## What is it that we want our students to know, understand, do and communicate KUDCO?

<table>
<thead>
<tr>
<th>Year Level: Four</th>
<th>Semester: Two</th>
<th>Subject: Mathematics</th>
<th>Team Members: Melina Shenoy, Kim Cleghorn, Claire Crozier, Jeanette Shine &amp; Donna Lourensz</th>
</tr>
</thead>
</table>

### Essential Learning

**Fractions (new EL)**
- I can count by unit fractions using all three models - area, length and quantity.

**Learning Targets:**
- I can:
  - count by quarters, halves, thirds, fifths and tenths,
  - locate fractions on number line,
  - count by unit fractions including mixed numbers,
  - recognise common equivalent fractions in familiar contexts.

### Example-Rigor

- I can place various fractions on a number line.
- I can count beyond one by fractions.
- I can represent fractions larger than one as a mixed number.
  eg. 1 ½
- I can represent common fractions and equivalent fractions using: area,
  length
- I can identify common equivalent fractions. - ½, 2/4, 3/6.
- I can identify quarters, halves and thirds.
- I can find a simple fraction of an area, length and quantity.
- I can record a fraction as a numerator and denominator.
- I can read and use a fraction wall.
  Understand:
  - area
  - length

### Prior Skills Needed

- What prior knowledge, skills and/or vocabulary are needed for a student to master this essential learning?

### Common Assessments

- CFA Pre-Test for extension students.
- Post - Test from previous Equivalent Fraction unit to be used as pre-assessment data.
- Post - Test
  - Think board (Area, Length, Quantity) reasoning to explain.
  - Van De Walle
  - Envision (Selected pieces modified by the team).

### When taught?

- Term 3 Week 1-5

### When will this essential learning be taught?

- I can provide examples when each model would be used in real life.
  - eg. Fraction of an area (grid, shape, array)
  - Fraction of a length (eg. Use a number line to show ⅕ of 25km).
  - Fraction of a quantity (10 horses. ⅖ are brown. How many are brown?)

### Extension Skills

- I can explain the difference between these pairs of fractions (equivalent vs nonequivalent).

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**BLUE = Number and Algebra, RED = Measurement and Geometry, GREEN = Statistics and Probability.**
<table>
<thead>
<tr>
<th>Length and quantity models.</th>
<th>I can use resources to determine equivalent fractions: - Fraction walls, cuisenaire rods, ● common fractions (parts, whole, collection) The larger the denominator, the smaller the fraction piece.</th>
<th>Fractions of shapes on a grid Fractions on a line Fractions of a group</th>
<th>I can simplify fractions using a common factor.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can represent equal fractions and decimals in different ways: area, lengths, quantity. - area model</td>
<td>I can write and identify simple fractions. I know fractions represent equal parts I understand the area, length and quantity models to identify fractions.</td>
<td>CFAs Anecdotal notes</td>
<td>Term 3 Week 6 - 8 I can link decimals and fractions and model their relationship. I can link decimals and percentages and model their relationship. I can link fractions, decimals, percentages and model their relationship. I understand connections between tenths and hundredths and decimal numbers. I can explain that decimals and percentages can be found through division eg. 1 divided by 4 is 0.25 or 25%.</td>
</tr>
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**ELSP MATHEMATICS YR 4**

| (Money) | I can solve problems involving purchases with and without the use of digital technology. **Learning Targets:**
| I can: |
| - add and subtract values of money |
| - round numbers to the nearest 5 cent. |
| - calculate change to the nearest five cents. |
| | I can place ¾ on a number line and can also place 0.75. |
| | I can make simple connections between fractions, percentages and decimals |
| eg. ¼ = 0.25 = 25%, ½ = 0.50 = 50% |
| | I can use the halving strategy to find fractions, decimals and percentages. |
| eg. ½ /2 = ¼ or 25% |
| eg. 0.5 / 2 = 0.25 or 25% |
| | I can round to the nearest 5c. (74c rounds to 75c, 72c rounds to 70c, 78c rounds to 80c) |
| | I can explain the role of the decimal point in monetary values. |
| | I can problem solve using real life contexts. |
| - With a set amount of money students purchase items and round total value and change to the nearest 5 cents. |
| I can round to the nearest 5c. |
| Estimating. |
| Problem solving skills. |
| I can read monetary amounts and explain their values. |
| Renaming, addition and subtraction. |
| I can explain that cents are part of a dollar. |
| Worded problem. |
| Buy products, how much was it and how much change. (given an amount of money and a number of products they have to buy) - differentiate amounts given |

**Term 4 Week 1-2**

Creating a budget or a plan to spend a certain amount of money.

