 28, 41, 61, 87, 93, 108
BK 3   pp. 30, 39, 61, 70, 111, 146
BK 4   pp. 8, 17, 50, 66, 70, 89, 102
BK 5   pp. 12, 47, 51, 72, 86, 107

Critical Thinking is the ability to think clearly and rationally and understand the logical connections between ideas; to analyze facts and come to a conclusion.

Creativity

BK 1   pp. 32, 57, 143
BK 2   pp. 132, 154
BK 3   pp. 74, 119, 132
BK 4   pp. 23 (C), 76, 124, 139, 212
BK 5   pp. 52, 115, 179

> **Communication** refers to the ability to express one's opinions, desires, needs, apprehensions etc., appropriately–verbally and non-verbally.
> – 21st Century Skills Handbook by CBSE

Rainbow method

Another method you can use to find the factors of a number is the rainbow

Let us draw a rainbow to find the factors of a number, say 24.

Step 1 Make a curved line as shown. Write 1 at one end, as 1 is a factor of every number. Write 24 at the other end, as the number itself is also a factor. $1 \times 24 = 24$

Step 2 Make another curved line. Check if 2 is a factor of 24. $2 \times 12 = 24$.
Yes it is, so write 2 at one end and 12 at the other.

Repeat step 2 with the next numbers 3, 4, and so on.

$3 \times 8 = 24$ $4 \times 6 = 24$

5 is not a factor of 24. As 6 is already in the rainbow, stop here.

ANS. The factors of 24 are 1, 2, 3, 4, 6, 8, 12 and 24.

Conceptual Understanding refers to an integrated and functional grasp of ideas.

Collaboration

All pair work & group activities:

BK 1   pp. 16 (A Value for Me), 46, 57, 97, 111 (A Value for Me), 125, 134, 150
BK 2   pp. 23, 55, 88, 101, 115, 126
BK 3   pp. 20, 46, 64, 74, 173, 183

Communication

BK 1   pp. 4–5, 84, 89
BK 3   pp. 32, 173, 183
BK 4   pp. 22, 32, 51
BK 5   pp. 52, 103, 217 (B)

Problem-solving

BK 1   pp. 18, 25, 26 (C), 33, 113, 151
BK 2   pp. 40, 90, 103
BK 3   pp. 34, 89, 175
BK 4   pp. 23, 41, 42
BK 5   pp. 51, 112, 157, 209 (D)

> **Collaboration** is the ability to effectively work together with others.
> – 21st Century Skills Handbook by CBSE

3. The students put together number cards to make the number called.

70   8

The other pairs of students take turns to repeat steps 2 and 3 with different numbers.

A Value for Me

The students of Class 1 are together making pictures for the School Annual Day function. Mehul has made 40 pictures, Malhar has made 25 and Mala has made 35 pictures.
1. Who has made the most number of pictures?
2. Who has made the least number of pictures?

FOR THE TEACHER: Before beginning the activity, show the students how to form a number with the number cards.

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SKILLS – page 2
FOCUS AREAS – page 3

Application of Knowledge

BK 1   pp. 4–5, 19, 30, 43, 44, 45

BK 2   pp. 28, 53, 74, 109

BK 3   pp. 23, 43, 49, 66 (C), 89 (C)

BK 4   pp. 25 (A), 39, 63, 141 (D)

BK 5   pp. 31, 50, 70, 94, 139, 222

Conceptual Understanding

BK 1   pp. 23, 62 (Number Bonds), 115
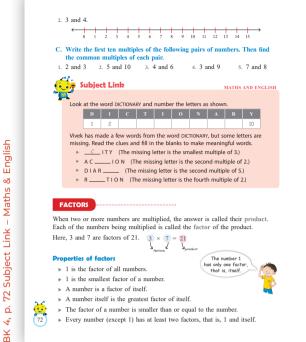
BK 3   pp. 18, 32, 112, 119, 161

BK 4   pp. 68, 74 (Rainbow method), 197

BK 5   pp. 16–17, 118, 155, 172, 199

> **Experiential Learning** is learning imbibed through observing, understanding, practising and experiencing.
> – 21st Century Skills Handbook by CBSE

Experiential Learning

All Maths Lab Activities:

BK 2   pp. 23, 38, 55, 72, 88

BK 4   pp. 22, 40, 51, 64, 82

BK 5   pp. 20, 34, 52, 74, 179

▲ **Multidisciplinary Approach** involves several different subjects of study.

Multidisciplinary Approach

All Subject Links:

BK 1   pp. 110, 121, 141 (Poem)

BK 2   pp. 6 (Poem), 11, 78

BK 3   pp. 48, 103, 187 (Project)

BK 4   pp. 64 (Project), 72, 103, 124 (Activity)

BK 5   pp. 12, 127 (Project)

(Right inset page)

2. 3 and 4.

