NUMBER SENSE AND ALGEBRA – OPERATING WITH PERCENTAGES (OwP)

OwP1 – UNDERSTANDING PERCENTAGES AND RELATIVE SIZE

- ☐ I can interpret per cent as meaning 'out of 100'
- ☐ I can recognise that 100% is a complete whole
- ☐ I can recognise percentage as an operator, e.g. percentage is of an amount such as 17% of 80
- ☐ I can use percentages to describe and compare size, e.g. select the container that is 75% full or find an object that is 50% larger
- ☐ I can represent percentages of amounts

OwP2 – FIND PERCENTAGE AS PART OF A WHOLE

- ☐ I can use fraction benchmarks to find percentages of quantities, e.g. to find 30% of 60 I find 10% of 60 which is 6 and multiply it by 3
- ☐ I can find a percentage of a quantity, e.g. 10%, 20%, 25%, 50%, 75%, and multiples of these
- ☐ I can use multiplication to find the percentage of any amount, e.g. $13\% \; of \; 160 \; is \; \frac{13}{100} \times 160 = 20.8$
- ☐ I can find percentages of one quantity and express one quantity as a percentage of another, e.g. find 20% of 13 and determines what percentage \$13 is of \$20

OwP3 – FIND A PART OF A WHOLE AS A PERCENTAGE

- ☐ I can use a strategy to find a percentage that represents part of a whole, e.g. what per cent is 7 of 28?

OwP4 – FIND THE WHOLE FROM A PERCENTAGE AND A PART

- ☐ I can find the whole given a percentage, e.g. if 20% is 13 ml, what is 100%?
- ☐ I can find the whole for a range of multiplication problems, e.g. percentages for calculating discounts and rates for best buys

OwP5 – ADDING A PERCENTAGE AS MULTIPLYING

- ☐ I can increase and decrease quantities by a percentage to determine discounts and mark-ups
- ☐ I can use percentages to calculate simple interest on loans and investments
- ☐ I can recognise that adding a percentage is equivalent to multiplication, e.g. adding 3% is the same as multiplying by 1.03

OwP6 – REPEATEDLY ADDING A PERCENTAGE

- ☐ I can use percentage increases or decreases as an operator, e.g. a 3% increase is achieved by multiplying by 1.03, and four successive increases is achieved by multiplying by 1.03^4
- ☐ I can choose appropriate strategies to solve a range of multiplication problems
- ☐ I can use percentages to calculate compound interest on loans and investments
- ☐ I can critically evaluate claims that involve calculating percentages, e.g. why is a 10% increase followed by a 10% discount different from the original price?

This document has been adapted from the National Numeracy Learning Progression (NSW Syllabuses – May 2018)
http://educationstandards.nsw.edu.au/wps/wcm/connect/7a7c08ac-8c7b-43db-934b-4a71f46a790e/national-numeracy-learning-progression.pdf?MOD=AJPERES&CVID