

## Introducing Google Earth

Google Earth is a Mash Up of Geographical and Image data. The following handouts are based on work from Ann Baker to make the process student friendly.

The first three documents are student versions. The last one is more dense and aimed for teacher reference.

Additional resources for using Google Earth are located [www.googlelitrips.org](http://www.googlelitrips.org) – check out Getting Started and Downloads.

Please be aware that Google Earth is processor and Internet intensive. You may want to reduce the number of stations accessing the Internet at one time by working in small groups to create the files.

# Using Google Earth

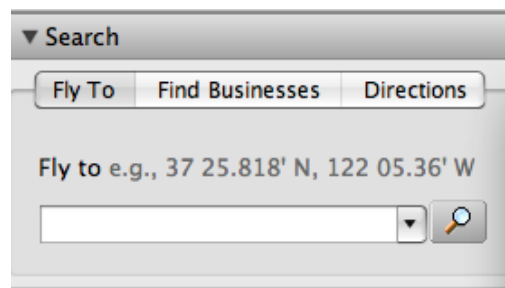
Name : \_\_\_\_\_


Date: \_\_\_\_\_

## Locating Places and Setting Markers




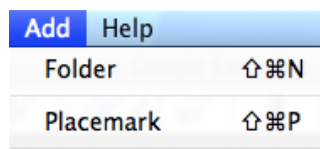
1. Open the program – Google Earth
  - a. It may take a few minutes to load
2. Open the Search Tab in the top left hand corner.
3. In the Fly To box
  - a. Enter \_\_\_\_\_ School, City, Province or
  - b. Our school Postal Code of \_\_\_\_\_



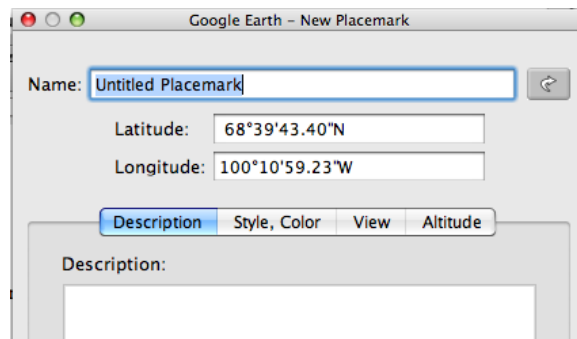
4. Use the mouse to locate the compass and controls in the upper right hand corner of the map.
5. Use the + sign to get closer to ground level and the arrow heads around the hand  to move around the school.



6. Use the arrow heads around the  to change the view and get near 3D image of the school.
7. Set a place marker for the school:
  - a. Go to the menu bar
  - b. Click **Add** > **Placemark** in the drop down menu.
  - c. Move the placemaker to be exactly where you want it to be. (You may need to move the dialogue box to the side to see the placemaker.)

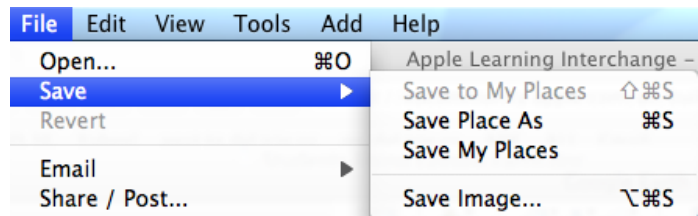


8. In the name box, type:
  - a. Our School Name
9. Click on the icon on the right of the Name box.
  - a. Choose the Icon you want to use by clicking on it
  - b. click OK



10. Click in the Description Box
  - a. Type a short description our school
  - b. Click OK to stop editing your placemaker

11. Save your placemark
  - a. Go to the Menu Bar
  - b. Click **Save > Save My Places**



12. To edit your placemaker again
  - a. Right mouse click or Ctrl-click on the placemaker
  - b. Select **Get Info** or **Properties**

## Your Turn

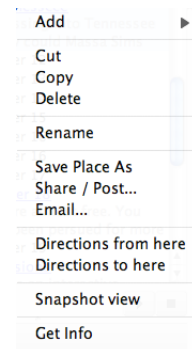
Using the instructions above as a guideline

