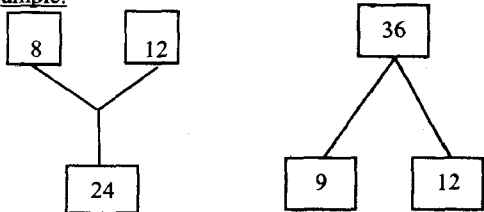
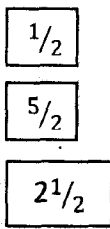
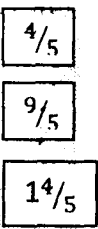
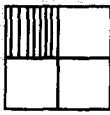
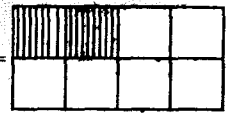
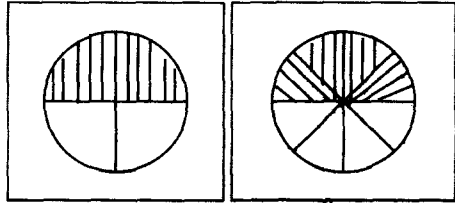
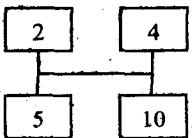
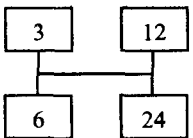
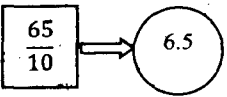
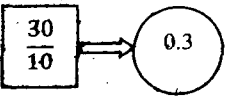
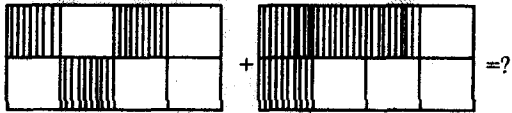
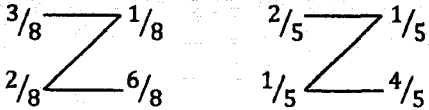
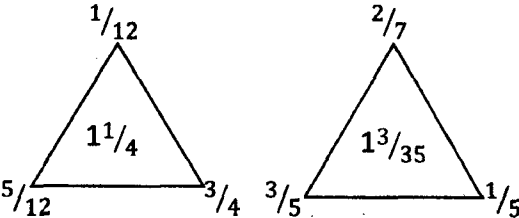


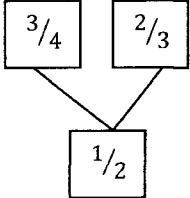
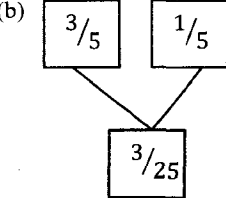
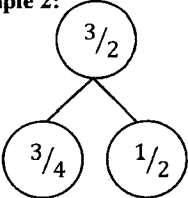
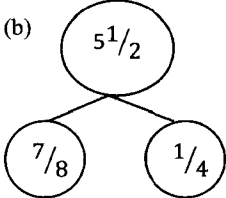
| WKS | TOPICS | LEARNING OBJECTIVES | LEARNING ACTIVITIES | EMBEDDED CORE SKILLS | LEARNING RESOURCES |
|-----|---|---|--|---|--|
| 1. | <p>Whole Numbers</p> <p>Counting and writing in:</p> <ul style="list-style-type: none"> - Millions - Billions - Trillions - Quantitative reasoning <p>Importance:</p> <ul style="list-style-type: none"> - Values of bigger numbers are used in the bank in terms of money and items. - money of bigger values are used by parents to buy items like cars, houses. | <p>By the end of the lesson, students should be able to:</p> <ul style="list-style-type: none"> - identify millions among numbers - differentiate between millions and billions - recognize trillions as a number - apply large numbers in real life situations (Real life problems). - solve quantitative reasoning in exercises related to millions, billions and trillions. | <p>Cut cardboard of different large numbers and ask the groups of students to label and identify some numbers in millions, billions and trillions.</p> <p>QUANTITATIVE REASONING. Put $<$, $>$ or $=$ in the box below:</p> <p>GROUP 1: 7,000,000 <input type="text"/> 50,000,000</p> <p>GROUP 2: 40,000,000 <input type="text"/> 85,000,000</p> <p>GROUP 3: 600,000,000 <input type="text"/> 600,000,000</p> | <ul style="list-style-type: none"> - Critical thinking - Collaboration and Communication - Leadership and Personal Development | <ul style="list-style-type: none"> - Number cards - Charts containing counting of bigger numbers. <p>Site links</p> <ul style="list-style-type: none"> - https://za.pearson.com https://www.druide.com https://www.mathsisfun.com <p>Video Links</p> <ul style="list-style-type: none"> https://youtu.be/LSTYfWZtQ-M https://youtu.be/V9_J-uoY10 |
| 2. | <p>Whole numbers (contd)</p> <p>Quantitative Reasoning</p> <p>IMPORTANCE: Big items like cement, iron rods are measured in higher quantity.</p> | <p>By the end of the lesson, students should be able to:</p> <ul style="list-style-type: none"> - solve quantitative reasoning using large numbers - relate problems with bigger or large numbers in real life situations. | <p>Guide the learners to use codes 2456924708 which represent mathematics. Use the fact to compute:</p> <ol style="list-style-type: none"> 1. Schemes \rightarrow 8069298 2. Matches \rightarrow 2450698 3. 85750698 \rightarrow Stitches 4. 575698 \rightarrow Tithes 5. Themes \rightarrow 569298 <p>QUANTITATIVE REASONING. Examples:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>5 500 000</p> <p>10 250 000 300 000</p> </div> <div style="text-align: center;"> <p>4 500 000</p> <p>5 600 000 300 000</p> </div> </div> | <ul style="list-style-type: none"> - Critical thinking - Communication and Collaboration - Leadership and Personal Development. | <ul style="list-style-type: none"> - Abacus - Flash cards - Number cards <p>Site Links</p> <ul style="list-style-type: none"> https://ng.siyavula.com https://www.toppr.com https://www.math-only-math.com <p>video links</p> <ul style="list-style-type: none"> https://youtu.be/5PIJAsT7q3s https://youtu.be/ZlqKH9anPMM |
| 3. | <p>Lowest Common Multiples and Highest Common Factors (LCM & HCF).</p> <ul style="list-style-type: none"> - Concept of LCM and HCF - LCM & HCF by identification and formulae - Quantitative reasoning on LCM and HCF <p>IMPORTANCE</p> <ul style="list-style-type: none"> - Helps normal division knowledge - It also helps in multiple of | <p>By the end of the lesson, students should be able to:</p> <ul style="list-style-type: none"> - Explain and analyze the term LCM & HCF - distinguish between LCM & HCF with the use of formulae - solve some questions in HCF & LCM in quantitative reasoning. | <p>Students in small groups:</p> <ol style="list-style-type: none"> 1. write multiples of some numbers on cardboards to produce number cards eg: 4,8,12,16,20,24,28..... 12,24,36,48,60, 72..... 2. write factors of some numbers eg: 20 = 20,10,5,2,1 30=30,15,10,6,5,3,1 <p>QUANTITATIVE REASONING</p> | <ul style="list-style-type: none"> - Critical thinking and Problem solving - Communication and Collaboration - Leadership and Personal Development | <ul style="list-style-type: none"> - Chart containing factors of number - Chart containing multiples of numbers <p>Website:</p> <ul style="list-style-type: none"> https://www.cimt.org.uk https://www.geeksforgeeks.org <p>video links</p> <ul style="list-style-type: none"> https://www.youtube.com/watch?v=X-2bNbGJvhK https://youtube.com/watch?v=cx1q2e7-u04 |

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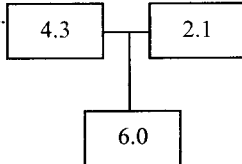
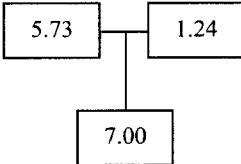
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| | numbers. | | <p>Sample:</p>  | | |
| 4. | <p>FRACTIONS</p> <ul style="list-style-type: none"> - Meaning of fractions - Types of fractions (proper, improper and mixed fraction) - Fractions in Quantitative Reasoning. <p>IMPORTANCE Helps students in sharing items and the proportion of item cut or derived from a whole.</p> | <p>By the end of the lesson, students will be able to:</p> <ul style="list-style-type: none"> - describe the term fraction - analyse three types of fractions - solve problems relating to quantitative reasoning on fraction. | <p>Students in small groups are guided to:</p> <ul style="list-style-type: none"> - fold a sheet of paper into two equal parts or - cut an orange into 4 equal parts - take a whole orange, the parts cut and compare the differences. - put the following fractions into the appropriate columns on types of fractions: $4\frac{1}{2}$, $\frac{4}{5}$, $1\frac{1}{2}$, $\frac{2}{3}$, $\frac{4}{3}$, $1\frac{1}{5}$, $\frac{7}{5}$, $\frac{1}{3}$, $\frac{8}{5}$, $\frac{5}{4}$ <p>Quantitative reasoning: examples</p> <p>(a) </p> <p>(b) </p> | <ul style="list-style-type: none"> - Critical thinking and Problem solving - Communication and Collaboration - Leadership and Personal Development. | <p>An orange, apple, cardboard</p> <p>Weblink https://www.splashlearn.com https://www.mathsisfun.com https://www.ducksters.com</p> <p>video links https://youtu.be/zQuUNE50JnM https://youtu.be/p33BYf1NDAE https://youtu.be/hWOpXGNZSpY</p> |
| 5. | <p>Fractions (Contd)</p> <ul style="list-style-type: none"> - Equivalent fractions - Identification of equivalent fractions - Applying equivalent fractions in commodities - Quantitative reasoning <p>Importance/uses.</p> <ul style="list-style-type: none"> - Fields of sports - Time interval calculation - Buying and selling - Collation of results in schools - Banking sector | <p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> 1. explain meaning of equivalent then relate it to fractions 2. identify some equivalent fractions 3. relate the one equivalent fraction to another 4. solve problems involving equivalent fractions in quantitative reasoning. | <p>Cut cardboard paper of different sizes related to one another to illustrate different equivalent fractions.</p> <p>Eg:</p> <p>(a) $\frac{1}{4} =$  $\frac{2}{8} =$ </p> <p>(b) $\frac{2}{4} =$ $\frac{4}{8}$</p>  | <ul style="list-style-type: none"> - Collaboration and communication - Critical thinking | <ul style="list-style-type: none"> - Cardboard - Flashcard <p>Sitelinks https://www.themathpage.com https://www.khanacademy.org https://www.math-only-math.com</p> <p>Videolinks https://youtu.be/qcHHhd6HizI https://youtu.be/Xmxs2wd_JDI</p> |

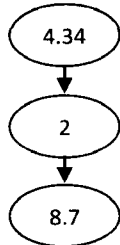
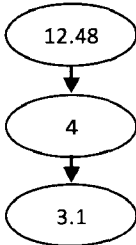
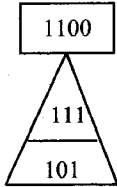
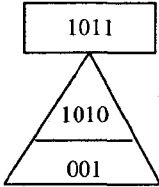
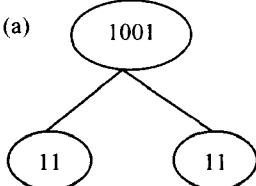
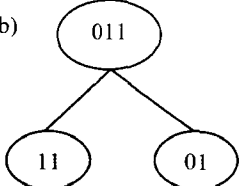
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| | | | <p>Quantitative reasoning</p> <p>1.</p>  <p>2.</p>  | | |
| 6. | <p>Fractions</p> <ul style="list-style-type: none"> - Ordering of fractions - Conversion of fractions to percentage (vice versa) - Conversion of fractions to decimal (vice versa) - Related quantitative reasoning. <p>IMPORTANCE & USES.</p> <ul style="list-style-type: none"> - Buying and selling - Change of naira to kobo (vice versa) - Banking sector - Exchange rate - Forex market | <p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> 1. explain the principles guiding conversion of fractions to percentage 2. convert fraction to decimal (vice versa) 3. identify which fraction is greater 4. solve problems related to quantitative reasoning | <ul style="list-style-type: none"> - students are arranged into three or more groups, - cut cardboard and design different fractions, then the students identify which is greater, less or equal among the fractions - Students practice the principles guiding conversion of fraction to percentage. <p>Eg: $\frac{1}{2}$ of 100 % = 50%</p> <ul style="list-style-type: none"> - The students in groups tell fraction stories and solve them. How fraction can be converted to decimals: By long division method. <p>E.g. $0.4 = \frac{4}{10} = \frac{2}{5}$</p> $\frac{2}{5} =$ $\begin{array}{r} 0.4 \\ 5 \overline{)20} \\ \underline{20} \\ 0 \end{array} = 0.4$ <ul style="list-style-type: none"> - Use of symbols > , < or = <p>QUANTITATIVE REASONING.</p> <p>Samples:</p>   | <ul style="list-style-type: none"> -Team work -Critical thinking -Collaboration and communication <ul style="list-style-type: none"> - Chart of ordering fractions - Chart containing conversion of fraction to both percentage and decimal. <p>Sitelinks</p> <p>https://www.mathsisfun.com</p> <p>https://www.dummies.com</p> <p>https://www.cimt.org.uk</p> <p>video links</p> <p>https://youtu.be/QIJOIONyyX8</p> <p>https://youtu.be/fFowdMwUQtM</p> | |

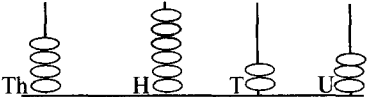
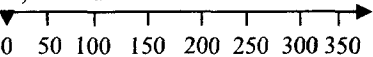
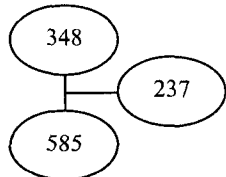
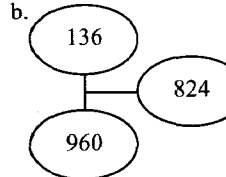
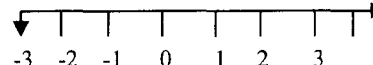
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| | | | Use $>$, $<$ or $=$ in the box below: e.g. $\frac{3}{2}$ <input type="text"/> 4 $\frac{72}{4}$ <input type="text"/> 5 $\frac{15}{45}$ <input type="text"/> $\frac{4}{12}$ | | |
| 7. | Review of the first half term's work and periodic test | By the end of the week students should be able to: 1. revise the first half term's work 2. participate in the periodic test. | - Group the students into three or more groups for revision on topics treated. - Appoint group leader for each of the groups formed in the class. - Allow the members of each group to participate and interact with each other. | Leadership skill | - Past questions - Exercises from textbooks and notebook. |
| 8. | FRACTIONS (Contd) - Addition and subtraction of fractions - Solve problems involving fractions in quantitative reasoning <u>IMPORTANCE & USES.</u> - Buying & selling - Banking & Finance sectors | By the end of the lesson, students should be able to: 1. add and subtract the fractions with the use of diagrams 2. add and subtract fraction with the same denominators 3. add and subtract mixed fraction 4. solve quantitative reasoning with regards to addition & subtraction of fractions. | - Guide the students on how to use cardboard of different fractions to solve adding of fraction.  $\frac{3}{8} + \frac{4}{8} = \frac{7}{8}$ <u>Quantitative Reasoning</u> Examples: 1  <u>Sample 2</u>  | -Critical thinking -Communication - Collaboration | Cardboard, chart showing addition and subtraction of fractions. <u>Site link</u> https://themathpage.com https://www.ducksters.com https://www.chilimath.com <u>video link</u> https://youtu.be/5juto2ze8Lg https://youtu.be/tfZKwMdTt2w |

