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## **NSES CURRICULUM: MIDDLE SCHOOL MATHEMATICS**

### **Eureka.in 3DS Content List**

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<b>GRADE</b>	<b>TOTAL TOPIC</b>	<b>TOTAL DURATION</b>
Grade 5	9	00.38.57
Grade 6	39	01.39.18
Grade 7	60	03.22.33
Grade 8	52	02.58.16
Add-On Category	6	00.14.51
<b>TOTAL</b>	<b>166</b>	<b>08.53.55</b>

CATEGORY	TOTAL TOPIC	TOTAL DURATION
<b>Grade 5</b>	<b>9</b>	<b>00.38.57</b>
Number and Operations in Base Ten	4	00.18.52
Number and Operations—Fractions	3	00.09.27
Measurement and Data	1	00.03.53
Geometry	1	00.06.45
<b>Grade 6</b>	<b>39</b>	<b>01.39.18</b>
Ratios and Proportional Relationships	1	00.01.45
The Number System	15	00.32.13
Expressions and Equations	3	00.12.56
Geometry	14	00.31.40
Statistics and Probability	6	00.20.44
<b>Grade 7</b>	<b>60</b>	<b>03.22.33</b>
Ratios and Proportional Relationships	5	00.10.20
The Number System	2	00.05.09
Expressions and Equations	3	00.03.43
Geometry	46	02.50.58
Statistics and Probability	4	00.12.23

<b>CATEGORY</b>	<b>TOTAL TOPIC</b>	<b>TOTAL DURATION</b>
<b>Grade 8</b>	<b>52</b>	<b>02.58.16</b>
The Number System	4	00.14.35
Expressions and Equations	12	00.21.36
Functions	1	00.05.32
Geometry	35	02.16.33
<b>Add-On Category</b>	<b>6</b>	<b>00.14.51</b>
Symmetry	2	00.07.09
Comparing Quantities	4	00.07.42
<b>TOTAL TOPICS</b>	<b>166</b>	<b>08.53.55</b>

## Grade 5

Topic Name	Duration	Sim	Int
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### Number and Operations in Base Ten

- **Core Topics**

- |  |          |   |
|--|----------|---|
| 1. Basic concepts of Decimal                             | 00.04.05 | √ |
| 2. Representation of a Decimal Number on the Number Line | 00.03.30 |   |
| 3. Rounding off Numbers                                  | 00.05.06 |   |
| 4. Fractions to Decimals and Decimals to Fractions       | 00.06.11 |   |

### Number and Operations—Fractions

- **Core Topics**

- |                         |          |   |
|-------------------------|----------|---|
| 1. Equivalent Fractions | 00.04.18 | √ |
| 2. Concept of Fraction  | 00.05.09 | √ |

- **Suggested Topics**

- |                                 |          |   |
|---------------------------------|----------|---|
| 1. Fractions on the Number Line | 00.00.00 | √ |
|---------------------------------|----------|---|

## Grade 5

Topic Name	Duration	Sim	Int
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### Measurement and Data

- **Core Topics**

1. Volume of a Solid	00.03.53	√	
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### Geometry

- **Core Topics**

1. Cartesian Coordinate System	00.06.45	√	
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<b>TOTAL TOPIC IN GRADE 5 – 9</b>	<b>00.38.57</b>		
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## Grade 6

Topic Name	Duration	Sim	Int
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### Ratios and Proportional Relationships

- **Core Topics**

1.	Ratio	00.01.45	√
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### The Number System

- **Core Topics**

1.	HCF or GCF	00.03.31	
2.	Factors of a Number	00.03.22	√
3.	Prime factorisation using division and factor tree method	00.00.00	√
4.	LCM: Ladder or Division Method	00.03.34	
5.	HCF and LCM	00.04.12	
6.	LCM: The Least Common Multiple	00.04.46	
7.	Walk on Factors	00.00.00	√
8.	Walk on Multiples	00.00.00	√
9.	Walk on Composites	00.00.00	√
10.	Introduction to Integers	00.03.28	
11.	Ascending and Descending order	00.05.51	√
12.	Multiplication of Integers	00.00.00	√

## Grade 6

Topic Name	Duration	Sim	Int
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- **Suggested Topics**

1. Prime Numbers	00.03.29	√	
2. Divisibility Rules	00.00.00	√	
3. Addition of Integers	00.00.00	√	

### Expressions and Equations

- **Core Topics**

1. Introduction to Algebra	00.03.43	√	
2. Solving a Linear Equation in One Variable (Balancing method)	00.04.05	√	
3. Solving Linear Inequality in One Variable	00.05.08		