1. Find your house by typing in your address or postal code
2. Zoom in using the + sign
3. Center your house on the screen using the arrow keys
4. Create a new placemark
5. Name your house and choose a placemark icon
6. If you are working in teams, make sure that each of you creates the placemark for your house.
7. Be sure to save your placemarks

## Bonus

If you want Google Earth to zoom in the same way each time you click on your house in the places

- a. set it up the way you like it including tilt, direction and zoom.
- b. Right Mouse Click or Ctrl-click on the placemark
- c. Select **Snapshot View**



## Using Google Earth - 2

Name : \_\_\_\_\_

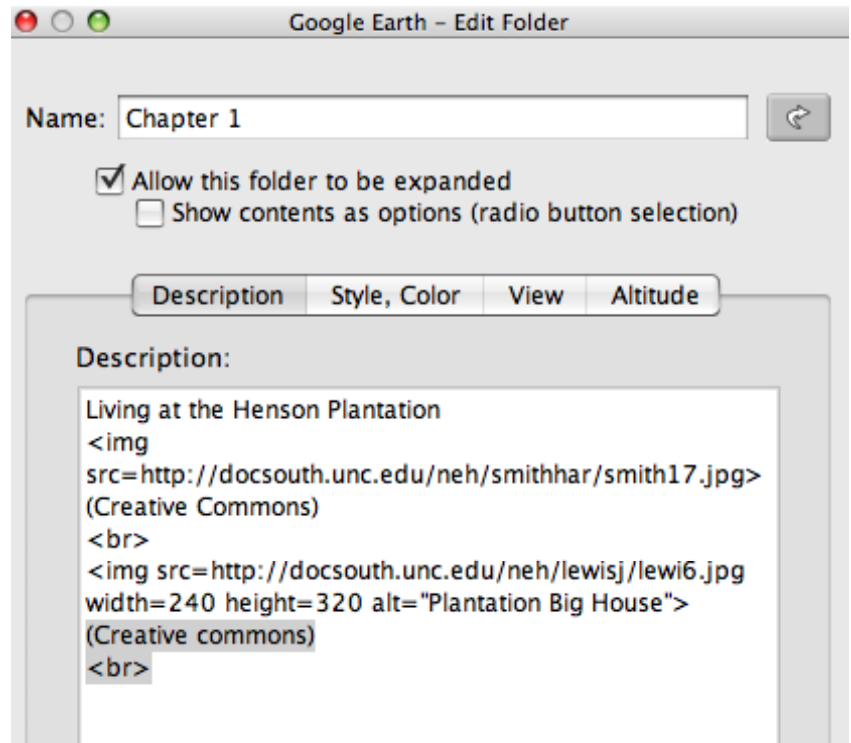
Date: \_\_\_\_\_

### ***Adding information to placemarks***



- a. Open the program – Google Earth
- a. It may take a few minutes to load
  
- b. To edit your placemaker again
  - a. Right mouse click or Ctrl-click on the placemaker
  - b. Select **Get Info** or **Properties**
  
  - c. Adding text comments
    - a. Click in the Description Box
    - b. Type the captions you want
    - c. Type **<br>** to start a new line
  
  - d. Adding Website Links
    - a. Find a website with information you want to share
      - i. <http://www.sd36.bc.ca/MJShannon/>
    - b. Copy the URL and paste directly into Description Box
  
  - e. Adding Images
    - a. Find an image you want to use
      - i. Be sure you have permission to use the image
      - ii. Open the image in its own window
    1. Right Mouse Click or Ctrl Click on the image
    2. Select Copy Image Address
      - b. Click in the Description Box
        - i. Type in **<img src=**”
        - ii. Paste the image address that you copied
        - iii. Type in **“>**
        - iv. Adjust the size by typing in between **“ >**
          1. **Width=320**
          2. **Height=240**
          3. Where the numbers determine the size to display the photo.
            - v. Good web practice would be to add typing in between **“>**
        1. **Alt=**”**Description of photo**”
          - vi. Click OK when done

- f. A finished placemark Description might look like



## Your Turn

Using the instructions above and instructions from the last lesson as a guideline

1. Find City Hall for your city
2. Zoom in using the + sign
3. Center it on the screen using the arrow keys
4. Create a new placemark
5. Name it City Hall and choose a placemark icon
6. Add a text description of your city
7. Search for photos of your city
8. Add images of your city
9. Add If you are working in teams, make sure that each of you add at least one image to the placemark.
10. Be sure to save your placemarks

Finding Copyright friendly images

If you are using an image for personal use, you can use any image on the Internet.