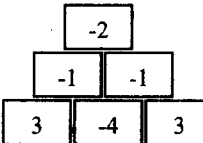
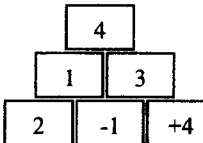
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| 9. | <p>FRACTIONS (Contd)</p> <ul style="list-style-type: none"> - Multiplication of fractions - Division of fractions - Prime number - Quantitative reasoning <p>Importance</p> <ul style="list-style-type: none"> - Banking sector - Government offices - Schools, in the collation of assessment/ result | <p>By the end of the lesson, students should be able to:</p> <ul style="list-style-type: none"> - solve problems on multiplication of fractions - solve problems on division of fractions - identify prime numbers from a chain of numbers - apply fractions in real life situations (Real world problems) - solve problems related to multiplication and division of fraction in quantitative reasoning | <p>- Guide the grouped students to interpret the symbols “of, ÷” in solving problems on multiplication and division of fractions.</p> <p>- Present flash cards on multiplication and division of fractions.</p> <p>(i) $\frac{2}{3}$ of $\frac{1}{4} \rightarrow \frac{2}{12} \rightarrow \frac{1}{6}$</p> <p>(ii) $\frac{2}{5} \div \frac{1}{2} \rightarrow \frac{2}{5} \times \frac{2}{1} = \frac{4}{5}$</p> <p>Quantitative Reasoning</p> <p>Sample 1:</p> <p>(a) </p> <p>(b) </p> <p>Sample 2:</p> <p>(a) </p> <p>(b) </p> | <p>-Problem solving</p> <p>-Critical thinking</p> <p>-Collaboration</p> | <ul style="list-style-type: none"> - Flash cards - Charts on fractions <p>Sitelink</p> <p>https://www.ducksters.com</p> <p>https://www.k5learning.com</p> <p>https://www.intmath.com</p> <p>Videolink</p> <p>https://youtu.be/BHFxe7_sE6c</p> <p>https://youtu.be/xB8VYrsuu34</p> |
| 10. | <p>Project</p> <p>GROUP A: Construct and compute a prime number chart to make a game of your choice.</p> <p>GROUP B: Construct and compute an equivalent fraction chart to make a game of your choice.</p> | <p>By the end of the lesson, students should be able to:</p> <p>(i.) complete a correct prime number chart</p> <p>(ii.) complete an equivalent fraction chart</p> <p>(iii.) interact within the group how each chart is computed.</p> | <p>Guide the students on:</p> <ol style="list-style-type: none"> Choosing group leaders for each group. How the charts should be constructed and computed. Each group leader gives a presentation on mode of operation. The students take a gallery walk where the games are displayed. | <p>-Leadership and Personal development</p> <p>-Communication and collaboration (Team work)</p> <p>-Critical thinking</p> <p>-Citizenship</p> | <p>-Cardboards.</p> |
| 11. | <p>ESTIMATION</p> <p>-Concept of estimation and reasons</p> <p>-Estimation of dimension and distance</p> <p>-Estimation of capacity, volume and mass of objects</p> <p>-Estimation of other things like age, time etc</p> <p>-Quantitative reasoning</p> | <p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> discuss on the term estimation identify rules guiding estimation of numbers or figures justify the reasons for estimation. apply estimation in daily | <ol style="list-style-type: none"> Students are divided into groups, each group is to measure different objects in their classroom by using a tape measure eg: Measure the length of a table, chair and book. Record each of their different results. Then estimate each of the results. The above activity can be repeated for the measurement of the volume of liquid by using different measuring cans. | <p>-Critical thinking and Problem solving</p> <p>-Leadership and Personal development</p> <p>-Communication and Collaboration</p> <p>-Creativity and Imagination</p> | <ul style="list-style-type: none"> - Rulers - Board ruler - String - Rope - Tape measure - Water - Liquid container - Solid objects - Measuring cans - Weighing scale |

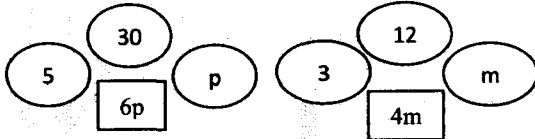
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| | involving estimation. Importance -Statistics solution -Population census -Budgetting of finance inoffices - Home Management -Fields of sports e.g javelin throwing, long jump etc. | activities (Real life problems). v.) solve problems relating to estimation in quantitative reasoning. | iii.) It can also be carried out for the measurement of weights of objects by using weighing scale or balance. | | Site Links https://www.teacherspayteachers.com https://www.siyavula.com https://calculate.org.au Video Links https://youtu.be/S2dX9Idj5uM https://youtu.be/j4XGDtsgLB8 |
| 12. | Revision of first term's work and preparation for examination. | By the end of the term, students should be able to: i. realize the areas of weakness in the topics treated for the term. | i.) Students are arranged into groups for tutorial. ii.) The teacher supervises, corrects and marks the students' exercises/activities in each group. | -Collaboration - Communication - Leadership Skills - Critical Thinking | |
| 13 | Examinations | Examinations | Examinations | Examinations | Examinations |

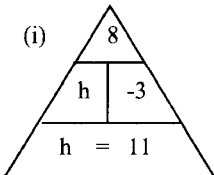
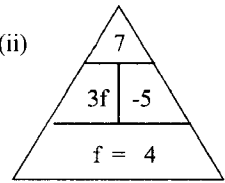
| WEEKS | TOPICS | LEARNING OBJECTIVES | LEARNING ACTIVITIES | EMBEDDED CORE SKILLS | LEARNING RESOURCES |
|-------|---|--|--|---|---|
| 1 | Review of first term's work. Emphasis on identified difficult topics based on their performances during the first term examination. | By the end of the lesson, students should be able to: i. identify areas of challenges. ii. solve some problems related to the areas identified. | <ul style="list-style-type: none"> Solve problems on their areas of difficulties. | <ul style="list-style-type: none"> Communication and Collaboration Critical thinking and Problem solving | |
| 2 | Approximation <ul style="list-style-type: none"> Degree of accuracy of numbers and how to determine it. Rounding up of numbers, significant figures, decimal places, nearest whole numbers (tens, hundred and thousands). Rounding up of numbers to tenth, hundredth and thousandth. Quantitative reasoning Importance/ Uses <ul style="list-style-type: none"> Medical Lab Continous assessment in schools Sports (Javelin, Long Jump) Fish depot or Chicken depot | By the end of the lesson, students should be able to: i.)determine how accurate or the degree of accuracy of given numbers. ii.)round up the given numbers, write a given number in significant figure, round up decimal numbers to nearest whole numbers. iii.)round up whole numbers into tens, hundreds and thousands. iv.)round up numbers into nearest tenth, hundredth and thousandth. v.)solve problems related to estimation in quantitative reasoning. | -Students use cardboard or paper to analyze the rules guiding the approximation and rounding up. e.g: 0, 1, 2, 3, 4 \rightarrow 0 5, 6, 7, 8, 9 \rightarrow 1 \rightarrow (equivalent or rounding up to) Quantitative reasoning Samples: a.  b.  | <ul style="list-style-type: none"> Critical thinking and Problem solving Leadership and Personal development Communication and Collaboration Creativity and Imagination | <ul style="list-style-type: none"> chart containing approximation numbers Nigeria population chart - markers number cards <p>Site Links https://www.intrnth.com https://www.skillsyouneed.com https://www.emathzone.com</p> <p>Video Links https://youtu.be/zOA1feq5eM https://youtu.be/a7iuK0vuHnY https://youtu.be/fd-E18EqSVk</p> |
| 3. | Approximation (cont.) <ul style="list-style-type: none"> Approximating values of addition and subtraction, multiplication and division Exercise on degree of accuracy and rounding up numbers Problems on quantitative reasoning | By the end of the lesson, students should be able to: i.)solve and write in approximation form the basic operational system ii.)explain and solve problems on degree of accuracy. iii.)round up some given numbers iv.)solve quantitative reasoning related to approximation. | <ul style="list-style-type: none"> Students are arranged in groups to select 4 – digits number cards. Each group is to perform different activity on approximations. e.g: 3561, 3251, 5633. Then add <ol style="list-style-type: none"> two whole numbers of 3 or 4 digits 3561 + 3251 = 6812 each group writes the answers on a cardboard as it rounds it up to: <ul style="list-style-type: none"> nearest tens = 6800 nearest hundred = 6800 nearest thousand = 7000 | <ul style="list-style-type: none"> Critical thinking and Problem solving Leadership and Personal development Communication and Collaboration Creativity and Imagination | <ul style="list-style-type: none"> Charts on approximation of basic operation Board ruler, simple ruler, stick of different sizes <p>Site Links https://www.intmath.com https://thewaythetruthandthelife.net https://www.skillsyouneed.com</p> |

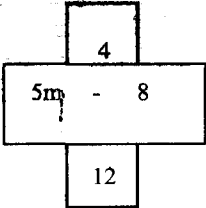
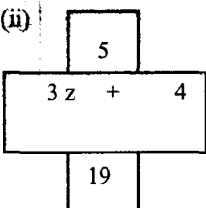
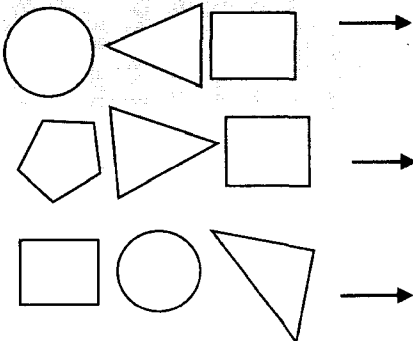
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| | | | <p>c. $2.56 + 3.42 = 6.18$ - nearest tens = 6.20 - nearest hundreds = 6.00</p> <p>Quantitative Reasoning</p> <p>a. </p> <p>b. </p> | | <p>Video Links https://youtu.be/bSemNdW9wE https://youtu.be/w_4VDQEtESxs</p> |
| 4. | <p>Number base -Counting in base two -Conversion of base ten to binary numbers -Addition and subtraction of two or three (2 or 3 digits binary) -Problems on quantitative reasoning</p> <p>Importance -Equal sharing formula -Natural numbering system -Easy for digital hardware -Combination system</p> | <p>By the end of the lesson, students should be able to: i.)count in group of two Convert base 10 numbers to binary ii.)add and subtract two or three digit binary numbers. iii.)solve problems on quantitative reasoning in number base.</p> | <p>-Students to count in 2s, 3s,5s, and 10s. -Students in groups to construct number base 2 chart using division operations. e.g $0 = 0$ $1 = 1$ $2 = 2 + 0 = 10$ $3 = 2 + 1 = 11$ $4 = 4 + 0 + 0 = 100$ etc</p> <p>Quantitative Reasoning Samples:</p> <p></p> <p></p> | <p>-Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination</p> | <p>-Bundles of sticks -Counters -Charts</p> <p>Site Links https://www.purplemth.com https://www.mathsisfun.com https://www.passnownow.com</p> <p>Video Links https://youtu.be/96MJVzVKolE https://youtu.be/irljV4SFGd4</p> |
| 5. | <p>Number base (cont) -Multiplication of two digits binary numbers -Problem solving on Quantitative Reasoning</p> <p>Importance -Natural numbering system - Grouping methodology</p> | <p>By the end of the lesson, students should be able to: i. multiply 2 digits binary numbers by whole numbers ii. solve problems on number base related to Quantitative Reasoning</p> | <p>Students in pairs to operate on multiplication of two digit binary numbers thus: (a) $\begin{array}{r} 1\ 0 \\ \times 11 \\ \hline 110 \end{array}$ (b) $\begin{array}{r} 1\ 1 \\ \times 11 \\ \hline 1101 \end{array}$</p> <p>Quantitative reasoning</p> <p>(a) </p> <p>(b) </p> | <p>-Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination</p> | <p>-Bundles of sticks -Counters -Charts</p> <p>Site Links https://www.mathsisfun.com https://www.cimt.org https://passnownow.com</p> <p>Video Link https://youtu.be/Va_UvwJULcI https://youtu.be/BnchEbt5t0</p> |

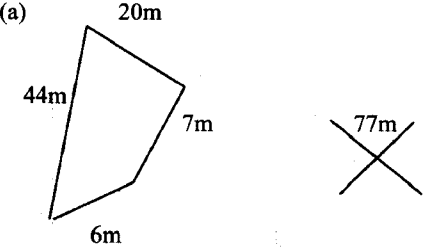
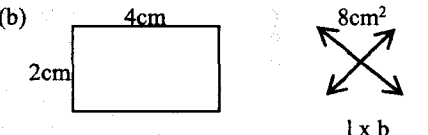
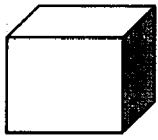
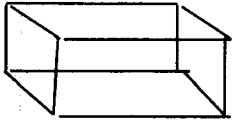
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| 6. | <p>Basic Operations</p> <ul style="list-style-type: none"> - Addition & subtraction of numbers. (Emphasis on place value using spike or abacus) - Addition & subtraction of numbers (emphasis on the use of number line). <p>Importance</p> <ul style="list-style-type: none"> -Quantitative Reasoning -Daily activities -Business activities -Banking -Marketers - Wholesalers and Retailers | <p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> use abacus or spike to add and subtract numbers add and subtract numbers with the use of number lines solve real life problems on addition and subtraction of numbers. Solve quantitative reasoning | <p>i.) Students in groups to use abacus to solve addition and subtraction thus:</p> <p>4623 in its appropriate value</p>  <p>To subtract numbers with the use of abacus:</p> $6341 - 4230 = 2111$ <p>Add up $350 + 210$</p> <p>ii.) Use number line to add and subtract.</p>  <p>Quantitative Reasoning</p> <p>Sample</p> <p>a.</p>  <p>b.</p>  | <ul style="list-style-type: none"> -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <p>Site Links</p> <p>https://www.cuemath.com</p> <p>https://wehavekids.com</p> <p>https://www.mathsun.com</p> <p>Video Link</p> <p>https://youtu.be/FD4JOXgD4Q4</p> <p>https://youtu.be/QcpW-N_zHWk</p> |
| 7. | <p>Review of first half term's work and periodic test.</p> | <p>By the end of the lesson, students should be able to:</p> <ul style="list-style-type: none"> - recapulate the previous topics taught so far. - participate effectively in the mid-term test. | | | |
| 8. | <p>Basic operations (cont)</p> <ul style="list-style-type: none"> -Addition and subtraction of positive and negative integers. -Using number line and their terms. -Everyday application of positive and negative integers -Solving problems on Quantitative reasoning on basic operations. <p>Importance</p> <ul style="list-style-type: none"> -Computing of students' results | <p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> add and subtract positive and negative integers. use number line to add and subtract positive and negative integers solve real life problems / every day activities on positive and negative integers. solve quantitative reasoning on basic operations. | <p>The students in think-pair-share to discover the value of integers (positive and negative). Thus: put > or < in the boxes below:</p> <p>(a) $6 \quad \square \quad 4$</p> <p>(b) $-3 \quad \square \quad -8$</p> <p>(c) $-5 \quad \square \quad -3$</p> <p>ii.) Students in groups are to use the numberline principle</p>  | <ul style="list-style-type: none"> -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <ul style="list-style-type: none"> -Charts -Counters <p>Site links</p> <p>Site Links</p> <p>https://www.mathsisfun.com</p> <p>https://www.bbc.co.uk</p> <p>https://www.mathsteacher.com</p> <p>Video Link</p> <p>https://youtu.be/06_cLkJZhvk</p> <p>https://youtu.be/Styh9v2N1Y8</p> |

