



Sri Sathya Sai
VIDYA VAHINI
श्री सत्यसाई विद्या वाहिनी



Chapter Teaching Plan

Teacher(s) Teacher 1: Ramana V V S D L-Nemilichery Teacher 2: Hetal Joshi-Ahmedabad Teacher 3: Chinmayee Panda-Bhawanipatna	School(s) : School 1: TN - Sri Sathya Sai Institute of Educare, Nemilichery, Chennai School 2: GJ - Sri Sathya Sai Vidya Mandir, Ahmedabad School 3: OD - Sri Sathya Sai Vidya Vihar, Bhawanipatna
Board CBSE	Standard : 7
Subject : Mathematics	Chapter: ALGEBRAIC EXPRESSIONS- PART TWO
# of Periods : 1	Academic Coordinators: AC 1: Deepa Jajoo AC 2: Meenakumari Venkateswaran

Learning Objectives:

List the learning outcomes the students will attain through the content and activities in this chapter.

differentiate between variables and constants. • identify the terms of an algebraic expression. • identify like and unlike terms in an algebraic expression • identify the different types of algebraic expressions • Rewrite the algebraic expression after combining variables and constants. • List the terms of an expression and their factors. • Find algebraic expressions after adding the terms. • Discriminate between coefficient and factors. • identify the degree of a polynomial • Separate the like and the unlike terms and solve an algebraic expression. • Classify and interpret the monomials, binomials, trinomials and polynomials. • Construct the formulas and rules in a concise and general form using algebraic expressions.

Values and Dispositions:

[Mention 1 or 2 values you want to bring out through this chapter; you can also mention the value provided in the Value Content asset]

While solving an equation and using a formula, the value of an expression depends on A. Constants and B. Variables. In our lives too we have constant and many variable values. Constant can be said to be our family background at the time of our birth. The variables are the human values we cultivate and these values help add to our place and value in life. Study of oneself or self awareness is the disposition and Truth is the Value

Competencies:



(Mention any 1 or 2 competencies that the student has been enabled to attain through the learning outcomes in this chapter)

C-2.2 extends the representation of a number in the form of a variable or an algebraic expression using a variable. C-2.3 Forms algebraic expressions using variables, coefficients, and constants and manipulates them through basic operations. C-2.5 Develops own methods to solve puzzles and problems using algebraic thinking.

LTM Planning:

Your plan may include the following:

- Mention the concepts in the chapter for which you plan to use LTMs
- Identify LTM
- Materials you require for the LTM
- Prior preparation required

Translating Algebraic Expressions- Worksheet. By using Worksheet to teach this lesson we made a Variables and Expressions Game that requires students get a grasp of Translating Algebraic Expressions. <https://ca.pinterest.com/pin/107101297383988734/>

— Period # 1 —

Each period may consist of four or more of the following :

1. LTM (Learning Teaching Material)
2. Class Starter
3. Previous knowledge recall
4. Methodology #1
5. Methodology #2
6. Wrap-up or Recap
7. Follow-up (Assessment, assignment, worksheet, home work, project work)

P#1- 1.1 TLM: Mention the LTM you plan to use in this period

Activity: Connecting Words and Algebraic Expressions. Students are given a set of cards that have either an algebraic expression or a word sentence. They then have to match up the expressions with the word sentences. This is not meant to be a big activity but just a quick one to help kids connect the different forms.
<https://ca.pinterest.com/pin/16325555221631129/>

P#1-1.2 Class Starter: Class starters can be short openers to your class. You may use IQ, DD, IA, or VC assets. Mention the asset name. You could enable interaction using a TLM. Other ideas are two-minute reading, show-and-talk, short story, pop quiz and so on. Give the SSSVV asset name you want to use or your idea. Mention here if you plan to use an LTM during Class Starter. How would you effectively achieve the LO using this asset/idea?

Eg. IA_Differences and Commonalities



Interactive quiz: (vidya vahini)

<https://learning.srisathyaivaividyaahini.org/mod/hvp/view.php?id=21734>

Teacher Tasks:

Mention:

- * Any specific action points like instructions you would give or tools or techniques you may use
- * Any probing or open-ended questions you may want to ask
- * Demonstrations you would like to do

Interactive quiz: (vidya vahini)

<https://learning.srisathyaivaividyaahini.org/mod/hvp/view.php?id=21732>

Student Task:

Mention the specific actions students will engage in

Students will participate in the interactive quiz and answer questions

Duration (in minutes):

5

P#1-1.3 Checking Previous Knowledge:

You may use any small technique or tool such as KWL or entry ticket to check previous knowledge. This could also be a class starter. You could use a few questions from the QA asset or interactive quiz on LMS. Connect to something very situational or contextual for the students. Please enter your plan/idea.