If you are presenting your learning, you need to have permission to use images. There are four ways you can get permission to use images.

1. Ask the creator for permission to use their image
2. Search for free images.
3. Search for images that are Public Domain
4. Search for Images that are in the Creative Commons
  - a. [http://commons.wikimedia.org/wiki/Main\\_Page](http://commons.wikimedia.org/wiki/Main_Page)
  - b. <http://www.photopy.com/>
  - c. <http://pics4learning.com>
  - d. <http://search.creativecommons.org/>

## Using Google Earth - 3

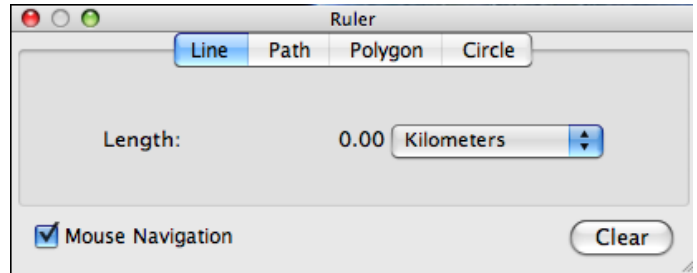
Name : \_\_\_\_\_

Date: \_\_\_\_\_

### Using the Ruler



1. Open the program – Google Earth
  - a. It may take a few minutes to load
2. Measuring distance
  - a. Click on the Menu Bar
    - i. Tools > Ruler
  - b. Click the starting point such as your School
  - c. Click the ending point
  - d. Select the Unit of Measure



3. Types of Measurement
  - a. A Line is a straight line between two points
  - b. A Path is the sum of the distances between a series of points
  - c. A Polygon measures the area of the enclosed figure
  - d. A Circle measures the area of the circle drawn

### Your Turn

- b. What is the distance between your school and City Hall in km?
- c. What is the distance between your school and City Hall in m?
- d. What is the distance between your house and your classmates?

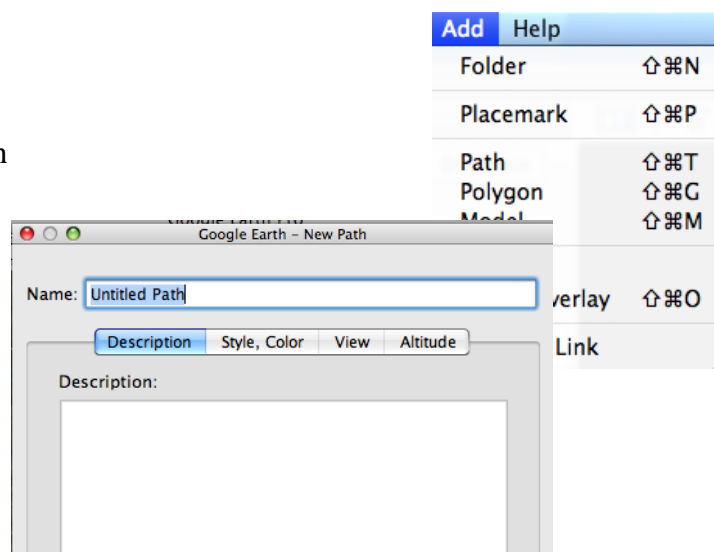
## Using Google Earth - 4

Name : \_\_\_\_\_

Date: \_\_\_\_\_

### Creating Visual Paths

1. Add a path
  - a. Click on the Menu Bar
    - i. **Add > Path**
    - ii. Add a name for your path
    - iii. Add a Description
2. Move the dialogue box out of the map area but don't close it.
3. Click on your starting location
4. Click on additional locations
5. When all locations have been selected click OK



### Editing Visual Paths

1. Right Mouse Click or Ctrl Click on the Path.
2. Hover the mouse over any point until it turns green
  - a. Click and move the point or Click to delete the point