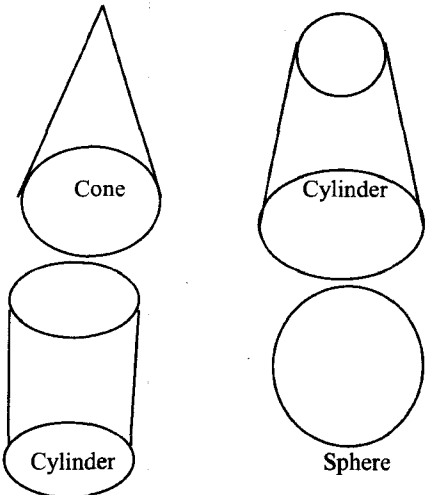

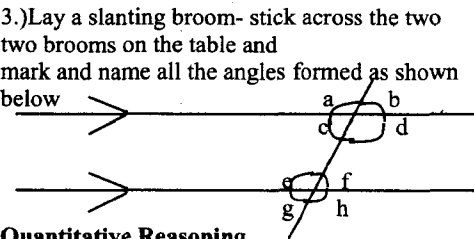
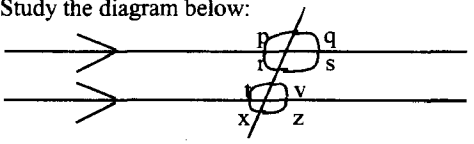
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| | <ul style="list-style-type: none"> -Banking sector -Marketing -Business activities | | <p>to solve:</p> <p>(a) $7 + 3 = \square$ (b) $9 - 12 = \square$</p> <p>(c) $-9 + 11 = \square$ (d) $-9 - 3 = \square$</p> <p>Quantitative Reasoning: Samples:</p> <p>(1) </p> <p>(2) </p> | | |
| 9. | <p>Algebraic expressions</p> <ul style="list-style-type: none"> -Meaning of algebraic expression and the symbols. -Open sentence (authentic operation) -Word problems involving the use of symbols -Identification of coefficient of terms with operational application -Collection and simplifying of like terms with the use of bracket <p>Quantitative reasoning problems</p> <p>IMPORTANCE</p> <ul style="list-style-type: none"> - Weighing scale for commodities - Weight balancing - See- saw sport - Mechanical work - Building industries | <p>By the end of the lesson students should be able to</p> <ol style="list-style-type: none"> i.)explain the meaning of algebraic expression as a use of symbols or signs ii.)solve problems on open sentences iii.)solve problems with coefficient with basic operations iv.)simplify the algebraic expression with collection of term and use of bracket v.)relate and solve real life problems involving algebraic expressions vi.)solve problems in quantitative reasoning on algebraic expression. | <p>i.) Students are arranged in groups to solve:</p> <ol style="list-style-type: none"> 1. $7b + 5b = 12b$ 2. $5m + 3m = 8m$ 3. $3 + 5 = 8$ 4. $4x + 6x = 10x$, with the use of weighing scale and two coloured pegs or stones. <p>ii.) Students also solve these algebraic equation;</p> <ol style="list-style-type: none"> 1.) $4a + 5 = 25$ 2.) $t - 4 = 2t$ 3.) $x + x - 3 = 28$ | <ul style="list-style-type: none"> -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <ul style="list-style-type: none"> - Flash cards - Open sentence chart <p>Site Links</p> <p>https://www.onlinemathlearn.com</p> <p>https://www.intmath.com</p> <p>https://ng.siyavula.com</p> <p>Video Link</p> <p>https://youtu.be/OF2GtlinL_S</p> <p>https://youtu.be/V3dFHt9p5W8</p> |
| 10. | <p>PROJECTS:</p> <p>GROUP A: Construct a weight balance with the use of empty vessels of light weight, plank, nails and thread.</p> <p>GROUP B: Construct a see-saw for sport activities in the school. Use a long plank and</p> | <p>By the end of the project in each group should be able to:</p> <ol style="list-style-type: none"> (i)explain how the project is constructed (ii)explain and interact with the materials and method of construction. | <p>Students:</p> <ul style="list-style-type: none"> -choose a group leader for each group -construct the project by themselves in the school -each group leader to give a presentation on the method and materials used in the construction of the project. -Students take a gallery walk on the project work. | <ul style="list-style-type: none"> -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | |

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| | plank of prism in nature to balance at the middle. | | | | |
| 11. | <p>Algebraic expressions (cont.)</p> <ul style="list-style-type: none"> - Problems on basic arithmetic operations in algebraic expression - Solving problems on quantitative reasoning involving algebraic expression. <p>IMPORTANCE</p> <ul style="list-style-type: none"> - Weighing balance - Weighing scale for commodities - Mechanical work - Building industries | <p>By the end of the lesson students should be able to:</p> <ol style="list-style-type: none"> solve addition and subtraction in algebraic expression. solve multiplication and division in algebraic expression. solve problems involving algebraic expression in quantitative reasoning. | <p>i.) Students in groups cut cardboard into small sizes, label them as a, m, k, x, 2a, 3m, 3k, 4m, 5a, 6k, 2x etc to form flash cards and arrange them basically on their like terms as follows:</p> $2x + 2x + 2x + 2x = 8x$ $b \times b \times b \times b = b^4$ $a \times b \times c = abc$ $4xy = 4y$ <p>ii.) Students in groups are to do a role play on word problems on algebraic expressions using gender, height, complexion of students in the class.</p> <p>QUANTITATIVE REASONING</p> <p>Samples:</p>  | <ul style="list-style-type: none"> - Critical thinking and Problem solving - Leadership and Personal development - Communication and Collaboration - Creativity and Imagination | <ul style="list-style-type: none"> - Cardboards - Flash cards <p>Site Links</p> <p>https://ng.siyavula.com</p> <p>https://passnownow.com</p> <p>https://www.onlinemathlearnng.com</p> <p>Video Link</p> <p>https://youtu.be/NMLny5vDjXY</p> <p>https://youtu.be/lhQA43tQE2c</p> |
| 12. | Revision of the second term's work. | <p>By the end of the lesson, students should be able to:</p> <ul style="list-style-type: none"> - identify the areas of their difficulties - solve some problems related to the areas identified. | | | |
| 13. | EXAMINATIONS | Students should be able to write the second term examination without any difficulties. | | | |

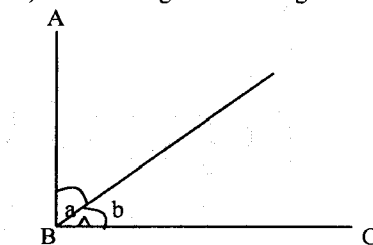
| WKS | TOPICS | LEARNING OBJECTIVES | LEARNING ACTIVITIES | EMBEDED CORE SKILL | LEARNING RESOURCES |
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| 1 | Revision of second term's work. Emphasis should be on identified area of difficulties in second term examination. | By the end of the lesson, students should be able to: -recap some topics taught in second term. -solve some exercises on them. | Students in groups solve exercises on different topics in first and second terms. | -Group work Critical thinking | -Past questions |
| 2 | Simple equations. -Use of balance scale or sea-saw to demonstrate principle of equality. -Solution of simple equation. -Translation of real world problems into simple equations and vice versa. -Quantitative reasoning. <u>Importance</u> -Useful in prediction. -To find value variation of numbers -Measurement comparison. | By the end of the lesson, students should be able to: i.)use balance scales or sea-saw to illustrate the equality principle. ii.)solve real life problems on simple equations iii.)translate word problems into simple equation. iv.)solve problems related to simple equation in quantitative reasoning. | i.)Students in groups use a sea-saw to illustrate the principle of equality. ii.) Students in groups to make simple sentences that can be translated into simple equations. <u>Example:</u> Ola has 6sweets more than Tope, and there are 18 sweets between them. How many sweets does Tope have? <u>Solution:</u> Students are to demonstrate the activity above with a role play to write the simple equations: Let x = sweets Ola + Tope = 18 sweets $x + x = 18$ sweets $6 + x + x = 18$ sweets $6 + 2x = 18$ sweets $2x = 18 - 6$ $= 12$ $x = 12/2$ $= 6$ Ola has 6 + 6 sweets} Tope has 6 sweets} = 18 sweets. <u>Quantitative reasoning</u> <u>Sample A:</u> (i)  (ii)  | -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | -Flash cards. -Weighing scale with tin, stick, rope <u>Site Links</u> https://www.onlinemath4all.com www.algebralab.org https://www.purplemath.com <u>Video Link</u> https://youtu.be/6-Lanc2wOpg https://youtu.be/VjPX-XIN7Ok |

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| | | | <p>Sample B:</p> <p>(i) </p> <p>(ii) </p> | | |
| 3 | <p>Geometry plane shapes</p> <p>-Types of plane shapes and their properties.</p> <p>-Similarities & differences between: square, rectangle, triangle, trapezium, parallelogram and circle.</p> <p>-Quantitative Reasoning</p> <p>Importance</p> <p>- Vocational Skills</p> <p>- Carpentry</p> <p>-Bricklaying</p> <p>-Welding</p> <p>-Construction of different shapes for houses.</p> <p>-Tiling</p> <p>-POP construction and decorations</p> <p>-Textile industries</p> | <p>By the end of the lesson , students should be able to :</p> <p>i.)mention types of planes shapes</p> <p>ii.)explain some of their properties.</p> <p>iii.)mention and explain the differences and similarities of some plane shapes itemised. (possibly in tabular form)</p> <p>iv.) solve problems related to quantitative reasoning on plane shapes.</p> | <p>i.)Students as a class to mention some plane shapes; such as square, rectangle, triangle, circle, etc.</p> <p>ii.) Students in groups use cardboard and scissors to cut these shapes, then discuss their identities, differences and similarities eg;</p> <p>(a) differences and similarities between a square and a rectangle.</p> <p>(b) differences and similarities between a parallelogram and a trapezium.</p> <p>(c) differences between a rhombus and a kite.</p> <p>(d) create special colourful pattern that can be used in textile industries</p> <p>(e) use the shapes to construct a pen for pets.</p> <p>Quantitative Reasoning.</p>  | <p>-Critical thinking and Problem solving</p> <p>-Leadership and Personal development</p> <p>-Communication and Collaboration</p> <p>-Creativity and Imagination</p> | <p>-Charts containing plane shapes.</p> <p>Site Links</p> <p>https://www.smartickmethod.com</p> <p>https://www.mathsisfun.com</p> <p>https://www.toppr.com</p> <p>Video Link</p> <p>https://youtu.be/4tkRwMHu9NQ</p> <p>https://youtu.be/qz9klgbGZ3U</p> |
| 4. | <p>-Perimeter of regular polygon such as square, rectangle, triangle, trapezium, parallelogram, and circle.</p> <p>-Area of regular polygon such as square, rectangle, triangle,</p> | <p>By the end of the lesson, students should be able to:</p> <p>i.)identify some regular polygons.</p> <p>ii.)explain the meaning of the term perimeter and area.</p> <p>iii.)solve problems given to find the perimeter and the area of a given</p> | <p>Students in groups:</p> <p>1.) Use scissors to cut a polygon from a cardboard e.g a square</p> <p>-take a string or a rope round the polygon</p> <p>-measure it on a ruler in centimetres or metres.</p> <p>-the result is the perimeter of that polygon.</p> <p>2.) Construct rectangle with the use of</p> | <p>-Critical thinking and Problem solving</p> <p>-Leadership and Personal development</p> <p>-Communication and Collaboration</p> <p>-Creativity and</p> | <p>-Chart of regular polygons.</p> <p>-Charts of different polygons.</p> <p>Site Links</p> <p>https://www.mathsisfun.com</p> <p>https://www.splashlearn.com</p> <p>https://www.math-only-</p> |

| | | | | | |
|----|--|--|---|---|---|
| | <p>parallelogram etc. -Quantitative reasoning. Importance -Carpentry -Bricklaying -Welding -Architecture and so on.</p> | <p>polygon. iv.)solve problems on polygon in quantitative reasoning.</p> | <p>cardboard and ruler. - measure their dimensions, length and breadth. - use formula to discover both the area and perimeter of the polygon. -use the knowledge to construct a beautiful jewelry box using dimensional shapes of any given polygon as required.</p> <p>Quantitative Reasoning. Sample:</p> <p>(a) </p> <p>(b) </p> | <p>Imagination</p> | <p>math.com Video Link https://youtu.be/jS1W44PI0ek https://youtu.be/GPVWlCgdpc https://youtu.be/IsSeRxpolaY</p> |
| 5. | <p>3-dimensional shapes -Identification of 3-dimensional shapes -Basic properties of 3-dimensional shapes (cube and cuboid) -Basic properties of cylinder and sphere. -Volume of cubes and cuboids. -Quantitative reasoning</p> <p>Importance. -Petty traders make use of cubes, cuboids vessels as containers for measuring some food items. -For traders to know the use of each of the shapes. -Some items like sugar, maggi food seasoning are in cubes form.</p> | <p>By the end of the lesson, students should be able to:</p> <p>i.)identify some 3-dementional shapes. ii.) mention and explain the basic properties of 3-dimensional shapes thus:</p> <p>(a) Cube and cuboids (b) Cylinder and sphere</p> <p>iii.) solve quantitative reasoning problems on 3-dimensional shapes.</p> | <p>Students are grouped to:</p> <ol style="list-style-type: none"> bring different cartons of food items. identify dimensional size of the 3-dimensional shapes use cardboard to make cube, cuboid and differentiate the two use cardboard to construct sphere and cylinder and identify them as follows: <p> Cube</p> <p> Cuboid</p> | <p>-Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination</p> | <p>-Charts -Cardboard -Longruler -Pencil -Paper -Sellotape</p> <p>Site Links https://www.vedantu.com https://www.skillsyouneed.com https://byjus.com Video Link https://youtu.be/v-NVUzi8CDO https://youtu.be/-xruvS05Miw</p> |

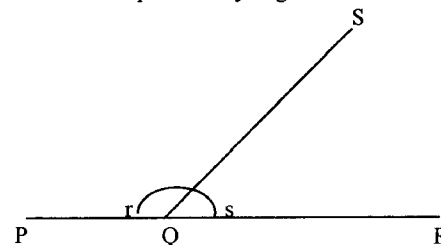
| | | | | | |
|----|---|---|---|---|---|
| | <p>Importance -cube, carton, cuboid cartons are used in packaging some goods in the companies and factories.</p> | |  <p>5. Practice the use of formulars to solve or find the volume of 3-dimensional shapes. 6. Students in small groups use any of the 3-dimensional shapes to make beautiful flower vases.</p> | | |
| 6. | <p>Angles. Identification and the properties -Vertically opposite angles -Adjacent angles -Alternative angles -Corresponding angles -Quantitative Reasoning</p> <p>Importance. -Used in Construction companies - Carpentry work -Bricklaying -Weldering - Achitectural works.</p> | <p>By the end of the lesson, students should be able to: i.) discuss angles around the school environment ii.) identify adjacent angles and vertically opposites angles iii.) identify alternate and corresponding angles iv.) state the properties of the angles mentioned above. v.) solve quantitative reasoning</p> | <p>Students in small groups: 1.) discuss angles within the class/ the school environment. 2.) spread plane white paper on a table and lay two broom – sticks parallel to the table as shown below:</p>  <p>3.) Lay a slanting broom- stick across the two two brooms on the table and mark and name all the angles formed as shown below</p>  <p>Quantitative Reasoning. Study the diagram below:</p>  | <p>-Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination</p> | <p>-Ruler -Pencil -Plane sheet -Protactors -Broom-sticks</p> <p>Site Links https://www.mathsisfun.com https://www.splashlearn.com https://www.onlinemathlearning.com Video Link https://youtu.be/hPD5h0ASySM https://youtu.be/3ID5jYbr6Eo</p> |

| | | | | | |
|----|---|--|---|---|---|
| | | | Samples: $r \longrightarrow x$ $s \longrightarrow z$ $t \longrightarrow p$ $v \longrightarrow q$ | | |
| 7. | Review of first half term work and periodic test. | By the end of lesson, students should be able to: -review the first half term work. -take part in the periodic test. | Arrange the students into small groups. -Allow the group to interact with each other. -Appoint a group leader for each group formed in the class. | -Leadership skill -Communication skill | -Past questions -Exercise from text and notebook. |
| 8. | Angles and Construction. Angles' theorems -Sum of angles on a straight line. -Supplementary angles -Complementary angles -Angles (sum) in a triangles -Construction of parallel line and perpendicular line -Construction of angles 90° and 60° -Quantitative reasoning. Importance. -The Construction companies use these to build and to form structures during their work. -Architecture | By the end of the lesson, student should be able to : i.) explain some theorems and use them to solve problems on angles (straight line and angles in a triangle) ii.) solve supplementary and complementary angles. iii.) construct a parallel and perpendicular lines iv.) construct angles 90° and 60° . v.) solve problems on quantitative reasoning. | Students are grouped to: 1.) discuss types of angles around e.g face of clock is 360° , 9 O' clock is 90° , 6 O' clock is 180° 2.) demonstrate a line drawn to bisect circle into two equal halves, each is 180° and a straight line form 180° . 3.) use straws or broom-sticks to demonstrate that a triangle has sum of 180° in its 3-angles. 4.) draw a triangle and a straight line thus; | -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | -Cardboard -Protactor -Pencil, ruler -Compass -Broom-sticks -Straws Site Links https://www.math-only-math.com https://www.mathopenrf.com https://www.mathsisfun.com Video Link https://youtu.be/Qpg_XeBBZw https://youtu.be/3N9a-tIEoP4 https://youtu.be/518btVe_IE https://youtu.be/XOp0m6cQR1E |



$$\hat{a} + \hat{b} = 90^\circ$$

$\hat{a} + \hat{b} =$ Complementary angles



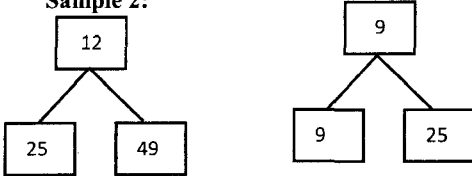
$$\hat{r} + \hat{s} = 180^\circ$$

$\hat{r} + \hat{s} =$ are supplementary

5.) use protactor and compass to construct angle 90° and 60° respectively.