### Geometry

- **Core Topics**

1. Areas of Plane Figures	00.05.54	√	
2. Concept of Area	00.00.00	√	
3. Special Right Triangles	00.00.00	√	
4. Quadrilateral	00.04.05		
5. Surface area of cuboid	00.00.00	√	
6. Volume of a Prism	00.04.06	√	
7. Prism lab	00.00.00	√	





## Grade 7

Topic Name	Duration	Sim	Int
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### Ratios and Proportional Relationships

- **Core Topics**

1.	Ratio	00.01.45	√
2.	Equivalent Ratios	00.00.00	√
3.	Proportion	00.04.42	√
4.	Direct & Inverse Proportion	00.03.53	√
5.	Rate Compounded Annually and Half-Yearly	00.00.00	√

### The Number System

- **Core Topics**

1.	Concept of Fraction	00.05.09	√
2.	Arithmetic Operations	00.00.00	√

### Expressions and Equations

- **Core Topics**

1.	Introduction to Algebra	00.03.43	√
2.	Solving Linear Equations	00.00.00	√
3.	Equations Reducible to a Pair of Linear Equations in Two Variables	00.00.00	√

## Grade 7

Topic Name	Duration	Sim	Int
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### Geometry

- **Core Topics**

1. Geometric figures and their dimensions	00.00.00	√
2. Geometrical Shapes	00.04.56	
3. Translation	00.04.22	
4. Construction: Angle Bisector and an Angle of 30°	00.02.44	√
5. Construction: Angles of Measure 90° and 45°	00.04.07	
6. Constructions: Congruent Angle and An Angles of Measure 60° and 120°	00.03.22	√
7. Construction: Right Angled Triangle	00.03.17	√
8. Triangle	00.04.49	
9. Types of Triangles	00.04.02	√
10. Important Points Associated with a Triangle	00.05.04	√
11. Construction of a Triangle (SSS Criterion)	00.06.00	
12. Construction of a Triangle: ASA Criterion	00.03.25	
13. Construction of a Triangle (SAS criterion)	00.04.55	
14. Introduction to a Prism	00.05.31	√
15. Introduction to Pyramid	00.04.32	
16. Types of Pyramids	00.00.00	√
17. Circle	00.03.51	

## Grade 7

Topic Name	Duration	Sim	Int
18. Area of a Circle	00.02.55	√	
19. Definition of Pi ( $\pi$ )	00.03.14	√	
20. Angle	00.03.47	√	
21. Types of Angles Formed by a Transversal	00.04.15	√	
22. Surface Area of Rectangular Solids	00.04.30	√	
23. Surface Area of a Cylinder	00.04.32	√	
24. Surface Area of a Sphere	00.04.19	√	
25. Surface Area of a Right Prism	00.02.54	√	
26. Surface Area of a Pyramid	00.02.12	√	
27. Surface Area of a Cone	00.04.18	√	
28. Volume of a Solid	00.03.53	√	
29. Volume of a Prism	00.04.06	√	
30. Areas of Plane Figures	00.05.54	√	
31. Area of the frame	00.02.17		
32. Surface Area of Composite Objects: Cylinder and Sphere	00.04.48		
33. Surface Area of a Hollow Object: Cylinder	00.04.24		
34. Surface Area of Composite Objects: Prism and Pyramid	00.03.32		
35. Surface Area of Composite Objects: Rectangular Prism and Triangular Prism	00.03.24		
36. Surface Area of Composite Objects: Hemisphere and Cone	00.04.06		

## Grade 7

Topic Name	Duration	Sim	Int
37. Surface Area of Composite Objects: Cylinder and Cone	00.04.43		
38. Volume of Composite Objects: Rectangular Prism and Triangular Prism	00.03.40		
<b>• Suggested Topics</b>			
1. Construction: Quadrilateral	00.00.00	√	
2. Construction of Quadrilateral (Two adjacent sides and three angles are known)	00.00.00	√	
3. Construction of a Triangle (Given: Base, Vertical Angle and the Corresponding Altitude)	00.04.10	√	
4. Construction of a Triangle given its Base, a Base Angle and the Difference of Lengths of the Other Two Sides	00.03.45		
5. Construction of a Triangle (Given: Base, Vertical Angle and the Corresponding Median)	00.03.59		
6. Construction of a Triangle (Given: Base Angles and Perimeter)	00.04.47		
7. Construction of a Triangle of Area Equal to the Area of a Given Quadrilateral	00.03.10		
8. Euclid's Geometry	00.04.27		

## Grade 7

Topic Name	Duration	Sim	Int
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### Statistics and Probability

- **Core Topics**

1.	Introduction to Probability	00.05.01	
2.	Introduction to Experimental Probability	00.03.55	√
3.	Probability	00.00.00	√
4.	Application of Probability Tree	00.03.27	