Interactive Quiz-Answer the following 4 (6 questions)

<https://learning.srisathyaivaividyaahini.org/mod/hvp/view.php?id=21735>

Duration (in minutes):

5

P#1-1.4.1 Methodology - Plan or Idea (SSSVV Asset or your idea)

Mention the asset title selected or your idea.

Class test on this chapter. Topics:

- 1) write in algebraic expressions from the given statement.
- 2) Identify the like terms and unlike terms.
- 3) Identify the Monomial, Binomial, Trinomial and polynomials.



Sri Sathya Sai
VIDYA VAHINI
श्री सत्यसाई विद्या वाहिनी



- 4) Identify the terms, factors, Coefficient and constant in given expressions
- 5) Additions and subtractions of algebraic expressions.
- 6) Find the value of the following algebraic expression.

QA-

https://learning.srisathyasaividya vahini.org/pluginfile.php/84125/mod_resource/content/0/Algebraic%20Expressions.pdf

Teacher Tasks:

If you're not using an SSSVV Asset here, please mention any specific questions you will ask or instructions you will give

QA - Conduct the Class test on this chapter. 10 questions will be given for 10 marks. For this case study type questions also will be given. Teacher will prepare the answer key for the test paper.

Ex:

I. Fill in the blanks.

- 1) The coefficient of x in the expression $2p - 5xp$ is _____
- 2) If the sides of a triangle are $(y + 2z)$, $(y - 2x)$ and $(4x - 2z)$, then its perimeter is _____

II. MCQ questions:

- 3) The sum of three consecutive whole numbers can be expressed as ____
a) $x + 2x + 3x$ b) $x + (x + 1) + (x + 2)$ c) $x + (x - 1) + (x - 2)$ d) $x + (x/2) + (x/3)$
- 4) The simplest form of $[13r + 13r^2 - r^3 + 2r^3 + r - 7r^2]$ is ____.
a) $r^3 + 6r^2 + 14r$ b) $r^3 + 6r^2 - 14r$ c) $-r^3 - 6r^2 - 14r$ d) $r^3 - 6r^2 - 14r$
- 5) The expression, which should be subtracted from $2p + 9q + 100$ to get $-5p + 7q + 50$, is
a) $-7p + 2q + 50$ b) $-7p - 2q - 50$ c) $7p - 2q - 50$ d) $7p + 2q + 50$
- 6) An example of binomial expression is
a) x^2 b) $-3xy + 8$ c) $x + y + 5$ d) $a^2 + ab - ac$
- 7) The algebraic expression of the statement 'product of numbers a and b subtracted from 7' is
a) $ab - 7$ b) $7 - ab$ c) ab d) $7ab$

III. Solve:

- 8) Subtract $3x^2 - 5y - 2$ from $5y - 3x^2 + xy$ and find the value of the result if $x = 2$, $y = -1$
- 9) Simplify combining the like terms: $x^2 - 3x + y^2 - x - 2y^2$

IV. Case study question.

10) A playground is in shape of a square. The area of the square PQRS is 256 m^2 with each side $(x + 2) \text{ m}$. One day Suraj along with his two friends Ajay and Aman went to play there with bicycle. Someone stole Suraj bicycle, but Ajay and Aman helped him by contributing ₹ $(4a + 60)$ and ₹ $(6a + 10)$ respectively, to buy a new bicycle. The cost of bicycle was ₹4200.



Sri Sathya Sai
VIDYA VAHINI
श्री सत्यसाई विद्या वाहिनी



On basis of this information given in passage answer following questions.

i) What is the value of a?

ii) What was the amount given by Ajay and Aman to Suraj?

