# Solutions optics model 3 – Smartphone magnifying glass

## Topic task solution:

Since smartphone displays come in different sizes and their cameras have different technical data, generally different smartphones will deliver different values. In unmodified smartphone photos, the magnification factor is approx. 5. This means that the distance between the millimetre lines on the photo is around 5 mm.

If you use the smartphone zoom feature, you can achieve extreme magnifications up to approx. 100x. Depending on the ability of the smartphone camera.

You can see, for example, how the computer screen is constructed. Here are three different magnification examples:



You can see that each pixel consists of three coloured bars: Red, green and blue. These are the basic colours of light. When all three bars are illuminated at full brightness, they form a white point called a pixel. These are so small on modern screens that you cannot see them with the naked eye, but you can see them with a magnifying glass.