<b>TOTAL TOPIC IN GRADE 7 – 60</b>	<b>03.22.33</b>		
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## Grade 8

Topic Name	Duration	Sim	Int
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### The Number System

- **Core Topics**

1.	Basic concepts of Decimal	00.04.05	√
2.	Number System	00.00.00	√
3.	Irrational Numbers: Geometrical Representation	00.03.48	
4.	Irrational Number on the Number Line	00.06.42	

### Expressions and Equations

- **Core Topics**

1.	Definition of Pi ( $\pi$ )	00.03.14	√
2.	Finding Cube Roots	00.04.21	
3.	Cubes and Cube roots	00.00.00	√
4.	Square Rider	00.00.00	√
5.	Some Interesting Patterns of Perfect Squares	00.00.00	√
6.	Slope of a Line	00.00.00	√
7.	Equation of a Straight Line: Point-Slope Form and Two- Point Form	00.05.46	
8.	Slope Intercept Form of a Straight Line	00.04.10	

## Grade 8

Topic Name	Duration	Sim	Int
9. Solving a Linear Equation in One Variable (Balancing method)	00.04.05	√	
10. Addition of Polynomials	00.00.00	√	
11. Numbers in General Form	00.00.00	√	
12. Numbers in Standard Form	00.00.00	√	

## Functions

- **Core Topics**

1. Function	00.05.32		
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## Geometry

- **Core Topics**

1. Congruent Figures	00.07.12		
2. Congruence of Triangles	00.08.47		
3. Congruent and Similar Solids	00.00.00	√	
4. Similarity	00.08.31		
5. Similar Triangles	00.04.06	√	
6. Criteria for Similarity of Triangles	00.06.45		
7. Similarity in Right Triangles	00.05.59		
8. Similarity in Right Triangles (Corollaries)	00.06.23		
9. Reflection	00.03.17	√	



## Grade 8

Topic Name	Duration	Sim	Int
10. Rotation	00.00.00	√	
11. Translation of Axes	00.00.00	√	
12. Angle	00.03.47	√	
13. Types of Angles Formed by a Transversal	00.04.15	√	
14. Lines and Angles	00.03.46		
15. Triangle Angle-Sum Theorem (Illustration)	00.03.45	√	
16. Exterior Angle Theorem	00.03.00	√	
17. Application of ASA Criterion Criteria for Congruence of Triangles	00.03.27		
18. Application of SSS and SAS Criteria for Congruence of Triangles	00.04.42		
19. Application of RHS Criterion for Congruence	00.01.45		
20. Area of triangles on the same base and between the same parallels	00.00.00	√	
21. Pythagoras' Theorem	00.02.39	√	
22. Verification of Pythagoras' Theorem	00.00.00	√	
23. Converse of Pythagoras Theorem	00.03.11		
24. Distance Formula in 3-D	00.04.49	√	
25. Application of Distance Formula in 3-D	00.06.13		
26. Derivation of Distance Formula 2-D	00.03.53	√	
27. Volume of a Cone	00.03.00	√	
28. Volume of a Cylinder	00.04.33	√	
29. Volume of a Sphere	00.02.55		

## Grade 8

Topic Name	Duration	Sim	Int
30. Volume of Composite Objects: Cylinder and Hemisphere	00.04.27		
31. Volume of Composite Objects: Cylinder, Cone, and Hemisphere	00.03.12		
32. Volume of Hollow objects: Cylinder and Sphere	00.05.20		
33. Volume of Composite Objects: Hemisphere and Cone	00.03.21		
34. Volume of Composite Objects: Hemisphere and Cone (Ice Cream Cone)	00.04.31		
• <b>Suggested Topics</b>			
1. Tessallations	00.05.02		
<b>TOTAL TOPIC IN GRADE 8 – 52</b>	<b>02.58.16</b>		

### Add-On Category

Topic Name	Duration	Sim	Int
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#### Symmetry

- |                             |          |  |  |
|-----------------------------|----------|--|--|
| 1. Introduction to Symmetry | 00.03.31 |  |  |
| 2. Symmetry                 | 00.03.38 |  |  |

#### Comparing Quantities

- |                             |          |   |  |
|-----------------------------|----------|---|--|
| 1. Percentage               | 00.02.09 |   |  |
| 2. Discount and Percentage  | 00.03.09 |   |  |
| 3. Percentage: Illustration | 00.02.24 |   |  |
| 4. Profit and Loss          | 00.00.00 | √ |  |

**TOTAL TOPIC IN ADD-ON CATEGORY – 6      00.14.51**

**TOTAL TOPIC IN MIDDLE SCHOOL  
MATHEMATICS – 166      08.53.55**

\*Sim = Simulation

\*Int = Interactive