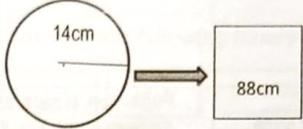
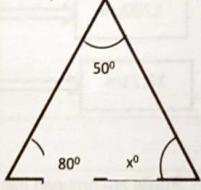




(MATHEMATICS FOR PRIMARY SCHOOL)
PRIMARY FIVE THIRD TERM

WKS	TOPICS	LEARNING OBJECTIVES	LEARNING ACTIVITIES	EMBEDDED CORE SKILLS	LEARNING RESOURCES
1	<p>REVISION/ TEMPERATURE Temperature of objects and towns in degrees Celsius Conversion of centigrade to Fahrenheit Conversion of Fahrenheit to Centigrade Real life problems on temperature Quantitative reasoning</p> <p>Importance: It plays a crucial role in Medical care, Foods and Beverages companies, Agricultural products processing It helps to check and monitor body temperature.</p>	<p>Pupils should be able to: Discuss the meaning of temperature. compare the degree of hotness or coldness in degree Celsius convert a given temperature in Centigrade to Fahrenheit change a given temperature in Fahrenheit to Centigrade appreciate the usefulness of temperature in our daily life solve quantitative aptitude problems related to temperature</p>	<p>Pupils: as individuals are asked to give their understanding of temperature and share with the class 3 to 4 pupils in the class use thermometer to examine their temperatures. Pupils in groups are given three cups each (each cup containing ice water, warm water and hot water). They use thermometer to check the temperatures of the water in each the cups and write their observations. After doing that, one cup is retained in the class, two cups are taken outside- one inside the sun and the other in the shade under a tree for ten minutes. Later-on, they check the differences in the three cups and write their observations</p> <p>QUANTITATIVE REASONING Examples: convert the following temperatures from Celsius to Fahrenheit using the formula</p> $\left(\frac{9}{5} C\right) + 32$ <p>Examples: convert the following temperature from Celsius to Kelvin using the formula</p> $K = ^\circ C + 273$	<p>Critical thinking and problem solving Communication and Collaboration Leadership and Personal development</p>	<p>AUDIO VISUAL RESOURCES Plastic cups Ice Warm water Refrigerated water Recording sheets</p> <p>Site links https://www.education.com/lesson-plan/time-money-and-temperature/</p> <p>Videdinks https://m.youtube.com/watch?v=wIPslqVzik k</p>
2	<p>LINES, ANGLES AND BEARINGS Parallel and perpendicular lines Complementary and supplementary angles Quantitative reasoning</p> <p>Importance: Angles are used for designing and construction of roads, buildings and sporting facilities</p>	<p>Pupils should be able to: identify parallel and perpendicular lines in measuring and drawing angles, using the protractor identify and calculate the complementary, opposite and supplementary angles by telling the directions accurately using angles in real life situations. solve quantitative aptitude problems on parallel and perpendicular lines, complementary and supplementary lines</p>	<p>Pupils: use body parts to demonstrate types of angles. use broomsticks or straws to demonstrate lines and how angles are formed. work in pairs, use their writing materials, e.g. a pair of compass ruler, pencils, to construct lines and angles</p> <p>QUANTITATIVE APTITUDE Categorize the following lines into horizontal, vertical or oblique</p>	<p>Communication and collaboration Critical thinking and problem solving Student leadership and personal development</p>	<p>AUDIO VISUAL RESOURCES Cardboard Writing materials Flash cards Site links https://www.education.com/lesson-plan/angles-and-lines/</p> <p>Video links https://m.youtube.com/watch?v=SUc56Uj0t1Vg</p>