| 9. | <p>Statistics I</p> <ul style="list-style-type: none"> -Meaning -Purpose & Usefulness of Statistics -Data collection, sources and importance -Analysis of data presentation. -Frequency distribution. -Quantitative reasoning <p>Importance.</p> <ul style="list-style-type: none"> -National population -Census -Hospitals -Business analysis -Budget preparation and allocation -Prediction. | <p>By the end of lesson , students should be able to:</p> <ol style="list-style-type: none"> state the meaning of statistics mention and explain the purposes and usefulness of statistics present and analyze how data are collected compute a frequency distribution table solve problems on quantitative reasoning in statistics. | <p>1.) Students in groups collect data on their ages, record and form a frequency table based on their ages as shown below:</p> <table border="1" data-bbox="1022 268 1505 328"> <thead> <tr> <th>Age</th> <th>10</th> <th>11</th> <th>12</th> <th>13</th> <th>14</th> <th>15</th> </tr> </thead> <tbody> <tr> <td>Frequency</td> <td>4</td> <td>8</td> <td>15</td> <td>10</td> <td>6</td> <td>2</td> </tr> </tbody> </table> <p>2.) Students' representative in each group makes a presentation on data collection.</p> | Age | 10 | 11 | 12 | 13 | 14 | 15 | Frequency | 4 | 8 | 15 | 10 | 6 | 2 | <ul style="list-style-type: none"> -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <p>-Frequency table showing tally</p> <p>Site Links</p> <p>https://www.toppr.com</p> <p>https://byjus.com</p> <p>https://www.statisticshowto.com</p> <p>Video Link</p> <p>https://youtu.be/sxQaBpKfDRk</p> <p>https://youtu.be/j9rUBf8A7Z4</p> | | | | | | | |
|-----------|--|---|--|---|---|-------|------|----|----|-------|-----------|---|-------|----|----|-----|---|---|--|--|----|--------|--|---|---|---|
| Age | 10 | 11 | 12 | 13 | 14 | 15 | | | | | | | | | | | | | | | | | | | | |
| Frequency | 4 | 8 | 15 | 10 | 6 | 2 | | | | | | | | | | | | | | | | | | | | |
| 10. | <p>Statistics (continued).</p> <ul style="list-style-type: none"> -Graphical presentation of data -Use of pictogram -Bar chart -Pie chart -Histogram. -Quantitative Reasoning <p>Importance.</p> <ul style="list-style-type: none"> -National population - census -Hospitals -Schools -Business Analyst. -Budget preparation and allocation. -Predictions. | <p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> interpret data, make use of tally. prepare a frequency table from raw data. represent statistics data by using pictogram, bar chart and histogram. solve quantitative reasoning on statistics. | <p>-Students in small groups mention the number of cars, buses, tricycles and motorcycles they saw when coming to school.</p> <p>-Use the information to form a frequency table.</p> <p>-Then form a pictogram, bar chart and histogram.</p> <p>Quantitative Reasoning.</p> <p>Below is frequency table showing the tally. Copy and complete.</p> <table border="1" data-bbox="1022 919 1385 1225"> <thead> <tr> <th>Colour</th> <th>No of cars</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Blue</td> <td> </td> <td>-</td> </tr> <tr> <td>Green</td> <td> </td> <td>-</td> </tr> <tr> <td>White</td> <td> </td> <td>-</td> </tr> <tr> <td>Red</td> <td></td> <td>7</td> </tr> <tr> <td>Black</td> <td></td> <td>15</td> </tr> <tr> <td>Others</td> <td></td> <td>3</td> </tr> </tbody> </table> | Colour | No of cars | Total | Blue | | - | Green | | - | White | | - | Red | | 7 | Black | | 15 | Others | | 3 | <ul style="list-style-type: none"> -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <p>Chart showing</p> <ul style="list-style-type: none"> -History -Pictogram -Bar chart -Pic chart <p>Site Links</p> <p>www.mathsteacher.com</p> <p>www.statisticshowto.com</p> <p>Video Link</p> <p>https://youtu.be/WUXHiqJGx5l</p> <p>https://youtu.be/5sZvuljCkig</p> |
| Colour | No of cars | Total | | | | | | | | | | | | | | | | | | | | | | | | |
| Blue | | - | | | | | | | | | | | | | | | | | | | | | | | | |
| Green | | - | | | | | | | | | | | | | | | | | | | | | | | | |
| White | | - | | | | | | | | | | | | | | | | | | | | | | | | |
| Red | | 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| Black | | 15 | | | | | | | | | | | | | | | | | | | | | | | | |
| Others | | 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 11. | <p>Statistics II</p> <p>Measurement of average.</p> <p>Arithmetic's mean</p> <ul style="list-style-type: none"> -The median -The mode -Quantitative reasoning <p>Importance</p> | <p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> explain the meaning of the term mean, median and mode. compute the mean, median and mode of grouped data. compare the mean, median and mode of ungrouped data. solve problems on quantitative | <p>1.) Students brainstorm the meaning of mean, median and mode.</p> <p>2.) Students in small groups use their ages to determine mean, median and mode of numbers using the formulas below:</p> <p>Mean = $\frac{\text{Sum of all values}}{\text{Number of values}}$</p> <p>Median = Any middle number</p> <p>Mode = Highest occurrence number in the</p> | <ul style="list-style-type: none"> -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <p>-Record of students biodata, mark.</p> <ul style="list-style-type: none"> -Dice, coins. -Playing card <p>Site Links</p> <p>www.purplemath.com</p> <p>www.thoughtco.com</p> <p>www.mathsisfun.com</p> | | | | | | | | | | | | | | | | | | | | | |

| | | | | | |
|-----|--|--|--|--|--|
| | <p>-Computing of scores and position ing of students in schools</p> <p>-Sports activities</p> <p>-Business analyses.</p> | reasoning. | <p>chain of numbers.</p> <p>Quantitative reasoning</p> <p>Samples</p> <p>(i)</p> <p>(ii)</p> | | <p><u>Video Link</u></p> <p>https://youtu.be/A1mQ9kD-i9l</p> <p>https://youtu.be/IV_m_uZOUgl</p> |
| 12. | Revision | By the end of the lesson or week, students should be able to revise all the terms' work and be ready for the examinations. | | | |
| 13. | Examination | Students to partake in examinations. | | | |

| WKS | TOPICS | LEARNING OBJECTIVES | LEARNING ACTIVITIES | EMBEDDED CORE SKILLS | LEARNING RESOURCES |
|-----|---|--|--|---|---|
| 1 | REVIEW OF JSS 1 SCHEME OF WORK / RESUMPTION TEST. | By the end of the lessons, the students should be able to: i. review JSS 1 topics and apply basic knowledge learned for effective study in their new class. ii. Participate in the resumption test. | Revision on basic operation. Students participate in Resumption test. | Critical thinking and Problem solving skill Communication and Collaboration skill. | Third term JSS 1 past questions. Relevant topics from JSS1 |
| 2 | WHOLE NUMBERS: (a). Whole numbers in standard forms. (b). Decimal numbers in standard forms. (c) Prime factors. Importance: i Sciences ii Social Sciences. iii. Surveying vi. Census v. Architecture | By the end of the lessons, the students should be able to: (i). express any whole number in standard form. (ii) express decimal number in standard form. (iii) explain the term Prime factor. (iv) list all the prime factors of numbers not greater than 200. (v) factorize numbers as products of its prime factors. (vi) solve quantitative reasoning on whole numbers and decimal numbers in standard form. | i. Digits are written on cardboard to form large numbers and students in small groups express them in standard forms. ii. Prime numbers. Firstly, write numbers from 1 to 200. Cancel 1 and all the multiples of 2, 3, 5, 7, 11 and 13 the numbers left are prime numbers. QUANTITATIVE REASONING: Sample 1: i. $45300 = 4.53 \times 10^4$ ii. $0.00567 = 5.67 \times 10^{-3}$ Sample 2:  | -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | Cardboard paper Flash cards of Standard Forms. Nigeria Population charts Eratosthenes Sieves Table <u>Site Links</u> https://www.mathsisfun.com https://www.calcalatesoup.com <u>Video Link</u> https://youtu.be/AKvp2PvBvo4 https://youtu.be/fwzyKPjrH18 https://youtu.be/bFJsdKjJ1w8 |
| 3 | WHOLE NUMBERS (CONTINUED): (a). Least Common Multiple (LCM). (b). Highest Common Factor (HCF). (c.) Square and Square roots. (d). Quantitative reasoning. Importance i. Mathematics class ii. Sales and Marketing iii. Measurements iv. Coding and decoding system. | By the end of the lessons, the students should be able to: (i) solve problem of Least Common Multiple of numbers (LCM). (ii) solve problem of Highest Common Factor (HCF) of numbers. (iii) (a) Find squares of any given whole numbers. (b) Identify numbers that are perfect squares. (c) Find the square root of perfect squares using factor method. (d) Find the square root of any given whole number. (iv). Solve quantitative reasoning problems on LCM, HCF, squares of numbers and square root of numbers | Game of War with Least Common Multiples. Materials needed Playing cards (2s-10s) Dry-erase board Dry-erase markers <u>Procedures</u> -Divide the students in class into pairs, and provide each pair with playing cards, Dry-erase boards, | -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | + Multiples method of L.C.M + Multiplication tables + Factor tree + Squares and square roots tables <u>Site Links:</u> https://www.onlinemathlearnig.com https://www.mathsisfun.com <u>Video Links:</u> https://youtu.be/qwh3V115rnGA https://youtu.be/bs30Lg0WG2w |

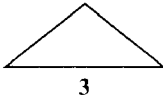
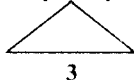
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|---|---|--|----|----|----|---|----|----|----|---|--|--|--|---|---|---|---|----|---|----|--|--|---|---|---|----|--|--|---|--|--|---|--|
| | | | <p>Dry-erase markers.</p> <p>-Divide the deck of cards equally between the two players. Each partner will draw two cards from their deck. They will figure out the LCM for their numbers.</p> <p>-After 3 to 4 turns, the player with the highest LCM wins all the cards.</p> <p>QUANTITATIVE REASONING: Sample 1:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <table border="1" style="border-collapse: collapse;"> <tr><td style="padding: 5px;">16</td><td style="padding: 5px;">36</td></tr> <tr><td colspan="2" style="text-align: center; padding: 5px;">10</td></tr> </table> </div> <div style="text-align: center;"> <table border="1" style="border-collapse: collapse;"> <tr><td style="padding: 5px;">49</td><td style="padding: 5px;">25</td></tr> <tr><td colspan="2" style="text-align: center; padding: 5px;">12</td></tr> </table> </div> </div> <p>Sample 2:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <table border="1" style="border-collapse: collapse;"> <tr><td colspan="3" style="padding: 5px;">18</td></tr> <tr><td style="padding: 5px;">1</td><td style="padding: 5px;">6</td><td style="padding: 5px;">3</td></tr> <tr><td style="padding: 5px;">2</td><td style="padding: 5px;">24</td><td style="padding: 5px;">2</td></tr> </table> </div> <div style="text-align: center;"> <table border="1" style="border-collapse: collapse;"> <tr><td colspan="3" style="padding: 5px;">10</td></tr> <tr><td style="padding: 5px;">1</td><td style="padding: 5px;">2</td><td style="padding: 5px;">5</td></tr> <tr><td colspan="3" style="padding: 5px;">12</td></tr> <tr><td style="padding: 5px;">2</td><td colspan="2"></td><td style="padding: 5px;">3</td></tr> </table> </div> </div> | 16 | 36 | 10 | | 49 | 25 | 12 | | 18 | | | 1 | 6 | 3 | 2 | 24 | 2 | 10 | | | 1 | 2 | 5 | 12 | | | 2 | | | 3 | <p>https://youtu.be/w8ktpYvRxvl</p> |
| 16 | 36 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 49 | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 6 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | <p>FRACTIONS: TRANSACTIONS IN THE HOMES AND OFFICES.</p> <p>(a) Expressing fractions as ratios, decimals and percentages.</p> <p>(b) Commercial arithmetic</p> <p>(c). Quantitative reasoning on fractions, ratios and percentages.</p> <p>Importance:</p> <ol style="list-style-type: none"> i. Banking ii. Accounting iii. Trading | <p>By the end of the lessons, the students should be able to:</p> <ol style="list-style-type: none"> (i). convert simple fractions to ratios, decimals and percentages and vice-versa. (ii). solve problems relating to office and household arithmetic. (iii). solve simple commercial arithmetic relating to profit, interest, discount and commission, (iv) solve quantitative reasoning related to conversion of fractions to ratios, decimals and percentages. | <p>FRACTION GAME.</p> <p>Students are provided with a fraction cards. Then each student try to find the 'equivalent fraction partner' to make a team. The first fraction team to find all of their correct members is the winner.</p> <p>QUANTITATIVE REASONING: Sample 1:</p> <div style="display: flex; align-items: center; justify-content: center; margin-bottom: 10px;"> <table border="1" style="border-collapse: collapse; margin-right: 10px;"> <tr><td style="padding: 5px;">3</td><td style="padding: 5px;">4</td></tr> </table> + <table border="1" style="border-collapse: collapse; margin-right: 10px;"> <tr><td style="padding: 5px;">2</td><td style="padding: 5px;">5</td></tr> </table> = $1\frac{3}{20}$ </div> <div style="display: flex; align-items: center; justify-content: center;"> <table border="1" style="border-collapse: collapse; margin-right: 10px;"> <tr><td style="padding: 5px;">5</td><td style="padding: 5px;">4</td></tr> </table> - <table border="1" style="border-collapse: collapse; margin-right: 10px;"> <tr><td style="padding: 5px;">1</td><td style="padding: 5px;">2</td></tr> </table> = $\frac{3}{4}$ </div> | 3 | 4 | 2 | 5 | 5 | 4 | 1 | 2 | <p>-Critical thinking and Problem solving</p> <p>-Leadership and Personal development</p> <p>-Communication and Collaboration</p> <p>-Creativity and Imagination</p> <p>+ Used provision items such as tin of milk, pack of biscuits etc</p> <p>+Chart showing family budget</p> <p>+Fraction cards</p> <p>+Samples of Water, Electricity, Telephone bills, banks teller etc</p> <p>Site Links: www.universalclass.com www.mathsisfun.com</p> <p>Video Links: https://youtu.be/aKxvEK39eA</p> | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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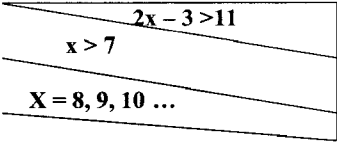
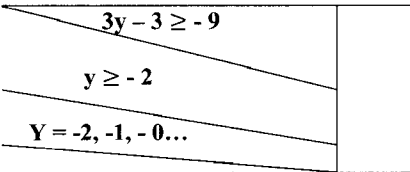
MATHEMATICS JSS2 FIRST TERM

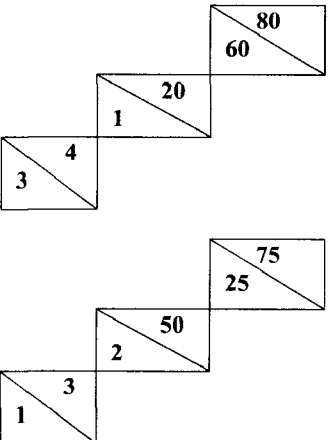
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| | iv. Government offices v. Schools (assessment of students' results). | | <p>Sample 2:</p> | | https://youtu.be/-Xt4UDk7Kzw |
| 5 | <p>APPROXIMATION:</p> <p>(a) Approximation of whole numbers to: (i) Nearest tens, hundreds, thousands, tenths, hundredth and thousandth. (ii) Decimal places (III) Significant figures (b). Quantitative reasoning.</p> <p>Importance: +Sport - Field events such as Short-put, Discus, Long Jump, Javelin etc +Distances in metres and kilometers.</p> | <p>By the end of the lessons, the students should be able to:</p> <p>(a). Approximate whole numbers to: (i) nearest tens, hundreds, thousands. (b) Approximate decimal numbers to: (ii) nearest tenths, hundredth, thousandth. (c) Approximate decimal numbers to: (i) 1 d.p, 2 d.p, 3 d.p. (ii) 1 s.f, 2 s.f, 3 s.f, 4 s.f. (d). Solve quantitative reasoning problems related to approximation of numbers.</p> | <p>+Selected few students throw an object from a point, measure the distances and record. Then students approximate the distances in decimal places or significant figures.</p> <p>QUANTITATIVE REASONING:</p> <p>Sample 1:</p> <p>Sample 2:</p> | <p>-Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination</p> | <p>+Play field + A football. +Surveyor Tape rule</p> <p>+Nigerian population +Budget</p> <p>Site Links: www.varsitytutors.com www.tutorialpoint.com Video Links: https://youtu.be/24aGqhzKoCY https://youtu.be/a7iuK0vuHnY https://youtu.be/9mMOUXOniCe https://youtu.be/5VwJ2eXw6NM</p> |

