# Many-to-One – Part A

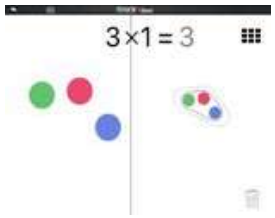
Video Link


## Summary

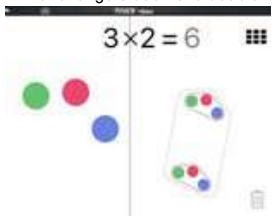
The process of multiplication involves two stages of unitisation (combining many parts into one whole) to get a product. Students investigate how the placement of their fingers when using Grasplify can create a many-to-one unit.


## Tasks

1. Display the image on the left. Explain that this is one pod of three and ask students to make two pods of three.

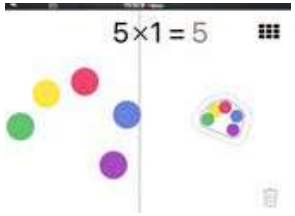



2. Challenge students to double the product using pips instead of pods.





3. Students must now figure out how to make a single pod of five, which can also be called a 5-pod.




**TEACHER TIP**

The goal of this task is for students to develop fluency in performing the unitising action with different numbers, using only 1 pod-finger.

**CAUTION!**

The many-to-one concept appears easy but children do not initially find this easy to do or easy to understand.

## What to Watch For

- Students must generate 5 pips first in order to create a single pod of 5 with one touch.
- It is common for students to initially place 1 pip-finger down and then tap 5 times sequentially with a pod-finger making five 1-pods instead of one 5-pod (see Figure a).
- If this strategy persists, invite children to try placing several pip-fingers on the screen simultaneously.
- Depending on which side of the screen students tap first, their number sentence may reflect 5 × 1 = 5 or 5 = 1 × 5 (Figure b). Either of which is a successful creation of a 5-pod.

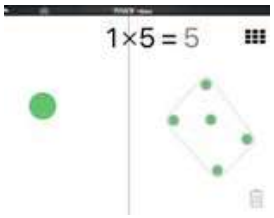



Figure a: One-to-Many
Five 1-pod finger touches

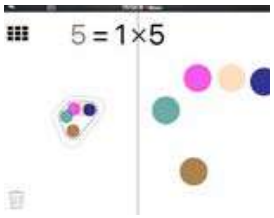



Figure b: Many-to-one
One 5-pod finger touch

## Questions to Ask

- *How did you double? How is doubling with the pips different than doubling the pods?*
- *You have five, what do you notice about the colours in the pod?*
- *Did you get this right away? If not, what did you do first? How did you know that was incorrect? How did you figure out how to create a 5-pod instead of five 1-pods?*
- *What will happen if we put one more pip down? What happened to the shape of the pod? What do you notice about the colours?*
- *If you put one pip down and then take one off, what will happen to the colour and the shape?*
- *5 × 1 = 5 and 5 = 1 × 5 are both ways of creating a single 5-pod. Does the order of the number sentence in this case matter? Why or why not?*

## Extending Student Learning

- How can you make three with one finger? How can you create a single pod of seven?

## Assessment

1. Using the image on the right, ask students to draw what the right side of the screen would look like if one finger was put down there.
2. Show how to make 1 bag of 6 marbles in Grasplify.

**TEACHER TIP**

Make explicit that the 5 represents the 5 pips and the 1 represents 1 pod, which in turn produces 5 (product).

**TEACHER TIP**

An important part of multiplication involves seeing how the colours work (spreading) and the various aspects of the co-ordination of quantities (unitising and multi-plying) that relate to both colour and shape.