WKS	TOPICS	LEARNING OBJECTIVES	LEARNING ACTIVITIES	EMBEDDED CORE SKILLS	LEARNING RESOURCES
3	<p>PLANE SHAPES (PROPERTIES) Properties of a rhombus, square and rectangle Quadrilaterals Components of circle Real life problems. Quantitative reasoning</p> <p>Importance: Circles are used to symbolize harmony and unity It is used in designing the shape of camera lenses, pizzas, tyres, steering wheels, cakes, pies, buttons, etc.</p>	<p>Pupils should be able to:</p> <ul style="list-style-type: none"> identify types and state basic properties of rhombus square rectangle in relation to real life situations. recognize quadrilaterals and state basic properties of quadrilaterals use real object to discuss the component parts of a circle and draw a circle with a specified radius. solve quantitative reasoning problems on properties of square, rectangle, quadrilaterals, circle solve real life problems 	<p>Pupils in groups gets random circles that can be folded and measured. The circle will include several sizes of paper plates, pizza box inserts in different number of sizes. They use a thread/string to measure the circumference of their circles for comparison, then place each thread on a ruler to measure the length which is the circumference . Then fold each circle into a quarter to find the point of intersection i.e. to identify the diameter. Use the measurement from the point of intersection to identify the radius too.</p> <p>QUANTITATIVE APTITUDE</p> 	<p>Communication and collaboration Critical thinking and problem solving Student leadership and personal development</p>	<p>AUDIO VISUAL RESOURCES Thread Recording sheets Materials e.g. paper, cardboards</p> <p>Site links https://study.com/academy/lesson/plane-shapes-types-properties.html</p> <p>Video links https://study.com/academy/lesson/plane-shapes-types-properties.html</p>
4	<p>ANGLES Angles Types of angles Transversal Measurement of angles Sum of angles on a straight line and shapes Quantitative reasoning</p> <p>Importance: Angles are used in constructions of houses Angles are used in making cloth hangers, scissors, arrowhead, windows, doors, etc.</p>	<p>Pupils should be able to:</p> <ul style="list-style-type: none"> explain angles as a space between two lines that meet mention types of angles with examples in their immediate environment. measure angles in degrees by using protractor use the parallel and transversal lines to determine: <ul style="list-style-type: none"> corresponding alternate and vertically opposite angles solve real life problems on angles. solve quantitative aptitude problems on angles 	<p>Pupils:</p> <ul style="list-style-type: none"> in pairs fold a piece of paper into two, the second time on the first straight line. A right-angled triangle is formed work individually to do physical exercises to identify the types and formation of angles, e.g. stretching and folding arms to certain degrees, curving elbows, bending the knees etc. turn the hands of a clock to measure different angles. <p>QUANTITATIVE APTITUDE Example: Find the missing angle</p>  <p>Add all angles together (sum of angles in a triangle is 180°) $50 + 80 + x = 180$ $130 + x = 180$ Subtract 130 from both sides $130 - 130 + x = 180 - 130$ $x = 50^\circ$</p>	<p>Student leadership and Personnel development Critical thinking and problem solving</p>	<p>AUDIO VISUAL RESOURCES Angles flash cards Charts containing all types of angles for easy learning</p> <p>Site links https://www.education.com/lesson-plan/angles-and-lines/</p> <p>Video links https://m.youtube.com/watch?v=SUC56Ub1tVg</p>
5	<p>THREE DIMENSIONAL SHAPES Cube, cuboid and pyramid Square base and triangular prism Quantitative reasoning</p>	<p>Pupils should be able to:</p> <ul style="list-style-type: none"> make three dimensional shapes using their net develop interest in the constructing nets of cube, cuboids and pyramid identify prism and pyramid solve real life problems. solve quantitative aptitude problems related to three dimensional shapes 	<p>Pupils work in groups. They are to cut cardboards into different two-dimensional shapes, then join them using glue or paper sellotape to form three dimensional shapes. Pupils work in small groups to decompose different three dimensional shapes e.g. carton of juice, tin of milk by using a tin cutter etc. Record the shapes that can be derived. Then use a paper sellotape to compose the shapes back to their original shapes.</p>	<p>Critical thinking and problem solving Communication and collaboration Student leadership and personal development</p>	<p>AUDIO VISUAL RESOURCES Paper materials scissors glue cardboards</p> <p>Site links https://academy.leson/3d-shapes-lesson-plan.html</p>