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| 6 | <p>MULTIPLICATION AND DIVISION OF DIRECTED NUMBERS:</p> <p>(a). Definition and examples of directed numbers. (b) Addition and Subtraction of directed numbers (c) Multiplication and division of directed numbers. (d) Quantitative reasoning on directed numbers</p> <p>Importance: i. Hospitals :- Temperature ii. Airports :- Weather forecast iii. Metrology :- Weather forecast</p> | <p>By the end of the lessons, the students should be able to:</p> <p>(i). define and give examples of directed and non-directed numbers. (ii) add and subtract directed numbers (iii). multiply and divide directed numbers. (iv) solve quantitative reasoning problems on directed numbers.</p> | <p>A number line is drawn on the floor. A student stands on a number spot and picks a number card then moves the steps of number on the card picked.</p> <p>QUANTITATIVE REASONING:</p> $\begin{array}{c} (-2) + (3) \times (-5) = (-5) \\ (6) - (10) + (14) = (30) \\ \boxed{20} + \boxed{-20} = \boxed{0} \\ \boxed{30} + \boxed{-10} = \boxed{20} \end{array}$ | <p>-Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination</p> | <p>+ Number line chart + Cardboard showing Inverse and Identity on numbers charts.</p> <p>Site Links: www.mathsisfun.com www.staff.vu.edu.au</p> <p>Video Links: https://youtu.be/uSXcjhBSAM https://youtu.be/NUqAscgdArM</p> |
| 7 | <p>i. REVIEW OF FIRST HALF/MIDTERM TEST. ii. OPEN DAY. iii. MIDTERM HOLIDAY / PROJECT</p> | <p>By the end of the lessons, the students will be able to</p> <p>i. recap the first half term's lessons to be better prepared for the second half.</p> | <p>+ Students are grouped in a fairness selection for Quiz.</p> <p>Project: Design an Eratosthenes Sieve Table on cardboard.</p> | | <p>+Revision on previous topics. +Questions from class/home exercises</p> |
| 8 | <p>ALGEBRAIC EXPRESSIONS:</p> <p>(a). Definition of algebraic expression with examples. (b). Expression of algebraic expression. (c.) Factorization of simple algebraic expressions. (d) Quantitative reasoning.</p> <p>Importance: i. Research Methodology ii. Analysis of data</p> | <p>By the end of the lessons, the students should be able to:</p> <p>(i) explain algebraic expressions with examples. (ii). expand a given algebraic expression. (iii) factorize simple algebraic expressions. (iv) solve Quantitative reasoning exercises</p> | <p>+Students display algebraic terms on flash cards to form algebraic expressions.</p> <p>QUANTITATIVE REASONING:</p> $\begin{array}{c} 5x + 3 \quad \boxed{*2} = \boxed{10x + 6} \\ 3x + 4 \quad \boxed{*2} = \boxed{6x + 8} \\ 3a + 5 \quad \boxed{*3} = \boxed{9a + 15} \\ a - 10 \quad \boxed{*3} = \boxed{3a - 30} \end{array}$ $\begin{array}{c} \boxed{x} + \boxed{3x} = \frac{19x}{20} \\ \boxed{5} + \boxed{4} \\ \boxed{5a} + \boxed{2a} = a/6 \\ \boxed{6} + \boxed{3} \end{array}$ | <p>-Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination</p> | <p>+Flash card on algebraic expression +Cardboard papers +Scissors</p> <p>Site Links: www.math-only-math.com www.brainfuse.com</p> <p>Video Links: https://youtu.be/OF2GtlnL_s https://youtu.be/h3O8X2dLGgM</p> |

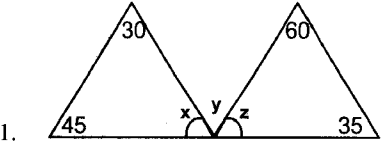
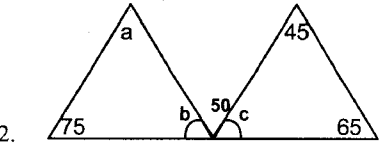
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| 9 | ALGEBRAIC EXPRESSION (CONTINUES) (a). Definition of algebraic fractions with examples (b) Algebraic fractions with whole number denominator (addition and subtraction). (c) Real life problems leading to simple algebraic equations (d). Quantitative Reasoning. | By the end of the lessons, the students should be able to: (i) explain simple algebraic fraction with examples e.g $x/2$, $3y/5$. ii.) solve algebraic fractions with whole numbers denominator by addition and subtraction e.g $a/3 + b/4 = (4a+3b)/12$ iii.) interpret word problems resulting to algebraic equation. (iv) solve Quantitative reasoning problems | +Students use differences <i>in</i> their ages to form algebraic expressions. <u>Example:</u> Four times a boy's present age gives his father's age. If the father is now 64 years, find the age of the boy. <u>Solution:</u> Let x represent boy's age Father is 4 times older than the boy = $4x$ Present age of father = 64 Therefore $4x = 64$ $x = 64/4$ $x = 16$ <u>Quantitative Reasoning:</u> Same as in week 8 | -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | +Flash card on algebraic fractions Site Links: www.ipracticemath.com www.math-only-math.com Video Links: https://youtu.be/NJD9E7ftpDs https://youtu.be/gtFldyOhdGA |
| 10 | ALGEBRAIC EXPRESSIONS (CONTINUED): (a) monomial algebraic expression fraction (b). Word problems leading to simple algebraic fractions. (c) Quantitative reasoning | By the end of the lessons, the students will be able to: (i). define quadratic (Binomial) expression with examples ii. expand and factorize binomial expressions using quadratic equation box. (iii) Solve Quantitative reasoning problems on algebraic express. | Same as in weeks 8 and 9 | -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | +Use of Quadratic equation box for expansion and factorization. Site Links: www.cliffsnotes.com www.calameo.com Video Links: https://youtu.be/gHq2oEhLm8Q https://youtu.be/nMSjDSw_20s |
| 11 | REVISION OF FIRST TERM'S LESSONS AND FIRST TERM EXAMINATION | By the end of the lessons, the students should be able to recap the first term's lessons and ask questions to clarify their doubts. | + Students are given various topics relating to previous lessons to handle in the class. Selection is done row by row or otherwise. | | +Content from first topics +Reference textbook |
| 12/13 | FIRST TERM'S EXAMINATION AND VACATION. | Students complete the examinations and go for first term vacation. | <u>GROUP PROJECT</u> Eratosthenes Sieve Table on plywood for Prime numbers less than 200. | -Citizenship -Creativity and Imagination -Leadership and Personal development | +Reference textbook +Students' notebooks. |

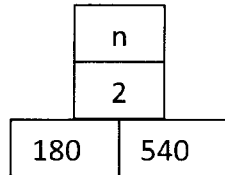
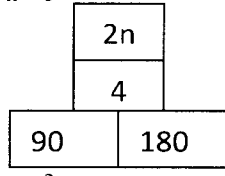
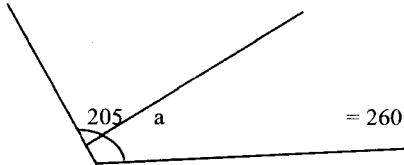
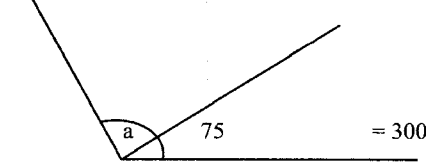
| WKS | TOPICS | LEARNING OBJECTIVES | LEARNING ACTIVITIES | EMBEDDED CORE SKILLS | LEARNING RESOURCES |
|-----|---|--|---|---|--|
| 1 | i. REVIEW OF FIRST TERM'S WORK. EMPHASIS ON ALGEBRAIC EXPRESSIONS, QUADRATIC EQUATIONS AND TRANSACTIONS AT HOME AND OFFICES. ii. RESUMPTION TEST. | By the end of the lessons, the students should be able to: (i) revise the first term topics on Algebraic expression, Quadratic equation and Transaction at home and offices. (ii) Participate in Resumption Test. | Exercises are given on first term topics. +Resumption test. | | +Questions from previous exercises. +First term JSS 2 past questions. |
| 2 | SIMPLE EQUATIONS; (a) Algebraic equation. (b). Differences between algebraic expressions and algebraic equation. (c.) Problems on simple algebraic equations. (d) Quantitative Reasoning Importance: (i) Data analysis (ii) Gradient of acceleration. | By the end of the lessons, the students should be able to: (i) define the term algebraic equation. (ii) distinguish between expressions and equation. (iii) simplify problems on simple equations, as: (a) $5n - 5 = 2n - 1$ (b) $\frac{3y - 4}{7} = 3$ (iv) solve quantitative reasoning. | -A balance scale used to check the weight of items. -Students to place items of the same weight and different quantity on the balance scale. -Then place the same weight items and the same quantity. Allow students to differentiate between expressions and equations: thus, i. $5x - 3y - 2x - 2y$ ii. $4y + 5 = 0$ QUANTITATIVE REASONING: (i) $8x - 4 = 5x + 5$  (ii) $7 + 2y = 12y + 2 - 7y$  | - Critical thinking and Problem solving - Leadership and Personal development - Communication and Collaboration - Creativity and Imagination | +Flash cards on simple equations. +A balance scale +Items Site Links: www.intmath.com www.sosmath.com Video Links: https://youtu.be/ak5uuNUgvH4 https://youtu.be/kWOTmyoaWJg |
| 3 | LINEAR INEQUALITIES: (a). Definition of linear inequalities. (b) Plotting on number line. (c) Real life problems on simple inequalities in one variable. (d) Quantitative Reasoning. Importance: (i) Analyses on collation of | By the end of the lessons, the students should be able to: (i) define linear inequalities with examples (ii) simplify linear inequality with one variable (iii) plot solutions of linear inequality in one variable on number line. Eg. $x > 2$; $x < -3$; $x > 6$; $3x > -12$. (iv) provide solutions to real life problems on simple linear inequalities in one variable. | Introductory questions: Students as a class brainstorm on these questions: -Do you come to school at the same time? -Were you all born on the same date? -Are the number of boys and girls equal in your class? -Do you all have the same weight? -Did Nigeria and Ghana get their independence the same year? Etc. The students relate these questions to | -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | + Graph book +Pencil +Ruler +Eraser Site Links: www.cliffsnotes.com www.mathplanet.com Video Links: https://youtu.be/6cUaV-KooUc |

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|---|---|--|--|---|---|----|---|---|---|---|---|---|--|----|--|--|----|---|---|-----|----|--|----|--|---|--|----|--|----|----|----|---|--|
| | research work. | (v) solve Quantitative reasoning questions on linear inequality. | inequalities. QUANTITATIVE REASONING: Fill with < or >: (i) $3x - 5x = 19$ <input type="text"/> 11 (ii) $5y + y = 7$ <input type="text"/> -11 | | https://youtu.be/KkiYqww4eg0 https://youtu.be/GRvXCBJE5fk | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | GRAPHS: (a) Graphs of linear equations in two variables (b) Graphs of Cartesian plane; the axis. (c) Plotting of linear graphs in two variable. (d) Quantitative Reasoning. Importance: i. Distance, Speed and Time of a journey ii. Financial transaction. iii. Economics. iv. Statistics v. Students' exam records. vi. Temperature reading vii. Metrological Dept. viii. Sitting positions in a stadium or cinema hall. | By the end of lessons, the students should be able to: (i) identify x-axis and y-axis. (ii) compute table of values. (iii). plot point on the Cartesian-plane e.g. P (x, y) = P (3,-4) by identifying x – axis and y – axis. (iv) plot more points on the Cartesians plane and join the points to form different shapes. (v) Solve Quantitative Reasoning on linear inequality. | - Students' sitting arrangements in a class are in rows and columns. - Students are to identify the number of rows and number of columns in the class. - Students' leader randomly identifies the sitting positions of 5 students and record. E.g Sola is on row C, column 3 = 3C Titi is on row A, column 2 = 2A etc - Use the information above to plot a graph of row against column. QUANTITATIVE REASONING (i)  $2x - 3 > 11$ $x > 7$ $X = 8, 9, 10 \dots$ (ii)  $3y - 3 \geq -9$ $y \geq -2$ $Y = -2, -1, -0 \dots$ | -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | +Graph paper +Graph board +Ruler +Pencil Site Links: www.varsitytutors.com www.ck12.org Video Links: https://youtu.be/Tfm49rgvvDU https://youtu.be/nN9XCLVFgQE https://youtu.be/VDONZfzIDJU | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | GRAPHS: (CONTINUES) (a) Real life situation. (b) Word problems on graph. | By the end of the lesson, students should be able to: (i) plot the graph of linear equations in two variable from real life situation. (ii) interpret plotted graphs. | Learning Activities as above. QUANTITATIVE REASONING: Complete the table (i) <table border="1" data-bbox="1059 1241 1496 1305"> <tbody> <tr> <td>X</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> </tr> <tr> <td>Y</td> <td>0</td> <td></td> <td>30</td> <td></td> <td></td> <td>75</td> </tr> </tbody> </table> (ii) <table border="1" data-bbox="1025 1353 1496 1469"> <tbody> <tr> <td>X</td> <td>5</td> <td>7.5</td> <td>10</td> <td></td> <td>15</td> <td></td> </tr> <tr> <td>Z</td> <td></td> <td>15</td> <td></td> <td>25</td> <td>30</td> <td>35</td> </tr> </tbody> </table> | X | 0 | 1 | 2 | 3 | 4 | 5 | Y | 0 | | 30 | | | 75 | X | 5 | 7.5 | 10 | | 15 | | Z | | 15 | | 25 | 30 | 35 | -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | +Graph paper +Graph board +Ruler +Pencil Site Links: www.math-only-math.com www.mathplanet.com Video Links: https://youtu.be/XT6KLxy2obk https://youtu.be/8-IzfVQK2Ac |
| X | 0 | 1 | 2 | 3 | 4 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Y | 0 | | 30 | | | 75 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X | 5 | 7.5 | 10 | | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z | | 15 | | 25 | 30 | 35 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| 6 | <p>PLANE FIGURES/SHAPES:</p> <p>Importance:</p> <ul style="list-style-type: none"> - Textile industries - Construction companies | <p>By the end of the lessons, students should be able to:</p> <p>(i). identify plane shapes in their environment.</p> <p>(ii). state the properties of plane shapes e.g. square, rectangle, parallelogram, rhombus and kites.</p> <p>(iii) construct plane shapes with the use of pencil, ruler and protractor.</p> <p>(iv) compose and decompose plane shapes using cardboard paper, cartons, carpet or plywood.</p> | <p>-Students in small groups use a pair of scissors, cardboard to cut out different shapes and discuss their properties.</p> <p>- Students compose and decompose plane shapes using empty cartons.</p> <p>- Each student constructs plane shapes using pencil, ruler and protractor.</p> <p>QUANTITATIVE REASONING: Match the following shapes with the number of sides:</p> <table style="margin-left: 40px;"> <tbody> <tr> <td>i.</td> <td>Scalene</td> <td>4</td> </tr> <tr> <td>ii.</td> <td>Kite</td> <td>5</td> </tr> <tr> <td>iii.</td> <td>Parallelogram</td> <td>3</td> </tr> <tr> <td>iv.</td> <td>Equilateral</td> <td>4</td> </tr> <tr> <td>v.</td> <td>Rhombus</td> <td>3</td> </tr> <tr> <td>vi.</td> <td>Trapezium</td> <td>4</td> </tr> <tr> <td>vii.</td> <td>Right-angle triangle</td> <td>4</td> </tr> <tr> <td>viii.</td> <td>Square</td> <td>3</td> </tr> </tbody> </table> | i. | Scalene | 4 | ii. | Kite | 5 | iii. | Parallelogram | 3 | iv. | Equilateral | 4 | v. | Rhombus | 3 | vi. | Trapezium | 4 | vii. | Right-angle triangle | 4 | viii. | Square | 3 | <p>-Critical thinking and Problem solving</p> <p>-Leadership and Personal development</p> <p>-Communication and Collaboration</p> <p>-Creativity and Imagination</p> | <p>+Cardboard papers</p> <p>+Pencil</p> <p>+Eraser</p> <p>+Carpet</p> <p>+Scissors</p> <p>Site Links: www.smartickmethod.com www.toppr.com</p> <p>Video Links: https://youtu.be/qz9k1gbGZ3U https://youtu.be/C-84mZwATbw</p> |
| i. | Scalene | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ii. | Kite | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| iii. | Parallelogram | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| iv. | Equilateral | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| v. | Rhombus | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| vi. | Trapezium | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| vii. | Right-angle triangle | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| viii. | Square | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | <p>i. REVIEW OF HALF TERM'S WORK/MIDTERM TEST</p> <p>ii. OPEN DAY</p> <p>iii. PROJECT</p> | <p>i. Students should be able to:</p> <p>i. recap previous learning and participate in periodic test.</p> <p>ii. Students to submit Midterm Project at resumption.</p> | <p>+Students are fairly grouped for theory questions.</p> <p>+Students in groups to design "Draft Board" game on cardboard and paste on plywood, then frame it.</p> | | <p>+Exercises from class work, Homework</p> <p>+Reference books</p> | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | <p>SCALE DRAWING OF LENGTH AND DISTANCES:</p> <p>Importance:</p> <ul style="list-style-type: none"> i. Technical Drawing ii. Architectural work iii. Geography iv. Map Reading by Pilots. v. Civil Engineering | <p>By the end of the lessons, students should be able to:</p> <p>(i) explain the term scale drawing and state the purpose of drawing using scale.</p> <p>(ii) demonstrate real measurement and represent the information using scale on plain paper or cardboard paper.</p> <p>(iii) apply scale drawing to solve real life problems on measurement e.g acres or hectares of land.</p> | <p>Students measure distances using the map of Nigeria e.g Lagos to at least 10 states in Nigeria in cm, then write out their actual values in km by conversion.</p> <p>QUANTITATIVE REASONING :</p>  | <p>-Critical thinking and Problem solving</p> <p>-Leadership and Personal development</p> <p>-Communication and Collaboration</p> <p>-Creativity and Imagination</p> | <p>+Map of Nigeria</p> <p>+Pencil</p> <p>+Eraser</p> <p>+Ruler</p> <p>Site Links: www.mathsisfun.com www.firstinarchitecture.co.uk</p> <p>Video Links: https://youtu.be/3VqsloowY_E https://youtu.be/_RJRwzkSOAc https://youtu.be/vfW_0fdPzps</p> | | | | | | | | | | | | | | | | | | | | | | | | |