### Your Turn

1. Create a path to show how you walk to school.

# Using Google Earth - 5

Name : \_\_\_\_\_

Date: \_\_\_\_\_

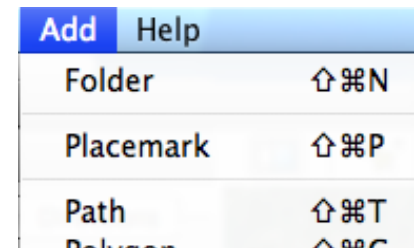
## Organizing Folders and Exporting

You have already been working with Google Earth to navigate, create placemarks, measure distances and create paths. To share your work, you will want to be able to organize, then create a file for sharing.

### Organizing Folders

By default all of your placemarks and paths that you create are stored in Google's **My Places**

1. Create a new folder
  - a. From Menu Bar,
    - i. **Add > Folder**
    - ii. Rename Folder
    - iii. Provide a Description of the contents
2. Add Items to the folder
  - a. Click and drag placemaker listed in the Places pane into the folder
3. Move items by clicking and dragging

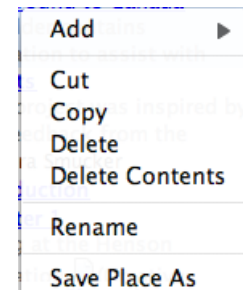


### Your Turn

1. Create a folder called **Our Places**
2. Move your house, school and City Hall into the folder

### Exporting your Google Lit Trip

1. Select the Our Places folder
2. Right Click or Ctrl Click on the folder
3. Select SAVE PLACE AS from the pop up menu
  - a. Choose a saving location



### Sharing your Literature Trip

1. The Google Earth File (.kmz) that you have created can now be emailed or transferred using a flash drive.
2. On the new computer (that has Google Earth installed)
  - a. Save the file
  - b. Double Click on the .kmz file and it will load your file.



### Your Turn

Save your folder and transfer to another computer



## Working with Google Earth - Teacher

This is inspired by Jerome Burg's Google Literature Trips  
[www.googlelittrips.com](http://www.googlelittrips.com)

### What is Google Earth?

Google Earth is a database viewer that combines satellite imagery to create a 3D model of the Earth.

### What can you do in Google Earth?

In creating this workshop I learned even more than I thought was possible about Google Earth.

You can:

- View places in the earth and look out toward the sky
- Zoom into places
- View changes over time
- Mark places of Interest
- Measure distances between places
- View photos people have taken of places
- View sketches people have created to represent places
- And so much more

### Google Earth Pro for Educators

Educators may access and install Google Earth Pro personally, free of charge. It is free for educators to access and install personally Google Earth Pro. You can find out more at  
<http://iamliterate.wikispaces.com/googleearth>

### How do you personalize/ customize Google Earth?

You customize Google Earth by creating your placemarks, polygons and tours, then exporting them.

### What are kml and kmz files?

These two files are used to export and share your information. The KML file is the uncompressed file stored on your computer. When you want to share your file, you export it as a KMZ file that is transferable like any other file.

To learn more about customizing KML files, see the Google file:  
[http://code.google.com/apis/kml/documentation/kml\\_tut.html#descriptive\\_html](http://code.google.com/apis/kml/documentation/kml_tut.html#descriptive_html)

## **Placemarks**

Placemarks are the most basic way to identify points of interest for later viewing.

### ***Create a placemark***

1. Click the placemark button in the toolbar. The New dialog box appears and a placemark icon appears in the exact center of the 3D viewer.
2. Try moving around the placemark by clicking and dragging it. You can use this method to move the placemark to any location in the 3D viewer.
3. In the New dialog box, enter the following information;
  - a. Name of the placemark
  - b. Description for the placemark
4. To change the icon, click on the icon button to the right of the name field.
5. (Under the View Tab, you may want to take a snapshot so that this zoom and angle is used when viewed as well.)
6. Click *OK*. Google Earth displays your placemark in the 3D viewer and at the top of the *My Places* folder in the Places panel.

To view your placemark at any time, double click the placemark in the Places panel. To simply display the balloon description of the placemark, single click it in the 3D viewer or the Places panel.