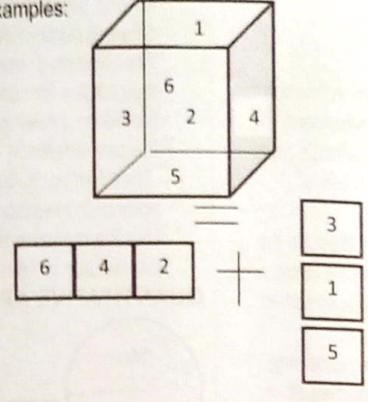
<https://byjus.com/learn/three-dimensional-shapes/>

Video links
<https://m.youtube.com/watch?v=6z9c-hKMM>

Importance:
It helps to unlock the learning skills in other subject areas
It helps in understanding other signs and symbols
It is useful in companies and industries for packaging end products in cartons or boxes for sales e.g. toothpaste, biscuits cartons etc.

QUANTITATIVE REASONING

Examples:



MEASUREMENT
Measurement of height
Conversion of units in height and distances
Measurement of distances
Quantitative Reasoning

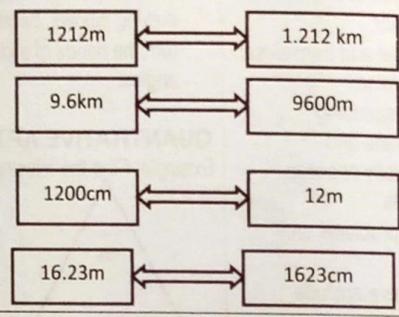
Importance:
It helps in conducting experiments or form theories
It is essential in Farming, Engineering, Construction and Manufacturing companies, Commerce and Industries, etc.

Pupils should be able to:
measure the height of some pupils, desk, flowering plants and short distances.
use tape to measure the dimensions of the classroom
compare heights of pupils in the classrooms
convert units of measurement
solve real life problems on measurement
solve quantitative aptitude problems related to measurement of height and distances

Pupils work in pairs; each pair is given a tape measure in checking their partners' heights and compare the differences. Also, they move around the school to compare heights of buildings, adults, trees etc.

QUANTITATIVE APTITUDE

Examples: convert the following units using
1km = 1000meters
1m = 100 centimeters



Communication and collaboration
Student leadership and personal development
Critical thinking and problem solving
Citizenship

AUDIO VISUAL RESOURCES
Measurement tapes

WEB RESOURCES

Site links
<https://owlcation.com/academia/Measurement-Lesson-Plan-for-Elementary-School-Students>

Video links
https://m.youtube.com/watch?v=Sz1RAq_AJo

7 Review of the first half term's work and periodic test.

Pupils should be able to:
review the first half term's work
participate in the periodic test.

Pupils are grouped into three or more groups to do revision on topics treated. A group leader for each of the groups formed in the class supervises the activities. Allow the members of each group to participate and interact with each other.

Leadership skill

Past questions
Exercises from textbooks and notebook.

BINARY NUMBER
Binary number systems
Identification of numbers in base 2
Conversion from base two to base ten and vice versa
Quantitative reasoning

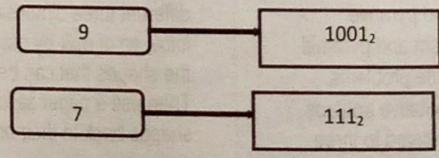
Importance:
Manipulating and storing data in a computer system
Used in performing arithmetic operations.
Used in building blocks like logic gates, registers and arithmetic processors.

Pupils should be able to:
explain the concept of number systems
identify numbers written in base ten and two
convert from base two to base ten and vice versa
add and subtract numbers in base two
solve quantitative aptitude problems related with binary numbers

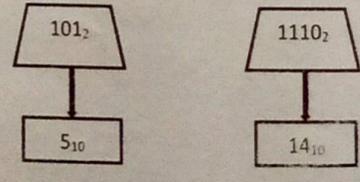
Pupils as a class read out binary numbers for digits greater than one from a binary chart placed in front of the class.
Pupils in small groups prepare binary numbers for numbers 1-9.