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| 9 | <p>QUANTITATIVE APTITUDE ON PLANE SHAPES AND SCALE DRAWING.</p> <p>Importance: i. Job interview ii. School Entrance Examinations.</p> | <p>By the end of the lessons, students should be able to:</p> <p>(i). define quantitative aptitude on plane shapes and scale drawing. (ii). give reason(s) for studying quantitative aptitude. (iii). solve problems on quantitative onplane shapes and scale drawing.</p> | <p>Students :</p> <p>1.) mention some plane shapes such as square, triangle, rectangle and circle. 2.) identify where they can be found in our environment. 3.) discuss their the differences, similarities and their relevance in our environment.</p> <p>QUANTITATIVE REASONING</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <table border="1" style="border-collapse: collapse;"> <tr><td style="padding: 5px;">2</td></tr> <tr><td style="padding: 5px;">4</td><td style="padding: 5px;">5</td></tr> </table> <table border="1" style="border-collapse: collapse;"> <tr><td style="padding: 5px;">9</td></tr> <tr><td style="padding: 5px;">4</td><td style="padding: 5px;">9</td></tr> </table> </div> | 2 | 4 | 5 | 9 | 4 | 9 | <p>-Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination</p> | <p>+Chart showing Concept of quantitative aptitude +Samples from previous lesson</p> |
| 2 | | | | | | | | | | | |
| 4 | 5 | | | | | | | | | | |
| 9 | | | | | | | | | | | |
| 4 | 9 | | | | | | | | | | |
| 10 | <p>REVISION OF THE SECOND HALF TERM'S WORK AND PERIODIC TEST</p> | <p>Students should be able to recap previous learning and partake in periodic test.</p> | <p>Students are given pre-examination test as part of their examination scores.</p> | | | | | | | | |
| 11 | <p>REVISION AND EXAMINATION</p> | <p>Students revise and recap topics for the examination.</p> | <p>Students are arranged into groups for revision.</p> | | | | | | | | |
| 12/13 | <p>EXAMINATION AND VACATION</p> | <p>Students participate in the second term examination and set for vacation.</p> | <p>PROJECT:</p> <p>Design beautiful Tessellations on plywood.</p> | | <p>+Plywood +Pencil +Ruler +Paints +Paint brush</p> | | | | | | |

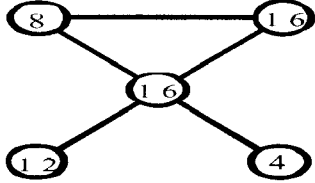
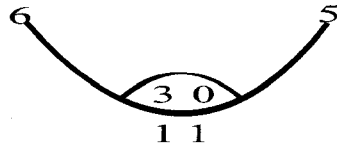
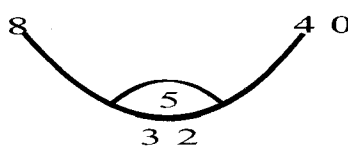
| WKS | TOPICS | LEARNING OBJECTIVES | LEARNING ACTIVITIES | EMBEDDED CORE SKILLS | LEARNING RESOURCES |
|-----|--|--|---|---|--|
| 1 | (i). Revision of second term's examination/Resumption Test (ii). Representation of real life situations on graphs and the reason(s) | By the end of the lessons, students should be able to: (i). recapitulate the first and second terms lessons. (ii) recap every detail in plotting of graphs in Cartesian plane. (iii). give reason(s) for representing real life situation in graphs. (iv) Resumption Test | +Students submit their projects. +Resumption Test. +Revision on graph plotting. | | +Graph book +Questions from 2nd term exams. |
| 2 | ANGLES. i. Construction of angles. ii. Quantitative Reasoning Importance: -Engineering -Construction companies -Architecture -Photography -Sailor -Clock manufacturing | By the end of the lessons, students should be able to: (i). define angles. (ii) mention the steps involving in construction of any angle. (iii)construct angles e.g 30° , 45° , 75° , 105° , 120° , $22\frac{1}{2}^\circ$. (iv) bisect any given angles. (iv) Solve Quantitative reasoning on angles. | i. Students are to identify some strategic areas where angles can be found in the classroom furniture. ii. Students use pencil and ruler to draw vertices and use protractor to measure their angles. QUANTITATIVE REASONING: 1.  2.  | -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | +Pencils +Ruler +Protractor +Eraser +Compass Site Links: www.math-only-math.com www.mathsteacher.com.au Video Links: https://youtu.be/wYeDgQShXq4 |
| 3 | POLYGON Importance: -Construction works. -Geology -Textile industries -Honey Comb (Hive) -Floor designing | By the end of the lesson, students should be able to: (i)explain the term 'polygon' with examples. (ii).discover the generalization that the sum of interior angles of regular polygon is given by $(2n-4)$ right angles of convex (regular) polygon (iii). Solve problems and real life problems on interior angles of convex polygon. | Number of triangles formed from a polygon is 2 less than its number of sides. ACTIVITIES: Students in pairs draw a heptagon (7-sided) polygon on a plane paper, draw diagonals from one vertex to the others. How many triangles can you find? QUANTITATIVE REASONING: | -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | +Cardboard +A4 paper +Pencil +Protractor Site Links: www.mathsisfun.com www.splashlearn.com Video Links: https://youtu.be/cWdZymQGjLk https://youtu.be/7xovCxlfdGE |

| | | | | | |
|---|---|--|---|--|---|
| | | | <p>1.</p>  <p>2.</p>  | | |
| 4 | <p>ANGLES OF ELEVATION AND DEPRESSION:</p> <p>Importance:</p> <p>i. Measuring the height of a building.</p> <p>ii. Distance between two objects</p> | <p>By the end of the lessons, the students should be able to:</p> <p>(i).define elevation and angle of elevation with practical illustrations.</p> <p>(ii). Solve problems by measurement (not calculations) the angles of elevation.</p> <p>(iii) explain depression and angle of depression with practical examples.</p> <p>(iv) use angles of elevation and depression to calculate distances and heights using scale drawing.</p> <p>(v) solve real life problems and quantitative aptitude related to angles.</p> | <p>Students are taken to the flag pole and ask to look at the flag pole horizontally, upward and downward and use clinometers to measure angles.</p> <p>QUANTITATIVE REASONING:</p> <p>1.</p>  <p>2.</p>  | <p>-Critical thinking and Problem solving</p> <p>-Leadership and Personal development</p> <p>-Communication and Collaboration</p> <p>-Creativity and Imagination</p> | <p>+Clinometers</p> <p>+Rope</p> <p>+Stone</p> <p>+Flag poles</p> <p>+Classroom objects</p> <p>+School environment objects</p> <p>Site Links: www.onlinemathlearning.com www.cuemath.com</p> <p>Video Links: https://youtu.be/Sja5rEqmpa4 https://youtu.be/A3iuSkOYeVM</p> |
| 5 | <p>BEARING AND DISTANCES:</p> <p>Importance:</p> <p>-Surveying</p> <p>-Construction companies</p> <p>-Map reading</p> <p>-Aviation (Pilot)</p> <p>-Marine (sailor)</p> | <p>By the end of the lessons, students should be able to:</p> <p>(i) identify the cardinal points and use them to locate the position of objects.</p> <p>(ii) find distances and bearing between objects using scale drawing</p> <p>(iii) construct triangle on:</p> <p>(a) 2 sides and an angle</p> <p>(b) 2 angles and a side between them.</p> <p>(c) All the 3 sides</p> <p>iv.) solve real life problems on bearing and distances.</p> | <p>Four students are positioned in four opposite directions i.e North (N), South (S), West (W) and East (E).</p> <p>Then a student is asked to walk towards the direction of any of them. This is to illustrate position and bearing of objects.</p> | <p>-Critical thinking and Problem solving</p> <p>-Leadership and Personal development</p> <p>-Communication and Collaboration</p> <p>-Creativity and Imagination</p> | <p>+Wind vane</p> <p>+Cardinal points</p> <p>+Compass</p> <p>+Ruler</p> <p>+Pencil</p> <p>Site Links: www.passnownow.com www.acorn-ind.co.uk</p> <p>Video Links: https://youtu.be/yOv_6yyuJg https://youtu.be/F-wVOSbRIZw</p> |

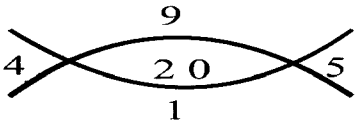
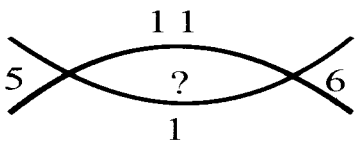
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| 6 | <p>STATISTICS: DATA PRESENTATION:</p> <p>Importance:</p> <ul style="list-style-type: none"> -Population officers -Bureau of Statistics officers -National Planning and Budgeting -Educational institutes e.g schools, colleges, universities etc -Religious establishments e.g churches, mosques, etc | <p>By the end of the lessons, the students should be able to:</p> <p>(i) collect data from different sources e.g. home, schools, mosque, church, market, communities etc</p> <p>(ii) represent data on:</p> <p>(a) frequency table,</p> <p>(b) a bar chart and "pie-chart"</p> <p>(c) interpret information from the charts and state their importance to everyday life.</p> | <p>Students in small groups are to take record of their favourite food in the class. Use the data to construct a "Pie-chart"</p> <p><i>QUANTITATIVE REASONING:</i></p> <table border="1" data-bbox="948 396 1469 506"> <tbody> <tr> <td>x</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> </tr> <tr> <td>f</td> <td>3</td> <td>4</td> <td>1</td> <td>0</td> <td>2</td> </tr> <tr> <td>fx</td> <td>6</td> <td></td> <td>4</td> <td>0</td> <td></td> </tr> </tbody> </table> <table border="1" data-bbox="948 537 1469 626"> <tbody> <tr> <td>x</td> <td>10</td> <td>15</td> <td>20</td> <td>25</td> <td>30</td> </tr> <tr> <td>f</td> <td>3</td> <td>4</td> <td>1</td> <td>0</td> <td>2</td> </tr> <tr> <td>fx</td> <td>30</td> <td></td> <td>20</td> <td></td> <td>60</td> </tr> </tbody> </table> | x | 2 | 3 | 4 | 5 | 6 | f | 3 | 4 | 1 | 0 | 2 | fx | 6 | | 4 | 0 | | x | 10 | 15 | 20 | 25 | 30 | f | 3 | 4 | 1 | 0 | 2 | fx | 30 | | 20 | | 60 | <ul style="list-style-type: none"> -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <ul style="list-style-type: none"> +Graph book +Jotter/Exercise book +Relations +Church, Mosque, Principals, teachers, friends, family members etc www.education.com www.teacherspayteachers.com <p>Site Links:</p> <ul style="list-style-type: none"> www.mathsteacher.com.au www.statisticshowto.com <p>Video Links:</p> <ul style="list-style-type: none"> https://youtu.be/amLYLq73RvE https://youtu.be/Rx8wSEDq5Hs |
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| fx | 6 | | 4 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| x | 10 | 15 | 20 | 25 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| f | 3 | 4 | 1 | 0 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| fx | 30 | | 20 | | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | REVIEW OF FIRST HALF TERM'S WORK AND PERIODIC TEST. | By the end of the lessons, the students should be able to recap the previous lessons and participate in the periodic test. | Inter-class Quiz Competition among JSS 2 students. Mid-term test. | | <ul style="list-style-type: none"> + Exercises from class work and homework. + Past JSS 2 Math Exam. Questions. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | <p>PROBABILITY:</p> <p>Importance:</p> <ul style="list-style-type: none"> -Sports e.g football matches, -Life insurance -Experiment -Educational project | <p>By the end of the lessons, students should be able to:</p> <p>(i) explain probability as chances on occurrence of events.</p> <p>(ii) state the importance and usefulness of probability in daily activities.</p> <p>(iii) give numerous and natural example of chances/events.</p> | <p>Students as a class brainstorm on the possibilities of the following events happening:</p> <ul style="list-style-type: none"> -a boy will be richer than his sister -a woman's next delivery will be a boy -that it will rain on Friday? <p>Etc.</p> | <ul style="list-style-type: none"> -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <ul style="list-style-type: none"> +Play cards +Ludo +Coins +Coloured balls +Human beings +Climate change <p>Site Links:</p> <ul style="list-style-type: none"> www.mathsisfun.com www.britannica.com <p>Video Links:</p> <ul style="list-style-type: none"> https://youtu.be/tkLBIgFN6mM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| 9 | PROBABILITY (CONTINUED): | By the end of the lessons, students should be able to: (i) use Ludo and tossing of coins to generate chance/events. (ii) solve simple problems on probabilities. (ii) calculate the probability of events from result of experiments. (iii). analyze statistical data with the knowledge of productions and probability. | <p>i. Students in small groups toss a fair coin 5 times and take the record of heads or tails outcomes.</p> <p>ii. Students throw 2 dice, add the outcomes and draw a table to record the outcomes.</p> <table border="1"> <thead> <tr> <th>+</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> </tr> </thead> <tbody> <tr> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | + | 1 | 2 | 3 | 4 | 5 | 6 | 1 | | | | | | | 2 | | | | | | | 3 | | | | | | | 4 | | | | | | | 5 | | | | | | | 6 | | | | | | | <p>-Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination</p> | <p>+Play cards, Ludo dice, Coins +Coloured balls +Human beings +Climate change</p> <p>Site Links: www.hitbullseye.com www.mbacrystalball.com</p> <p>Video Links: https://youtu.be/otH_M0Cd tvo https://youtu.be/Nz0jgPhcc 2Q</p> |
|-------|--|--|---|--|---|---|---|---|---|---|---|--|--|--|--|--|--|---|--|--|--|--|--|--|---|--|--|--|--|--|--|---|--|--|--|--|--|--|---|--|--|--|--|--|--|---|--|--|--|--|--|--|---|---|
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| 10 | REVIEW OF THIRD TERM'S WORK AND PERIODIC TEST. | By the end of the lessons, students should be able to recap the third term's lessons and ask questions on areas that need further clarification. | Students are arranged in groups for revision. | <p>-Leadership skill -Communication Skill -Collaboration</p> | +Exercises from class work And home work | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | REVISION AND EXAMINATION. | Students will write examination to assess their understanding. | + Students are given various questions relating to learned topics to handle in the class. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12/13 | EXAMINATION AND VACATION | Examination and long vacation. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

