



What is a Virtual Earth Application?

Virtual Earth applications present users with a virtual earth on the screen in front of them. Users are able to navigate around this globe, zooming in and out with pinpoint accuracy.

Depending upon the specific application being used, other features may include being able to:

- view a landscape in 3D
- add layers to an image, such as roads, 3D buildings and places of interest
- measure altitudes and distances

Links

www.google.com/earth

Download Google Earth from here.

www.local.live.com

Access Microsoft VE here. 3D images require Internet Explorer 7, along with the 3D plugin (follow instructions).

www.flashearth.com

A web based virtual earth application which requires no installation.

So what's all the hype?

Virtual Earth applications have only recently (last few years) become usable by the masses, as internet speeds and graphical capabilities have increased.

Simply put, virtual earth applications are mind blowing to see. They create an interactive view of the world built upon thousands of overlapping satellite images. Using a virtual earth application naturally stimulates and provokes exploration. They are addictive to use! Virtual earth applications are even more impressive when viewed on an interactive whiteboard.

How can virtual earth applications be used in school?

Virtual earth applications provide obvious links with Geography, however it can be used in many other areas of the curriculum, including:

- **Art:** Children could find examples of nature's natural patterns, such as patchwork fields. They could then use their findings to influence their own piece of art.
- **Art:** Children could view a range of hillside chalk drawings before creating their own.
- **Numeracy:** Google Earth provides facilities for measuring length and altitude. Children could be given a list of locations which they must find and then record the altitude. They must then calculate the difference in height between 2 locations. This could be based around a scenario, for example a hike.
- **Numeracy:** Many buildings have interesting shapes that can only be seen from the air. Children could be given the task of finding differently shaped buildings. Some buildings are even shaped like letters. Which ones?
- **R.E:** Show the children images of the areas being discussed. Show the routes Jesus took, or the route the Israelites took from Egypt to the Promised Land. This will help the children realise that the locations do actually exist, giving more relevance to the stories.
- **History:** Many historical sites that still exist today can be explored from the air. Why not explore the grounds of a castle before a field trip? Illustrate how castles were often built on a mound, and discuss why. Visiting historical locations prior to a trip will help maximise the time spent outside school.



What do I need?

There are a number of virtual earth applications that can be used, depending upon computer setup and what needs to be achieved. Three contrasting solutions are outlined below; Google Earth, Microsoft Virtual Earth and Flash Earth. All applications require access to the internet whilst running, as they are constantly downloading satellite images as they are used.

Google Earth

Google Earth is the only virtual earth application that needs to be download and installed. Although an inconvenience, this does therefore make it the most powerful, with many features not available in Microsoft Virtual Earth or Flash Earth. For example, Google Earth allows users to measure the distance between points, plot routes and measure altitudes.

Google Earth is slightly more complicated to operate, and so it is suggested that this be used only when the more advanced features are required.

Microsoft Virtual Earth (Microsoft VE)

Microsoft VE is very similar in operation to Google Earth, except for the fact that it runs within a web browser. Microsoft VE will run on Internet Explorer and Firefox, however to view images in 3D users must use Internet Explorer v7 and install the required plug in (access the website - you will be prompted if you need it).

Microsoft VE is by far the most user friendly application, and provides the best quality satellite images of the UK. It has however received some criticism for slowly loading images.

Flash Earth

Flash Earth is a web based virtual earth application requiring nothing to be downloaded or installed. By default, this makes it the most accessible virtual earth application, but the most limited in functionality. Flash Earth provides no 3D view of the globe, or measuring capability.

However, Flash Earth acts as a portal to satellite image providers, allowing access to the satellite images of Google, Microsoft, NASA and others. As a result, the best quality images will always be available via Flash Earth.

The future...

Google and Microsoft are both firmly focussed on the integration of 3D buildings into their applications. Over time, the number of buildings that are viewable in 3D will increase. At present, vast parts of New York are available, along with a limited number of buildings in London.

Google Earth currently allows interactive layers to be applied, such as live weather data, links to National Geographic information etc.