### ***Customize a placemark balloon / description***

The placemark can contain anything displayable within a webpage. To Edit the placemark, either Ctrl-Click or Right-Click on the push pin(default icon). Choose either properties or get info to access the properties panel.

## Using HTML

### Inserting images

1. Upload your photo to a web accessible server
2. Use the following HTML as a template to display your image  
`<img src=http://fcweb.sd36.bc.ca/~amboe\_k/images/kevinlookleft.jpg alt="Picture of Kevin" >`

### Inserting Links

1. Go to the site you want listed.
2. Copy the URL
3. Paste the URL into the following template.
4. Adjust the displayed text as desired.  
`<a href="http://del.icio.us/amboe_k"> This is my Delicious Account</a>`

### Other HTML

If you know additional HTML, you can use much of the standard HTML; however, only a subset of HTML is used in Google Earth. You can also use an HTML editor such as NVU or Dreamweaver and copy and paste the generated codes

### Inserting YouTube / Video

(possible; however, I had an issue when testing)

1. Copy the embed code from youtube .
2. Paste in the description field  
`<object width="425" height="355"><param name="movie" value="http://www.youtube.com/v/jCmladA9sKQ&hl=en"></param><param name="wmode" value="transparent"></param><embed src="http://www.youtube.com/v/jCmladA9sKQ&hl=en" type="application/x-shockwave-flash" wmode="transparent" width="425" height="355"></embed></object>`

More on building balloons / descriptions

[http://earth.google.com/outreach/tutorial\\_balloon.html](http://earth.google.com/outreach/tutorial_balloon.html)

[http://earth.google.com/outreach/tutorial\\_user\\_experience.html](http://earth.google.com/outreach/tutorial_user_experience.html)

## Creating Paths / Polygons

Paths and Polygons are not difficult to create, but it does take a bit of an understanding of creating and moving edit points on lines – similar to vector drawings.

A Polygon allows you to create a 3D shape that overlays an area – such as a park or house.

A Path allows you to create a set of connected lines that act as path to fly or navigate

[http://earth.google.com/userguide/v4/ug\\_drawing.html](http://earth.google.com/userguide/v4/ug_drawing.html)

## Organizing Placemarks, Polygons, Paths

### *Creating a Fly to list*

1. Create a folder in the places panel  
Right click and select Add > New Folder
  - a. Name the folder
  - b. Drag places you have created into the folder.
2. Drag the places into the correct order within a folder.
3. Either check or uncheck places to visit.

## Touring Places

Once all your places are listed in a folder, you can click on the folder, then press the play and stop buttons to follow the tour. If you have included images, you may need to stop it long enough to load the image before the tour proceeds.

### *Touring Speed*

You can modify touring speed, which controls how fast the viewer "flies" to each stop in the tour. Keep in mind that setting the tour to a high speed requires your computer to keep everything in cache.

- Windows/Linux: Click *Tools > Options*. Mac: Click *Google Earth > Preferences*.
- Click on the *Touring* tab.
- In the *Fly-To/Tour Settings* area, adjust the speed accordingly.

## ***Pause Time and Balloons at Each Stop***

You can set the desired pause time for each stop in the tour. You can also set Google Earth to display balloons at each placemark when the tour pauses.

- Windows/Linux: Click *Tools > Options*. Mac: Click *Google Earth > Preferences*.
- Click on the *Touring* tab.
- In the *Fly-To/Tour Settings* area, adjust the *Tour Pause* slider in seconds, from 0 to 60, or enter any number in seconds.

To display descriptive balloons at each placemark when a tour pauses, check *Show balloon when tour is paused*. [Learn more about placemarks](#).

## **Looking Beyond**

### 1. Using Google Sketchup

With Google Sketchup, you can also create sketches of places / buildings.

### 2. Adding other Content

You can add other KML files such as those located here <http://earth.google.com/gallery/> - This one has a timeline for the city of London.

### 3. Saving Google Earth Images

Use the File > Save > Save Image

4. Use the Ruler Window to measure distances and to measure area of polygons

### 5. For More Ideas go to

<http://classroomgoogleearth.wikispaces.com/>