Answer key:

- 1) $-5p$ 2) $2y + 2x$ 3) b) $x + (x + 1) + (x + 2)$ 4) a) $r^3 + 6r^2 + 14r$
5) b) $-7p - 2q - 50$ 6) b) $-3xy + 8$ 7) b) $7 - ab$ 8) -34 9) $x^2 - y^2 - 4x$
10) a) 413

b) Money contributed by Ajay = $4 \times 413 + 60 = 1652 + 60 = ₹1712$

Money contributed by Aman = $6 \times 413 + 10 = 2478 + 10 = ₹2488$

Student Task:

Mention the specific actions students will engage in

Students will write the answers for the test.

Duration (in minutes):

10min

P#1-1.4.1 Methodology 2 - Plan or Idea (SSSVV Asset or your idea)

Mention the asset title selected or your idea.

Class test on this chapter. Topics:
Multiplications and divisions of algebraic expressions.

Period # 1 Methodology # 2 Teacher Tasks:

If you're not using an SSSVV Asset here, please mention any specific questions you will ask or instructions you will give

QA - Conduct the Class test on this chapter. 10 questions will be given for 10 marks. For this case study type questions also will be given. Teacher will prepare the answer key for the test paper.

Ex:

I. MCQ questions.

1) If $m = 3$ and $n = 2$, then the value of the expression $(m+n) \times mn$ is ____

- a) 40 b) 53 c) 30 d) 58

2) If the base and height of a triangle are $2a$ and $3a$, then the area of triangle is ____

- a) $5a$ b) $6a$ c) $3a^2$ d) $6a^2$

3) If $m = 3$ and $n = 2$, then the value of the expression $m^2n^2 + m^2 + n^2 + 5$ is ____

- a) 40 b) 53 c) 54 d) 58

4) The product of $6a^2$, $-5ab$ and $2a^2b^2$ is ____

- a) $-30ab$ b) $60a^2b^2$ c) $10a^5b^3$ d) $-60a^5b^3$

II. Fill in the blanks.



Sri Sathya Sai
VIDYA VAHINI
श्री सत्यसाई विद्या वाहिनी



- 5) Simplify the expression $15yw/5y$ is _____
6) Find the product of $6ab$ and $-3a^2b^3$ is _____
7) Multiply the algebraic expressions x^3 and $(x^5 + 10a)$ is _____

III. Case study question.

8) A playground is in shape of a square. The area of the square PQRS is 256 m^2 with each side $(x + 2) \text{ m}$. One day Suraj along with his two friends Ajay and Aman went to play there with bicycle. Someone stole Suraj bicycle, but Ajay and Aman helped him by contributing ₹ $(4a + 60)$ and ₹ $(6a + 10)$ respectively, to buy a new bicycle. The cost of bicycle was ₹4200.

On basis of this information given in passage answer following questions.

- a) Find the value of x .
b) Find the side of square ground?

Answer key:

- 1) c) 30 2) c) $3a^2$ 3) c) 54 4) d) $-60a^5b^3$ 5) $3w$ 6) $-18a^3b^4$ 7) $x^8 + 10ax^3$
8) a) $x = 14$
b) 16m

Period # 1 Methodology # 2 Student Task:

Mention the specific actions students will engage in

Students will write the answers for the test.

Period # 1 Methodology # 2 Duration (in minutes):

10min

P#1-1.5 Recap or wrap-up Plan

How are you planning to recap or wrap-up to ensure that students have grasped what was taught in this period or the Key learning points? You may use part of a VV asset or your own idea.

Period # 1 - Recap/Wrap Up Plan or Idea

Interactive quiz-

<https://learning.srisathyasaividya vahini.org/mod/hvp/view.php?id=21730>

<https://learning.srisathyasaividya vahini.org/mod/hvp/view.php?id=21731>

Period # 1 - Recap/Wrap Up Student Task

Mention any task you have planned for students to know their learning takeaway for this period.



Students will participate in the interactive quiz and answer questions.

Period # 1 Recap/Wrap Up Duration (in minutes):

5min

P#1- 1.6 Follow-up activity for this period

Mention what small assignment you would give your students. It could be a non-conventional assessment activity, a worksheet or exercise questions from the textbook or QA Asset.

Period # 1 - Follow-up Activity Plan or Idea

Interactive quiz:

<https://learning.srisathyaavidyavahini.org/mod/hvp/view.php?id=21732>

<https://learning.srisathyaavidyavahini.org/mod/hvp/view.php?id=21733>

Period # 1 Follow-up Activity Duration (in minutes):

5min