QUANTITATIVE APTITUDE

Example: Convert the following numbers in base 10 to base 2



Convert the following binary numbers to base ten



Communication and collaboration
Critical thinking and problem solving
Student leadership and personal development

AUDIO VISUAL RESOURCES
Binary charts
Binary cards
Cardboards

Site links
<https://study.com/academy/lesson/binary-numbers-lesson-plan.html>

Video links
<https://www.coursehero.org/lecture/mathematics-for-computer-science/1-101-introduction>

TOPICS	LEARNING OBJECTIVES	LEARNING ACTIVITIES	EMBEDDED CORE SKILLS	LEARNING RESOURCES																																																			
<p>BINARY NUMBER</p> <p>Addition of binary numbers Subtraction of binary numbers Quantitative reasoning</p> <p>Importance: Manipulating and storing of data in a computer system Used in performing arithmetic Used in building blocks like logic gates, registers and arithmetic processors</p>	<p>Pupils should be able to:</p> <ul style="list-style-type: none"> add numbers in base two subtract numbers in base two solve quantitative aptitude problems related with binary numbers 	<p>Pupils as a class read out binary numbers for digits greater than hundred from a binary numbers chart or flash cards placed in front of the class</p> <p>QUANTITATIVE APTITUDE Example: <i>Add the following binary numbers in these questions</i></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> 1011_2 + 10001_2 ----- 11100_2 </div> <div style="text-align: center;"> 110001_2 + 11001_2 ----- 1001100_2 </div> </div> <p><i>subtract the following binary questions</i></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> 11101_2 - 1011_2 ----- 10010_2 </div> <div style="text-align: center;"> 11110011_2 - 100011 ----- 11010000_2 </div> </div>	<p>Communication and collaboration Critical thinking and problem solving Digital literacy Student leadership and personal development</p>	<p>AUDIO VISUAL RESOURCES</p> <p>Binary charts Binary flash cards</p> <p>Site links https://study.com/academy/lesson/binary-addition-subtraction-rules-examples.html</p> <p>Video links https://m.youtube.com/watch?v=h_fY_zzSiM_tY</p>																																																			
<p>DATA PRESENTATION</p> <p>Definition of Statistics Tally Pictograms, bar graphs, and pie chart Quantitative reasoning</p> <p>Importance It makes articles easy to interpret. It helps to present large and complex information in tables for easy reading and interpretations.</p>	<p>Pupils should be able to:</p> <ul style="list-style-type: none"> explain Statistics as the collection, classification analysis, presentation and interpretation of data prepare a tally represent data collected in pictograms, bar graphs and pie chart tell a statistics story, draw and interpret the information. solve real life problems on Statistics solve given problems in quantitative aptitude on Statistics 	<p>Pupils:</p> <ul style="list-style-type: none"> as a class are asked which food they like best, which are recorded down by a leader appointed. After writing them, similar types of food are counted by the class and then represented on a table drawn on the board. Numbers are then represented in a tally column. Work in groups to collect data on their birthday months. The information is represented in a table which is used to plot a bar-chart graph. <p>QUANTITATIVE APTITUDE Arrange these letters using the system.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>T</td><td>V</td><td>T</td><td>N</td><td>N</td><td>H</td></tr> <tr><td>M</td><td>K</td><td>H</td><td>M</td><td>K</td><td>T</td></tr> <tr><td>K</td><td>N</td><td>T</td><td>V</td><td>N</td><td>T</td></tr> <tr><td>T</td><td>H</td><td>H</td><td>M</td><td>H</td><td>H</td></tr> <tr><td>T</td><td>H</td><td>M</td><td>T</td><td>T</td><td>H</td></tr> </table> <p>Answer</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>LETTERS</th> <th>NUMBERS</th> <th>TALLY</th> </tr> </thead> <tbody> <tr><td>T</td><td>9</td><td>###////</td></tr> <tr><td>V</td><td>2</td><td>##</td></tr> <tr><td>N</td><td>4</td><td>####</td></tr> <tr><td>M</td><td>4</td><td>####</td></tr> <tr><td>K</td><td>3</td><td>###</td></tr> <tr><td>H</td><td>8</td><td>### ##</td></tr> </tbody> </table>	