C. Write the first ten multiples of the following pairs of numbers. Then find the common multiples of each pair.

1. 2 and 3   2. 5 and 10   3. 4 and 6   4. 3 and 9   5. 7 and 8

Subject Link   MATHS AND ENGLISH

Look at the word DICTIONARY and number the letters as shown.

D	I	C	T	I	O	N	A	R	Y
1	2								10

Vivek has made a few words from the word DICTIONARY, but some letters are missing. Read the clues and fill in the blanks to make meaningful words.

▸ __C__ I T Y   (The missing letter is the smallest multiple of 3.)

▸ A C ___ I O N   (The missing letter is the second multiple of 2.)

▸ D I A R ___   (The missing letter is the second multiple of 5.)

▸ R ___ T I O N   (The missing letter is the fourth multiple of 2.)

FACTORS

When two or more numbers are multiplied, the answer is called their **product**. Each of the numbers being multiplied is called the **factor** of the product. Here, 3 and 7 are factors of 21.   3 × 7 = 21

The number 1 has only one factor, that is, itself.

Properties of factors

▸ 1 is the factor of all numbers.

▸ 1 is the smallest factor of a number.

▸ A number is a factor of itself.

▸ A number itself is the greatest factor of itself.

▸ The factor of a number is smaller than or equal to the number.

▸ Every number (except 1) has at least two factors, that is, 1 and itself.

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Maths Lab Activity

Aim: To find the lowest common multiple (LCM)

You will need: Square-lined paper and bindis of three colours (blue, red and green)

Preparation: Work in groups of three each.

Steps

1. The teacher will assign each group a set of numbers, such as: 2, 3 and 4; 3, 5 and 7; 2, 3 and 6, and so on.

2. Each group makes a grid of 3 rows. Number them as shown.

3. The first student pastes a set of 2 blue bindis in the top row. The second student pastes a set of 3 green bindis in the middle row. The third student pastes a set of 4 red bindis in the bottom row.

4. The students continue to paste sets of bindis till they line up vertically in all the three rows.

5. Note the number. It is the LCM of the three numbers. In this case, the three rows first meet at 12. So, the LCM of 2, 3 and 4 is 12.

Life Skills

Anju and Manju have joined a Hip-Hop dance class. For practice, the teacher has asked the class of 30 students to form groups of 3 or more so that no student is left out. A group cannot have more than 10 students. How many such groups can be formed?

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BK 5, p. 52

Listed here are just a few illustrative examples of NEP-compliant pages. We will be happy to provide the other page references.

NEP
NIPUN
CBA
SAFAL
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Ratna Sagar support for NEP, CBA, SAFAL, etc. **Available on request**

✔ **Model question papers for CBA**

✔ **Summaries & paraphrase**

✔ **Extra activities & projects**

✔ **Extra questions**

✔ **Sample questions (SAFAL for Classes 3, 5 & 8)**

✔ **Workshops**

✔ **More as newer policies are announced**

SAFAL
Sample Questions

Ⓐ Look at the given figure to answer the questions.

FUN

1. What is the total number of angles?
   a. 6 ☐   b. 7 ☐   c. 8 ☐   d. 9 ☐
2. What is the number of right angles?
   a. 3 ☐   b. 4 ☐   c. 5 ☐   d. 6 ☐
3. What is the number of acute angles?
   a. 1 ☐   b. 2 ☐   c. 3 ☐   d. 4 ☐
4. How many lines of symmetry can be drawn in the letter U?
   a. 0 ☐   b. 1 ☐   c. 2 ☐   d. 3 ☐

Ⓑ Mayank has marked some activities for September on his calendar. Read it to answer the given questions.

SEPTEMBER						
SUN	MON	TUE	WED	THU	FRI	SAT
			1	2	3	4

SAFAL sample questions, Living Maths 3

Our forever support

Teacher's Companions	ⓔ*live 2.0*	Apps	Teacher-training Workshops	
Resource material to support teachers Comprehensive lesson plans, worksheets and more	Innovative and comprehensive digital content such as 2-D and 3-D animation, test generator, eBooks, concept maps, videos, infographics, slideshows and more	Apptive Learn ⓔ*live 2.0* **APPTIVE —LEARN—** Apptive Practice ⓔ*live 2.0* **APPTIVE —PRACTICE—**	We train **60,000+** teachers across **5,000+** schools	Theme-based Notebooks, Planners and Posters

Forty years ago, *Ratna Sagar* made a commitment to education with this pledge:

" Ratna Sagar stems from a deeply-felt desire to present only the finest in books … (our books) will represent exemplary standards of book publication and will embody the highest levels of teaching methodology, design and presentation, and pedagogical effectiveness. "

We are proud to have lived up to our pledge.
And we promise to continue doing so.

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