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### Units of Measurement

**Learning Targets:**

**I can:**
- Estimate and measure mass
- Capacity
- Temperature

**I can use the appropriate instrument to measure units of measurement and explain why it is the appropriate instrument.**

**I know:**
- The order of: mm, cm, m, km, g, kg, ml, L, degrees celsius.
- Can use a scale (e.g., balance scale, bathroom scale).
- Read a thermometer.

**Hands on activities incorporating the use of scaled instruments.**

**Term 4, weeks 3-4**

**I can convert between units of measurement.**

**I can provide examples of how they are linked and related.**

**I can use scaled instruments to measure units of measurement.**

### Shapes within Shapes

**I can compare and describe how common shapes can be combined to make other common shapes.**

**I can describe the features of 2D shapes.**

**I can find shapes within other shapes (e.g., 2 triangles = 1 square/5 triangles = 1 pentagon, trapezium = 1 rectangle + 2 triangles/1 square + 2 triangles).**

**I can identify, name, create, and draw basic 2D shapes:**
- square, triangle, rectangles

**CFAs Anecdotal Notes**

**Term 3, weeks 1-3**

**I can identify 2D shapes within 3D shapes.**

**I can use shape transitions (flips, slides and turns) to combine shapes to create other shapes.**

### Symmetry/Asymmetry

**I can create, identify and describe symmetrical and asymmetrical patterns,**

**I can identify horizontal, vertical and diagonal lines of symmetry.**

**I can identify multiple lines of symmetry.**

**I can explain if an image or object is symmetrical or not.**

**I can show a line of symmetry on a shape.**

**CFAs Anecdotal Notes**

**Term 4, weeks 5 - 7**

**I can identify rotational symmetry.**

**I can create images with/visualise rotational symmetry.**

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<tr>
<th>Learning Targets:</th>
<th>I can identify symmetry and asymmetry in natural and man made objects:</th>
<th>I know what a tessellating pattern is (a repeated pattern of shapes).</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>with and without digital technologies.</em></td>
<td>- Lines of symmetry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Tessellating shapes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Natural/ manmade</td>
<td></td>
</tr>
</tbody>
</table>

(\textit{Time})

<table>
<thead>
<tr>
<th>Learning Targets:</th>
<th>I understand:</th>
<th>Counting on - working out the difference between two time allocations.</th>
<th>Anecdotal notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can use am and pm and convert between units of time.</td>
<td>- am and pm</td>
<td>I know that there are 24 hours in a day, 60 minutes in an hour.</td>
<td>Pre-Test</td>
</tr>
<tr>
<td><em>Learning Targets:</em></td>
<td>- The link between units of time</td>
<td>I know the features of an analogue clock.</td>
<td>Post- Test</td>
</tr>
<tr>
<td>Time duration/</td>
<td>- Time duration/</td>
<td>- the long hand = minutes</td>
<td>CFAs</td>
</tr>
<tr>
<td></td>
<td>elapsed (jump strategy)</td>
<td>- the shorthand = hours</td>
<td></td>
</tr>
<tr>
<td>I understand that 12pm is in the afternoon.</td>
<td>I can calculate elapsed time.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can count on by hours and minutes (to a multiple of 5) eg. 3 o’clock to 3:15 = 15 minutes</td>
<td>eg. I began an activity at 11:00am. It finished at 3pm. How long did it take? (11:15am to 3:00pm)</td>
<td></td>
<td></td>
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\textbf{BLUE=} Number and Algebra, \textbf{RED=} Measurement and Geometry, \textbf{GREEN=} Statistics and Probability.
I can convert between units of time.
  eg. I know that 2 days is 48 hours.

I know quarter past, half past, quarter to and o’clock.

I can tell time to the nearest minute.

I can collect data using a variety of methods (table, survey, tally, ICT, observations).

I can present my data using an appropriate display e.g. column, bar, dot, pie, line graphs, table (drawn, Excel, ICT program).

I can include the basic features on a data graph.

Create graphs given the key and scales.

Term 4, Weeks 5-7

I understand the purpose of a survey and how to graph data so that it is EASIER to interpret than just numbers

I can collect, display and interpret data to construct a variety of displays:
  - tables
  - columns, dot, pie, bar, line graphs.

I understand that different graphs can provide different information about the same data.

I can list different data collection methods (tally, table, survey, observations).

Anecdotal notes CFAs (Students choose and create best display for given data).

Term 4, weeks 5-6

I can identify which graph best meets my needs.

I can compare and contrast the effectiveness of

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I can:
- draw conclusions from data displays.
- I can use the data to draw conclusions about the topic.
- I can interpret given data.
- I can interpret keys and scales from data displays.

I can list different data displays (column, bar, pie, line, pictograph)
- I can record data on displays (column, bar, pictograph)

I can compare and contrast the effectiveness of different displays.

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