



The ViduKids matrix

The matrix provides an overview. It has two dimensions.

- 1) The first dimension is the **video production level**. We provide **entry**, **intermediate** and **advanced** video production examples. These levels are not based on mathematics levels. There is a range of production levels from beginners to more advanced video producers. The levels also build on each other. The knowledge acquired with the entry task can be applied to the intermediate task, and the knowledge acquired with the intermediate task can be applied to the advanced task.
- 2) The second dimension is the **mathematical content areas**. We provide examples for the areas **space**, **numbers**, and **shapes**. These are not levels of difficulty but the underlying concepts build on each other. For example is the number line a spatial object, and different shapes have a different number of corners (the triangle has 3, the square 4 ...).

	Space	Numbers	Shapes
Entry task One-shot video or Photo slideshow			
Intermediate task Stop-motion			
Advanced task Creative Explorations			

Entry task

One-shot video

- **Production:** Recording video in one-shot – without any video editing, or taking pictures and let the smartphone software automatically create a slideshow
- **Possible mathematics content:** This can include anything that takes place in everyday life, play, or mathematical activities: It could be short excerpts of a mathematical situation or show a child's mathematical idea or expression. It can be used for pedagogical documentation (a learning story).

The entry task offers a low barrier to entry so that motivation and confidence is raised to try video education. If you have no experience then it is vital to start with very basic exercises. Entry tasks require very little technology understanding. They can include still and moving images.

Examples:

- **Space:** a still image of a child sitting *under* a table; a video of a child on a seesaw going *up and down*
- **Numbers:** still images of *numerals on traffic signs* in the neighbourhood; a video of a child *counting* an amount of apples
- **Shapes:** still images, which show where *shapes* are featuring in the preschool; a video of a child building a *tower* of wooden bricks

Entry tasks do not include video editing. The recorded material is used as it is.

Intermediate task

Stop-motion (animation)

- **Production:** Stop-motion is a basic type of video animation where still images are put together in a software app or video editing software. Objects are moved slightly and a still image is taken after each motion. The images are put on a video timeline with a short duration between each – and they will start to move automatically. The video is like a cartoon. Stop-motion is a wonderful introduction to the idea of “moving” images.
- **Possible mathematics content:** Stop-motion is especially suited for mathematics content where animation works well: showing symmetry; explaining shapes; changing amounts, solving problems ...

The intermediate task introduces video production. The key difference is that still and moving images (and optional audio) are edited. We have chosen stop-motion as the key intermediate example since it is a playful activity but also an activity which can be done nicely without the children appearing in the video or hearing their voices (which is a concern in some preschools across Europe).

Stop-motion also helps to understand how all videos and moving images are produced. They are a sequence of still images. A “moving” image does not actually exist; it is created in our brains. When we see roughly 25 still images per second, our brains transform them into a moving image.

Examples:

- **Space:** a video that shows how a caterpillar (made of plasticine) eats *through* an apple
- **Numbers:** a video that illustrates a solution to the problem “Ducks divide money”
- **Shapes:** a video that visualises how six squares come together to form a cube



Figur 1: Link to video
“Ducks divide money”

Advanced task

Creative explorations

- **Production:** This is open for different video production ideas but is based on “proper” video production including camera work and video editing
- **Possible mathematics content:** All mathematics content can be included here: documentation of mathematical activities; music and drama mathematics displays ...

The advanced task is advisable only once entry or intermediate tasks have been completed and the children and adults possess an adequate knowledge of video production. It is totally open to any form of video production and any kind of mathematics tasks.

Examples:

- **Space:** a video about a treasure hunt in the woods
- **Numbers:** a video that shows how four children solve the problem of fairly sharing three apples
- **Shapes:** a video that explores what different shadows a cube can cast in sunlight (from the smallest, a square, to the largest, a hexagon)