T	V	T	N	N	H	M	K	H	M	K	T	K	N	T	V	N	T	T	H	H	M	H	H	T	H	M	T	T	H	LETTERS	NUMBERS	TALLY	T	9	###////	V	2	##	N	4	####	M	4	####	K	3	###	H	8	### ##	<p>Critical thinking and problem solving Communication and collaboration Student leadership and personal development</p>	<p>AUDIO VISUAL RESOURCES</p> <p>Data charts on weather, election results, teachers' game or activity, biological data, test results to tabulate tally</p> <p>Site links https://mathssolutions.com/ms_classroom_lessons/collecting-representing-interpreting-data/</p> <p>Video links https://m.youtube.com/watch?v=0ZKtsUkrqFQ</p>
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WKS	TOPICS	LEARNING OBJECTIVES	LEARNING ACTIVITIES	EMBEDDED CORE SKILLS	MATHEMATICS LEARNING RESOURCES
11	MEASURES OF CENTRAL TENDENCY Mode Median Mean Probability Quantitative reasoning Importance: It helps in representation of a large set of data in a system. It helps in collation of information on extreme values.	Pupils should be able to: find the mode from a set of numbers identify the median from a given set of numbers calculate mean of a given set of numbers solve problems on chances of events solve real life problems on measure of central tendencies and probability solve quantitative aptitude problems relating to time	Pupils as a class do a role play, nine pupils are lined up in front of the classroom. Their heights are studied by the rest of the class, then line up in descending order (tallest to the shortest), the most common height is the mode, the height at the middle of the pupils lined up is the median and the total numbers of the pupils' heights divided by the total number of pupils standing which is the mean Pupils in groups arrange given number cards orderly, then select the numbers into category of sizes. The pupils identify and calculate the mode, the median and the mean of the numbers given. QUANTITATIVE REASONING <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 2px 10px;">Mean</div> <div style="border: 1px solid black; padding: 2px 10px;">DATA</div> <div style="border: 1px solid black; padding: 2px 10px;">Mode</div> </div> <div style="margin: 5px 0;"> <div style="border: 1px solid black; padding: 2px 10px; margin: 0 auto;">Median</div> </div> <p>Find the mean, median and mode of the following questions</p> <div style="display: flex; justify-content: space-around; align-items: center; margin-bottom: 20px;"> <div style="border: 1px solid black; padding: 2px 10px;">4</div> <div style="border: 1px solid black; padding: 2px 10px;">3, 4, 6, 3, 2, 5, 3, 2, 3, 8</div> <div style="border: 1px solid black; padding: 2px 10px;">3</div> </div> <div style="margin: 5px 0;"> <div style="border: 1px solid black; padding: 2px 10px; margin: 0 auto;">3</div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-bottom: 20px;"> <div style="border: 1px solid black; padding: 2px 10px;">22</div> <div style="border: 1px solid black; padding: 2px 10px;">12, 14, 17, 20, 35, 17, 17</div> <div style="border: 1px solid black; padding: 2px 10px;">17</div> </div> <div style="margin: 5px 0;"> <div style="border: 1px solid black; padding: 2px 10px; margin: 0 auto;">20</div> </div>	Critical thinking and Problem solving Communication and Collaboration Student leadership and Personal development	LEARNING RESOURCES AUDIO VISUAL RESOURCES Cardboards for writing numbers Data charts Site links https://study.com/academy/lesson/mean-median-mode-lesson-plan.html Video links https://m.youtube.com/watch?v=1IDPds9PtM
12	Project/Practical work and Revision of first term's work	Pupils should be able to: Realize the areas of weakness in the topics treated for the term.	Pupils are arranged into groups for tutorial. The teacher supervises, corrects and marks the pupils' exercises/activities in each group.	Collaboration Communication Leadership Skills Critical Thinking	
13	EXAMINATION.	EXAMINATION.	EXAMINATION.	EXAMINATION.	EXAMINATION.