Sharing Apples Task – Teacher Guide

Task:

- How many ways can 36 apples be shared into equal groups?
- Show all the ways to share 36 apples into equal groups.

- Provide each student with a copy of the Sharing Apples Task.
- Set the student/s to work on the task initially without hands on resources.
- Giving students a chance to work just on paper first may elicit possible higher-level responses.
- Students can be offered materials e.g. counters to model the activity if they can't get started.

AC V9.0 Year 2 Achievement Standard

Use mathematical modelling to solve **practical multiplicative problems**, **representing the situation** and choosing calculation strategies.

AC V9.0 Year 2 Content Descriptors

AC9M2N05 Multiply and divide by one-digit numbers using repeated addition, equal grouping, arrays, and partitioning to support a variety of calculation strategies.

AC9M2N06 Use mathematical modelling to solve practical problems involving additive and **multiplicative situations**, including money transactions, **represent situations** and choose calculation strategies; interpret and communicate solutions in terms of the situation.

Assessment Criteria:

Focus	Below	Expected	Above
Identify multiplicative situations	Developing concept of equal groups e.g. did not identify when some groups were unequal	Recognised the task as multiplicative and was able to make or draw equal groups / arrays	Identified the number OF groups and IN EACH group without needing materials
Model practical multiplicative situations	Groups were not always equal and the total of 36 may not have been represented.	Used materials or drawings to show all 36 objects shared into equal groups or arrays	Used numbers only – did not need materials or pictures.
Represent multiplicative situations	Represented sharing by drawing apples in groups. Minimal use of numbers	Used numbers informally to represent the number OF and IN EACH group e.g. 4 nines or 4/9 or 4-9	Recorded as multiplicative equations e.g. 4 x 9 = 36 or 36 ÷ 4 = 9
Calculation strategies	Did not record the number OF groups or IN EACH group or only used some numbers	Checked that all 36 had been shared using counting / repeated addition e.g. 9+9+9+9	Used known multiplication / division facts
Interpret remainder in relation to the problem	Did not identify that left over objects meant the sharing did not create equal groups	Identified left overs as indication the sharing did not make equal groups.	Did not try groupings that would result in remainders or realised before completing the sharing it wouldn't share equally.
Efficiency	Tried group sizes that would not divide equally without realising. Found some ways to share 36 into equal groups but not all.	Found all the ways to share 36 by trying all combinations or by noticing the pairs e.g. 4 nines and 9 fours and included 1x36 and 6x6	Was confident they found all the ways to share 36 into equal groups using known number facts or by identifying a pattern in the multiplicative equations recorded or by being systematic.
Communicate strategies and reasoning	Recordings did not show solution strategies clearly enough to be interpreted.	Solution strategies and reasoning were identifiable.	Strategies and reasoning were clearly set out and provided a logical path toward a solution.

Related Learning Through Doing Lessons:

- Multiplication – Making Equal Groups
- Division – Sharing a Collection into Equal Groups

Checklist – Sharing Apples Task

Student Names	Identify Multiplicative Situations	Model practical multiplicative situations	Represent multiplicative situations	Calculation strategies	Interpret remainder	Efficiency	Communicate Reasoning