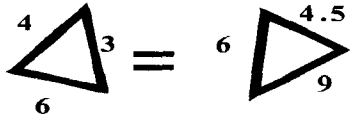
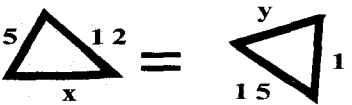
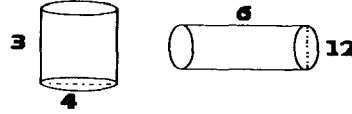
| WKS | TOPICS/CONTENTS | LEARNING OBJECTIVES | LEARNING ACTIVITIES | EMBEDDED CORE SKILLS | LEARNING RESOURCES |
|-----|--|--|---|---|---|
| 1 | Revision Questions and Answers on previous classes | By the end of the lesson, students should be able to: <ol style="list-style-type: none"> recall previous lesson on some identified topics solve problems on previous lessons for effective new lessons | Students' interest on previous lessons, paying attention on weak areas. | -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <ol style="list-style-type: none"> Previous examination question papers; Revision question from recommended textbook(s) |
| 2 | <p>Whole numbers:</p> <p>Binary number system:</p> <ol style="list-style-type: none"> using computer to do simple mathematical calculations; addition and subtraction of numbers in base 2 multiplication and division of numbers in base 2, 2-digit and 3-digit binary numbers. <p>Importance:</p> <ul style="list-style-type: none"> -Athletics -Games | By the end of the lesson, students should be able to: <ol style="list-style-type: none"> apply basic arithmetic operations (+, -, x, ÷) in binary system; convert numbers in binary from one base to another | <ol style="list-style-type: none"> Students give accounts of mathematical instruments in mathematical set by clarification; Students in small groups build and calculate patterns of operation in problem solving. Example: $101_x = 10$, calculate x <p>Q/R</p> $3! = 3 \times 2 \times 1$ $4! = 4 \times 3 \times 2 \times 1$ $\therefore 4! - 3! =$ <p>If $3! \times n = 3$, $n =$ </p> | -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <ol style="list-style-type: none"> Simple calculating devices (calculator) Simple number cards on binary operation; Binary numbers Calculating devices <p>Site Links: www.cimt.org.uk www.basic-mathematics.com</p> <p>Video Links: https://youtu.be/fmo7gBH0334 https://youtu.be/BnchEbt5t0</p> |
| 3 | <ol style="list-style-type: none"> Expressions involving brackets and fractions Translation of word problems into numerical expressions <p>Importance:</p> <ul style="list-style-type: none"> - Budgeting - Marketing and Sales | By the end of the lesson, students should be able to: <ol style="list-style-type: none"> simplify expressions involving brackets simplify expressions involving fractions translate word problems into numerical expression | <ol style="list-style-type: none"> Students give account of items on the mathematics shelf: stationery, books, shapes, etc. Students give account of what they spent on items while coming to school Number of students cleaning the class and time spent on cleaning. | -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <ol style="list-style-type: none"> Charts with expressions in like terms Cards with fraction gummed on a large cardboard Soft fruits for division into fraction <p>Site Links: www.algebra-class.com www.mathexpression.com</p> |

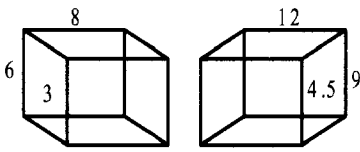
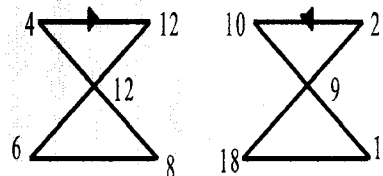
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| | | | <p>Quantitative Reasoning</p> <p>Given:</p>  | | <p>Video Links: https://youtu.be/e5WUqKN AynU</p> |
| 4 | <p>Proportion:</p> <p>a. direct and indirect/inverse proportion;</p> <p>b. application of direct and indirect/inverse proportion</p> <p>Importance:</p> <p>i. Survey</p> <p>ii. Planning</p> | <p>By the end of the lesson, students should be able to:</p> <p>i. state what a direct proportion is;</p> <p>ii. state what an indirect or inverse proportion is;</p> <p>iii. solve problems on direct and inverse proportion</p> <p>iv. apply direct and indirect proportion in daily life activities</p> | <p>i. Students draw roster of activities in the class and number of students involved in each</p> <p>ii. Students state the number of pencils bought with price per pencil</p> <p>Quantitative Reasoning</p> <p>i.</p>  <p>ii.</p>  | <p>-Critical thinking and Problem solving</p> <p>-Leadership and Personal development</p> <p>-Communication and Collaboration</p> <p>-Creativity and Imagination</p> | <p>i. Some baskets and a number of inflated fottballs</p> <p>ii. Weighing balance and a number of small beads</p> <p>iii. Calculating devices</p> <p>Site Links: www.mathsisfun.com www.tutor2u.net</p> <p>Video Links: https://youtu.be/hHiaCx3A QXU https://youtu.be/rYD5xl_qJ Wo https://youtu.be/byMqLWb 8XRg</p> |
| 5 | <p>Rational and non-rational numbers.</p> <p>Variations :-</p> <p>a. Direct</p> <p>b. Indirect/inverse</p> <p>c. Joint</p> <p>d. Partial</p> | <p>By the end of the lesson, students should be able to:</p> <p>i. identify and state rational and non-rational numbers, like $\frac{2}{5}$ and $\sqrt{2}$</p> <p>ii. solve problems involving;</p> <p>a. solve direct and indirect variations</p> <p>b. solve joint and partial variations</p> | <p>i. Students in small groups perform some operations like:</p> <p>a. $100 \div 3$</p> <p>b. $22 \div 7$</p> <p>c. $\sqrt{2}$</p> <p>d. $\frac{2}{5}$</p> <p>ii. a. If a boy takes ₦60 for 2 pens, how much will he take for 5 pens?</p> | <p>-Critical thinking and Problem solving</p> <p>-Leadership and Personal development</p> <p>-Communication and Collaboration</p> <p>-Creativity and Imagination</p> | <p>i. A tape measure</p> <p>ii. Elastic string</p> <p>iii. A cylindrical object with one side open</p> <p>iv. Calculating devices</p> <p>Site Links: www.siyavula.com www.mathwarehouse.com</p> <p>Video Links:</p> |

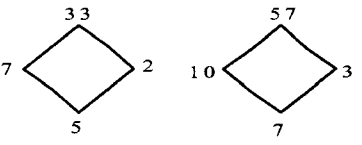
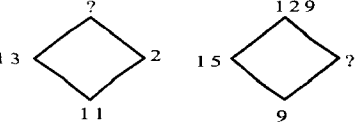
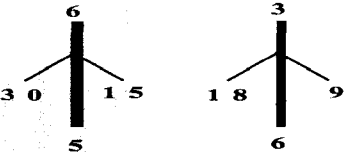
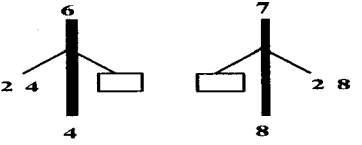
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| | <p>Importance:</p> <ul style="list-style-type: none"> -Commerce -Manufacturing companies -Transportation | | <p>b. if two boys clean a classroom in 2 hours, how long will it take one boy?</p> <p>Quantitative Reasoning.</p> | | <p>https://youtu.be/_e5GEw8BJPA</p> <p>https://youtu.be/AMzCEcsd09o</p> <p>https://youtu.be/Dv8tm6HSVYA</p> |
| 6 | <p>Factorization: -</p> <p>i. Factorization of expressions of the form</p> <p>a. $a + ay$</p> <p>b. $3m + pq + 3p - mp$</p> <p>c. $a^2 - b^2$</p> <p>d. $a^2 - 2a^2 + b^2$</p> <p>ii. Real life problems involving factorization</p> <p>Importance :</p> <ul style="list-style-type: none"> -Technology -Building construction -Marketing and sales | <p>By the end of the lesson, students should be able to:</p> <p>i. factorize simple algebraic expressions;</p> <p>ii. factorize quadratic expression;</p> <p>iii. solve real life problems on factorization</p> | <p>Number of flats in an estate and the community gate leading to them; identify the ones with common colour paints and some with common roofing sheets.</p> <p>Quantitative Reasoning.</p> <p>3 ↑ 4 = 1 2 7</p> <p>4 ↓ 2 = 2 2</p> <p>5 ↑ 3 = <input type="text"/></p> <p>7 ↓ 2 = <input type="text"/></p> | <ul style="list-style-type: none"> -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <p>i. Quadratic equation box cards;</p> <p>ii. Flash cards on word problem</p> <p>iii. Common objects in different colours</p> <p>Site Links: www.shelovesmath.com www.math-only-math.com</p> <p>Video Links: https://youtu.be/ctqviXu-mTE https://youtu.be/MluYTQ_yrb0 https://youtu.be/jZFWyy5lvSk</p> |
| 7 | <p>Revision of first half term's work</p> <p>Importance:</p> <p>An appraisal of students ability-strengths and weakness</p> | <p>By the end of the lesson, students should be able to:</p> <p>i. recap previous lesson and partake in the period test</p> | <p>Students solve problems in small groups. Student write test independently</p> <p>Quantitative Reasoning.</p> <p>if $p \oplus q = \frac{p + q}{2}$</p> <p>Evaluate: $3 \oplus 5$</p> | <ul style="list-style-type: none"> -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <p>Project:</p> <p>i. a weighing balance</p> <p>ii. exercise from recommended texts and past question</p> |
| 8 | <p>a. Simple linear equations</p> <p>b. Equations involving fractions</p> <p>c. Word problems on simple linear equations involving fractions</p> | <p>By the end of the lesson, students should be able to:</p> <p>i. solve simple linear equations;</p> <p>ii. solve linear equations involving fractions</p> <p>iii. real life problems on linear</p> | <p>Students in groups translate and solve:</p> <p>i. Half an amount of money added to ₦1 gives ₦9. How much is the original money?</p> <p>ii. Half a certain sum of money added to two-third of the money gives 18.</p> | <ul style="list-style-type: none"> -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <p>i. Flash cards with simple equation involving fraction</p> <p>ii. Some oranges or limes</p> <p>iii. Exercises frpm recommended</p> |

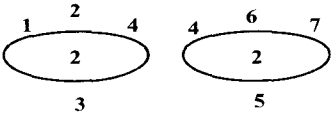
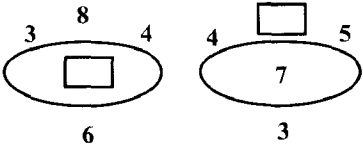
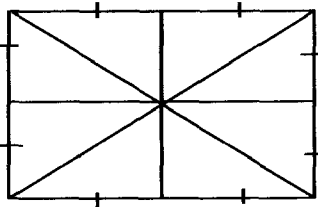
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| | <p>Importance:</p> <ul style="list-style-type: none"> -Shares and Dividends -Business transactions -Farming -Agriculture | equations | <p>What is the original value?</p> <p>Quantitative Reasoning.</p> $a \ominus b = \frac{a \times b}{a \times b}$ <p>Evaluate: (I) $9 \ominus 3$</p> <p>(ii) $\frac{2}{3} \ominus \frac{1}{4}$</p> | | <p>textbooks</p> <p>iv. Past BECE questions</p> <p>Site Links: https://www. https://www.</p> <p>Video Links: https://youtu.be/wb0yeN7gl7E https://youtu.be/GYNK6NDNEFk https://youtu.be/Rs0TJda7r78</p> |
| 9 | <p>Change of subjects of formulas (+, -, x, ÷, √, ↑)</p> <p>Importance:</p> <ul style="list-style-type: none"> -Leadership -Policies making -Sports | <p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> i. Express one unknown in terms of others; ii. Manipulate formulae using operations: addition, subtraction, multiplication, division, root and power of numbers | <p>-Students in groups share coloured pencils and give different coloured pencils to each of the group leaders.</p> <p>-Students exchange, do placement and reshuffling of pencils among themselves to learn change of subject of formula.</p> <p>Q.R</p> <p>Given:</p>  <p>Solve:</p>  | <p>;</p> <ol style="list-style-type: none"> i. Leadership and personal development; <p>Digital literacy</p> | <ol style="list-style-type: none"> i. Algebraic cards with different colours, rashes and arrangement ii. Charts of some internal equation iii. Exercises from recommended textbooks iv. Past BECE questions <p>Site Links: www.open.edu www.transum.org</p> <p>Video Links: https://youtu.be/nHZAEAJGJ4A https://youtu.be/GKZ_vC5fu00</p> |
| 10 | <p>Compound Interest</p> <ol style="list-style-type: none"> a. Revision of simple interest b. Compound interest | <p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> i. recap previous lessons on simple | <p>1.) Students do a role play on daily petty business whereby a trader applies for a simple loan from a money lender with</p> | <p>-Critical thinking and Problem solving</p> <p>-Leadership and Personal development</p> <p>-Communication and</p> | <ol style="list-style-type: none"> i. Currency in different denominations ii. Sample cards of |

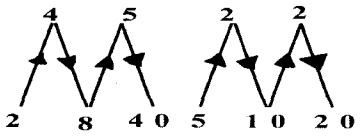
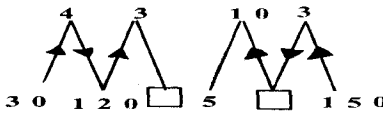
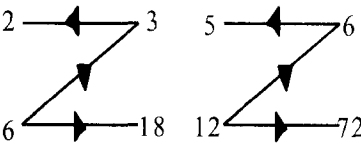
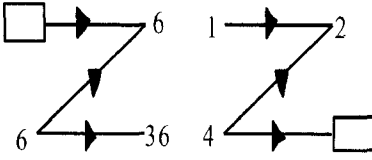
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| | <p>Importance:</p> <ul style="list-style-type: none"> -Trade and Commerce - Accounting | <p>interest</p> <ul style="list-style-type: none"> ii. solve problems on compound interest: iii. apply compound interest in real life situations | <p>$2\frac{1}{2}\%$ compound interest per month for 6 months.</p> <p>2.) Students in groups calculate the compound interest on the loan for 6 months.</p> <p>Quantitative Reasoning.</p> <p>8 — 4 $\begin{cases} 3 & 2 \\ 1 & 2 \end{cases}$</p> <p>Find</p> <p>3 — 1 5 $\begin{cases} 4 & 5 \\ \square & ? \end{cases}$</p> | <p>Collaboration</p> <ul style="list-style-type: none"> -Creativity and Imagination | <p>savings and daily contributions</p> <ul style="list-style-type: none"> iii. Exercises from recommended textbooks; <p>Site Links: www.mathgoodies.com www.hitbullseye.com</p> <p>Video Links: https://youtu.be/6AZijeJDmgY https://youtu.be/yAbK73qrKms https://youtu.be/xL5Cm7kqjo</p> |
| 11 | Revision of second half term lessons and period test | <p>By the end of the lesson, students should be able to:</p> <ul style="list-style-type: none"> i. Revise and recap the second term's lesson ii. Answer the periodic test questions correctly | <ul style="list-style-type: none"> i. students practice in groups and treat some past questions ii. students attempt the test questions correctly. | | <ul style="list-style-type: none"> i. past examination question ii. BECE past question |
| 12 | First Term Examination and vacation | Students should be able to attempt examination questions correctly | Students attempt the questions. | | Answer script and writing materials |
| 13 | Examinations | Examinations | Examinations | Examinations | Examinations |

