Many-to-One – Part B

Video Link

TEACHER TIP

- The point of this task is for students to discover the limits of the iPad.
- Older generation iPads will allow a maximum of 11 pips.
- Newer generation iPads will allow a maximum of 17 pips.

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. Students are meant to discover that *n* pips must first be established in order for a single *n*-pod to be created. For example, in the photo to the left, four pips are established and then five 4-pods are created with each touch.

Tasks

1. Challenge students to make the largest pod possible.
2. Students will complete the next activity with pencil crayons and paper. Explain that, ***Lucas puts six pip-fingers down on the screen, like this. If his partner Benedict puts one pod-finger down to create a pod, draw what their pod will look like?***

What to Watch For

- Do students pay attention to the shape and colours of the pods?
- We want students to notice not only the unitisation but also the relationship between the pips on one side and the colour and shape of the pod configuration on the other side, as noticing this relation is crucial for seeing the multi-plying.
- This is a good time to consolidate the vocabulary of pips and pods.

Questions to Ask

- *How do you know that is the biggest pod that you can make.*
- *What will Benedict's pod look like? Describe it in detail.*
- *What will the shape of the pod look like and what colours are the pips?*
- *Does the pod have to be in this exact configuration or shape? Why?*
- *Do the colours matter?*
- *How do you know this pip (choose one) has to be this colour.*
- *What if Lucas added another pip, how would the pod change?*

Extending Student Learning

Early finishers can be encouraged to go further by asking them to draw:

- *What would happen if Lucas lifted a finger off the iPad?*
- *What if Lucas placed two more pip-fingers on the iPad?*

Assessment

Benedict had created the pips and pods that you can see in the photo. Draw a picture showing what the screen would look after Benedict places two more fingers on the right side of the screen.