

It's All Dots!

Suggested Age: 5-7

Time: 15 minutes

We see beautiful black and white and color pictures all around us and now, we will be taking a closer look at what makes up these pictures. All pictures are comprised of pixels. These pixels are small dots that are close together on the paper and sometimes trick our eyes so that we think the color is continuous. Sometimes, the dots are large enough to see, creating a mosaic-like picture.



In this activity we will:

- Look at various pictures from different sources, first using your eye and then using a hand lens, and notice any differences.

Materials

- Pictures from various sources (i.e. newspaper, magazine, ink jet printer, laser printer, photographs, etc.)
- Hand held lens (magnifying glass)

Safety

If you are using a glass lens, be careful not to drop it, as it may shatter and you could get cut.

Preparation

To prepare for this activity, you will to locate pictures from various sources of your choice. Prepare a chart for your pictures, using the example at the end of this activity as a guide.

Pre-Activity

Discuss with the children how they think the different pictures are made. Are they pure colors as if painted on or are they tiny dots? Ask the children why they think this is so.

Activity

If you were alive to remember the early computers and printers of the 1980's, then you may be familiar with the dot matrix printer. These printers used large dots in a specified pattern in order to make a document. Printers have improved over the past two decades, but to what extent? Here, you will look at pictures and/or text that have been printed on a variety of different printers and compare them to the old dot matrix printers.

- Look at each individual picture closely and make notes on what you see. Is it shiny or dull? Are the colors continuous or are there gaps? Is there anything special that you can notice about these pictures?
- Now look at each picture carefully through the hand lens. Now what do you see? Is it shiny or dull? Are the colors continuous or are there gaps? Are the colors made from just one color or a combination of two or more? Is there anything special that you can notice about these pictures? Make notes on your chart.
- Did any of the pictures look the same both with the naked eye and using the hand lens?

Extension Activity

1. Research the different printers used for each of your pictures and compare the printing methods.
2. What other common household items might be printed/fabricated from dots? Take your hand lens and look at different objects.

Photograph Resource	Naked Eye	Hand Lens
Photograph		
Ink Jet Printer Picture		
Newspaper Clipping		
Magazine Clipping		
Etc...		

References

<http://en.wikipedia.org/wiki/Pixels>