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| 3 | <p>a. Graphical method of simultaneous linear equations</p> <p>b. Application to real life situation</p> <p>Importance:</p> <ul style="list-style-type: none"> -Accounting -Sales and Marketing -Manufacturing industries -Engineering | <p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> i. solve graphically simultaneous linear equation ii. apply simultaneous linear equation to real life problems | <p>Students in small groups solve simultaneous equation on two different paints in quality and price, for instance; 2 tins of blue emulsion and 3 tins of gloss cost ₦3,500 for grade A, while 3 tins of emulsion and 2 tins of gloss for grade B cost ₦4,000. Averagely, what is the cost of one emulsion and one gloss irrespective of grade?</p> <p>Quantitative Reasoning.</p> <p>If</p>  <p>Complete this:</p>  | <ul style="list-style-type: none"> -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <ol style="list-style-type: none"> i. Drawing instruments: ruler, marker board, drawing sheet, cleaner ii. Flash cards iii. Questions from past BECE and recommended textbooks <p>Site Link:</p> <p>www.math-only-math.com</p> <p>www.smartmethod.com</p> <p>Video Sites:</p> <p>https://youtu.be/YtyveL7SrEE</p> <p>https://youtu.be/Or8TcSeONNA</p> |
| 4 | <p>Geometry:</p> <p>Similar shapes:</p> <ol style="list-style-type: none"> a. identification of plane shapes; b. enlargement and scale factors: enlarge and reduce figures using scale factors | <p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> i. identify similar figures in the triangles, rectangles, squares, cuboids, cubes; ii. similar figures in the school store; iii. enlarge figures using scale factors; iv. determine the scale factor of a given figure | <p>Students observe and compare two cylindrical and two triangular objects based on their capacity.</p> <p>Quantitative Reasoning.</p> <p>If</p>  | <ul style="list-style-type: none"> -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <ol style="list-style-type: none"> i. similar wooden plane shapes: triangles, rectangles, cuboid and cube ii. drawing material: ruler, pencil, tape rule, pencil, cleaner; iii. BECE past questions <p>Site Links:</p> <p>www.splashlearn.com</p> |

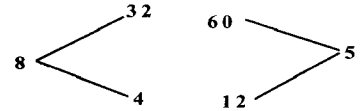
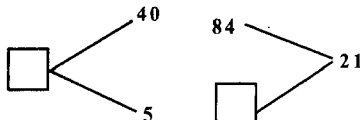
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| | <p>Importance:</p> <ul style="list-style-type: none"> -Surveying and Geoformatics -Engineering -Sports | |  | | <p>www.</p> <p>Video Sites:</p> <p>https://youtu.be/leoNIKbtWko</p> <p>https://youtu.be/Cag7m-Y-4vw</p> |
| 5 | <p>Geometry continued</p> <p>Lengths, areas and volumes of similar figures</p> <p>Importance:</p> <ul style="list-style-type: none"> -Transportation -Manufacturing -Petty trading | <p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> i. calculate the lengths, areas and volumes of some given figures; ii. differentiate between volume and areas of the figures | <ol style="list-style-type: none"> i. Students use tape measure or board ruler to measure desks, tables, cylindrical tins; ii. Students use gauge to determine the volume of cylindrical tins of water at different capacity levels, and record the measurement to compare. <p>Quantitative Reasoning.</p>  | <ul style="list-style-type: none"> -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <ol style="list-style-type: none"> i. Similar wooden shapes of triangles, rectangles, squares etc ii. Models of solid shapes e.g cuboids, cubes, trapezoid etcetera iii. BECE past question iv. CASIO Calculating device <p>Site Link:</p> <p>www.onlinemathlearning.com</p> <p>www.mathplanet.com</p> <p>Video Sites:</p> <p>https://youtu.be/9q43OxCKaXs</p> <p>https://youtu.be/yOAWzd2R4nw</p> |
| 6 | <p>Area of plane shapes:</p> <ol style="list-style-type: none"> a. parallelogram b. trapezium c. circle d. rectangles | <p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> i. calculate the area of a triangle ii. find the area of a trapezium iii. calculate the area of a | <p>Students make plane figures on the surface of a rectangular graph geoboard, measure the dimension of each, then compare the results with the results by formula.</p> <p>Quantitative Reasoning</p> | <ul style="list-style-type: none"> -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <ol style="list-style-type: none"> i. Models of plane shapes, triangles, parallelogram, circle ii. Recommended textbooks iii. Past BECE |

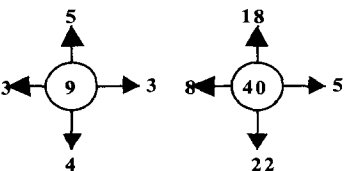
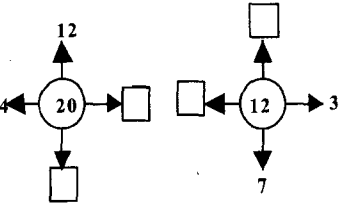
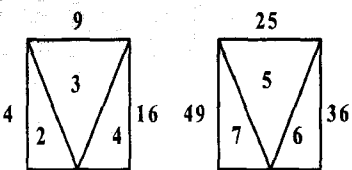
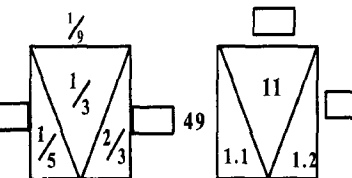
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| | <p>Importance:</p> <ul style="list-style-type: none"> -Manufacturing industries -Engineering -Surveying and Planning | <p>iv. parallelogram calculate the area of a circle</p> |  <p>Complete these:</p>  | <p>questions</p> <p>Site Link: www.aplustopper.com www.toppr.com</p> <p>Video Sites: https://youtu.be/qp6VcATr6 https://youtu.be/LoaBd-sPzkU</p> | |
| 7 | <p>Revision of first half term's work</p> <p>Importance: An appraisal of students' learning</p> | <p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> recap previous lessons and attempt the test questions correctly <p>Project:</p> <ol style="list-style-type: none"> Wooden wall clock showing time, using degree of angles for numbering on the clock face. Board rulers | <p>i. Students solve problems in small groups.</p> <p>ii. Student attempt the test questions.</p> <p>Given:</p>  <p>Complete</p>  | <p>www.khanacademy.com</p> | |
| 8 | <p>Area of plane shapes (contd)</p> <ol style="list-style-type: none"> Area of sector Area of segment Real life problems leading to areas of plane shapes | <p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> find the area of a sector find the area of a segment of a circle; solve real life problems on areas of | <ol style="list-style-type: none"> Students use pieces of cardboard to make sectors of a circle and segments of a circle Students measure dimensions of each piece made and find their areas | <ul style="list-style-type: none"> -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <ol style="list-style-type: none"> Cardboard in various colours Some wooden plane shapes Tape rule Razor, pencil, cleaner, |

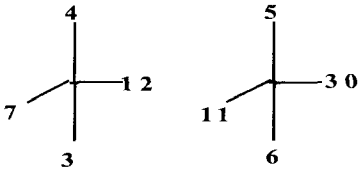
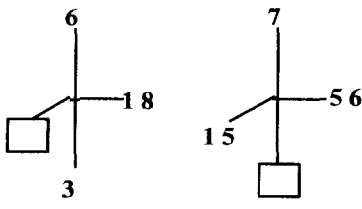
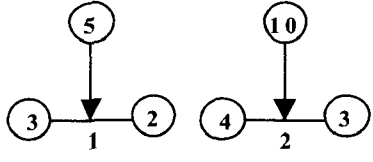
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| | | <p>plane shapes</p> <p>iv. solve BECE past question on plane figures</p> | <p>Quantitative Reasoning</p> <p>Given</p>  <p>Complete</p>  | | <p>ruler etcetera</p> <p>v. BECE past question</p> <p>Site Link: www.onlinemath4all.com www.onlinemathlearning.com</p> <p>Video Sites: https://youtu.be/hlcUtoLB13U https://youtu.be/vqoTudvn5rA</p> |
| 9 | <p>Trigonometrical Ratios:</p> <p>a. the sine, cosine and tangent of an acute angle of a right angled triangle</p> <p>b. application of trigonometrical ratios to solve problems on angles and sides of a right triangle</p> <p>Importance:</p> <ul style="list-style-type: none"> -Engineering -Surveying and Planning -Civil Engineering -Manufacturing Industries | <p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> identify the sine, cosine and tangent of an angle in a right-angled triangle solve problems on application of trigonometric ratios to finding angle, distance and lengths apply trigonometric ratios in solving real life problems. | <p>Students measure the distance between a projector's stand leaning on the wall and the angle it makes with the wall.</p> <p>Quantitative Reasoning</p> <p>How many rectangular and triangular figures can be gotten from this shape?</p>  | <p>-Critical thinking and Problem solving</p> <p>-Leadership and Personal development</p> <p>-Communication and Collaboration</p> <p>-Creativity and Imagination</p> | <ol style="list-style-type: none"> Students mathematical set of instrument Board drawing instruments: ruler, marker, 60° and 30°, protractor and cleaner Four-figure table Questions from recommended textbook BECE past question Calculating device <p>Site Link: www.mathsisfun.com www.khanacademy.org</p> <p>Video Sites: https://youtu.be/4yLGNd-rXEI https://youtu.be/uIXY6IONMwE https://youtu.be/1okhBnvuu ck</p> |

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| <p>10</p> | <p>Angles of elevation and depression Study of measurement using clinometer</p> <p>Importance: -Building Technology -Civil Engineering -Quantity Survey</p> | <p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> apply trigonometric ratio to find angles of elevation and depression use clinometer to demonstrate, estimate and calculate angles and distances between objects | <p>i. Students measure</p> <ol style="list-style-type: none"> an angle of depression of a fruit on the ground an angle of elevation of the top of a hoisted flag using a clinometer. <p>Quantitative Reasoning If</p>  <p>Complete</p>  | <p>-Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination</p> | <ol style="list-style-type: none"> Measuring tape Writing material: pencil, cleaner, marker, ruler Calculating device <p>Site Links: www.math-only-math.com www.smathmethod.com</p> <p>Video Sites: https://youtu.be/uyKvSe6Ltg https://youtu.be/rVNHdZOWVU8</p> |
| <p>11</p> | <p>Revision: General Revision of the term's work</p> <p>Importance: a. Recapulating of learnings b. Appraisal of lessons c. Preparation for examination</p> | <p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> recap lessons of the term work on strengths and weaknesses in learning in the term fully prepared for the term's examination | <p>Students exchange learning using past questions on various topics</p> <p>Q.R:</p>  <p>Complete</p>  | | <ol style="list-style-type: none"> Class exercise and assignment notes School past examination question BECE past question Selected question from recommended textbook(s) |

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| 12 | <p>Examinations</p> <p>Importance:</p> <ul style="list-style-type: none"> i. Assessment of students' progress ii. Assessment of teaching and learning process | <p>By the end of the examination, students should be able to answer the examination questions correctly on cognitive and psychomotor domains.</p> | <p>Students attempt the questions independently under teacher's supervision</p> | | <ul style="list-style-type: none"> i. Examination question papers ii. Answer script and writing materials |
| 13 | Examinations | Examinations | Examinations | Examinations | Examinations |

| WKS | TOPICS | LEARNING OBJECTIVES | LEARNING ACTIVITIES | EMBEDDED CORE SKILLS | LEARNING RESOURCES |
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| 1 | Resumption test and review of last term's work and examinations | By the end of the lesson, students should be able to: <ol style="list-style-type: none"> recap the previous lesson attempt last examination questions answer resumption test correctly | -Students solve some difficult areas in the last examinations. -Students work more problems for effective learning | -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <ol style="list-style-type: none"> Last term's examination question paper Resumption test paper |
| 2 | Basic construction: Bisection of angles: <ol style="list-style-type: none"> Construction of 45° Construction of 30° <p>Importance:</p> <ul style="list-style-type: none"> -Engineering -Survey and Planning -Building Technology | By the end of the lesson, students should be able to: <ol style="list-style-type: none"> construct angle 45° construct angle 30° construct angles and lines of plane shapes. | Students interact and construct angles with the teacher's guidance, using mathematical set instruments Quantitative Reasoning  Complete  | -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <ol style="list-style-type: none"> Plane drawing sheet Construction instruments Drawing and sketching material: pencil, cleaner etcetera BECE past question <p>Site Link: www.math-only-math.com www.cuemath.com</p> <p>Video Link: https://youtu.be/wYeDgQShXq4 https://youtu.be/ndieWRqsT00</p> |
| 3 | Measure of Central tendency: <ol style="list-style-type: none"> Revision of previous work on mean, median and mode Median, mode, mean, range | By the end of the lesson, students should be able to: <ol style="list-style-type: none"> recap previous work on mean, median and mode calculate the mode of any given data calculate the mean of any given data find the range of any given data | Students in small groups use the ages of students in the class to calculate the mean age, median age, the modal age and age range of students in their class. Quantitative Reasoning | -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | <ol style="list-style-type: none"> Collected ages of students Collected number of birth, in a local clinic in period Students record y scores in the term BECE past question |

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| | | |  <p>Complete</p>  | <p>Site Link: www.statisticshowto.com www.universalclass.com</p> <p>Video Sites: https://youtu.be/A1mQ9kD-i9I https://youtu.be/81zcyjULh58</p> |
| 4 | <p>Application of measures of central tendency:</p> <p>Importance:</p> <ul style="list-style-type: none"> -Business -Schools -Industries -Transport | <p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> i. Collect data ii. Analyze data and iii. Interpret data collected from immediate environment and iv. Calculate measures of central tendency on it | <p>Each student in the class list his/her last term's score and find</p> <ol style="list-style-type: none"> i. Mean ii. Median iii. Mode iv. Then find the range v. <p>Q.R:</p>  <p>Complete These:</p>  | <ul style="list-style-type: none"> i. information on statistics ii. information from election result iii. number of sales of raw food in a period iv. informative from the immediate environment v. BECE past question <p>Site Link: www.slideshare.net www.yourarticlelibrary.com</p> <p>Video Sits: https://youtu.be/UHbiF8xT69 Y</p> |

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| 5 | <p>Data presentation</p> <p>-Pie chart</p> | <p>By the end of the lesson, students should be able to interpret and represent information on a pie chart</p> | <p>Students use a pair of compass to draw a circle and a protractor to measure out angles with teacher's guidance.</p> <p>Quantitative Reasoning</p>  <p>Complete these</p>  | <p>-Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination</p> | <p>i. information on statistics ii. information from election result iii. number of sales of raw food in a period iv. informative from the immediate environment v. BECE past question vi. Calculating devices</p> <p>Site Link: www.mathsisfun.com www.meta-chart.com</p> <p>Video Sites: https://youtu.be/1oShnkmA_ww https://youtu.be/p_nPxTRuLxo</p> |
| 6 | <p>Bar chart and Histogram</p> | <p>By the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> draw a bar chart of some given data draw an histogram of some given data | <p>Students do a rerepresentation of number of students in each row in the class using:</p> <ol style="list-style-type: none"> a bar chart an histogram on graph <p>Quantitative Reasoning</p>  <p>Complete these</p> | <p>-Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination</p> | <p>i. information on statistics ii. information from election result iii. number of sales of raw food in a period iv. informative from the immediate environment v. BECE past question</p> <p>Site Link: www.toppr.com www.forbes.com</p> |

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| | | | | | Video Sites: https://youtu.be/_n-tCW6DXA https://youtu.be/ggCTHXrLZ 10 |
| 7 | Revision of first half term's work Importance: An appraisal of students' learning. | By the end of the lesson, students should be able to: ii. recap previous lessons and iii. attempt the test questions correctly | Students solve problems in small and large groups using BECE question papers with teacher's guidance Quantitative Reasoning $\int_0^1 d_3 = 3 \quad \int_3^5 d_7 = 14$ Complete these $\int_2^6 d_3 = \square \quad \int_1^{\square} d_3 = 9$ | -Critical thinking and Problem solving -Leadership and Personal development -Communication and Collaboration -Creativity and Imagination | i. BECE past question ii. Youtube: www.tutorialspoint.com |
| 8 - 9 | Mock examination | By the end of the period, students should be able to answer the mock examination questions correctly in preparation for BECE | i. Students attempt questions independently ii. Students submit answer scripts individually | i. Critical thinking and problem solving ii. Collaboration and communication iii. Creativity | i. Question and answer scripts ii. Writing materials: pencil, cleaner etcetera iii. Four-figure table iv. Calculating device |
| 10 | Junior Secondary School Certificate Examination | By the end of the period, students should be able to answer the mock examination question correctly in preparation for BECE | i. Students attempt questions independently ii. Students submit answer scripts individually | i. Critical thinking and problem solving ii. Collaboration and communication iii. Creativity | i. Question and answer scripts ii. Writing materials: pencil, cleaner etcetera iii. Four-figure table vii. Calculating device |