GoogleMaps Unit Plan

This unit is designed to be adjusted to suit the needs of your class and to be incorporated into a larger unit on website programming, dynamic websites or web-based application programming. Some of the activities have the potential to be extended into larger projects and linked with other subjects (cross-curricular). It is suggested that you at least introduce JavaScript to your students before beginning this unit.

Australian Curriculum Links
ACTDIP025 - Acquire data from a range of sources and evaluate authenticity, accuracy and timeliness.
ACTDIP026 - Analyse and visualise data using a range of software to create information, and use structured data to model objects or events.
ACTDIP032 - Create and communicate interactive ideas and information collaboratively online, taking into account social contexts
ACTDIP033 - Plan and manage projects, including tasks, time and other resources required, considering safety and sustainability

Objectives:

- Understand the language of GoogleMaps
- Insert a map into a web-based app/website
- Manipulate the maps through JavaScript
- Overlay maps with shapes & lines
- Introduce event driven activities

	Lesson 1 - Single		Lesson 2 - Double				Lesson 3 _ Single	
Week 1	**Learning the language of GoogleMaps**	**Min**	**Using JavaScript to control Google Maps**			**Min**	**Overlays**	**Min**

	• Introduction
	• GoogleMyMaps sharks sightings tutorial
	• Discussion on where/how this could be incorporated into current topic
	• Discussion on types of data we need/can collect
	• Homework
	  • To be used in lesson 2/3 week 2
		5
		20
		
		10
		
		5
		
		5 +
		HW
			• Introduction, including giving students the API key*
			• w3schools basic JavaScript tutorial and Worksheet 1
			  • loading the API
			  • initialising maps and map options
			  • loading maps
			• Activity 1
			  • Map types
			  • Zoom level
			  • Centres
			• w3schools Controls tutorial and Worksheet 2
						5
						30
						
						30
						
						25
							• Revision of Maps terminology
							  • What is a marker, infowindow, polyline
							• Activity 2 - MapThat!
								5
								
								40

Week 2	**Events & Unusual Overlays**	**Min**	**GeoJson & KML Data**	**Min**	**Mapping our data**	**Min**	**Mapping our data 2**	**Min**

	• Introduction
	  • What is an event
	  • Using buttons to make events happen
	• Activity 3
		5
		
		40
			• Introduction
			  • What is GeoJson & KML?
			  • What can we use them for?
			• Activity 4
				10
				
				30
					Project
					• How to design your own kml files
					• Map the school information
					• Map the birth places of each student in the class
						50	Project
							• Map where each student in the class has lived
							• Map the classes favourite places to visit
								45

* A shared key may be a good option for your classes/year level instead of each student creating their own. Each key allows you to make 25,000 free requests/day. If you find that this is being exceeded you can get students to create additional keys or pay for additional quota on the shared key.

Possible links to other subjects

- Plan a trip (Languages)
- Excursion Planning
- Monster Sightings (English/History/Art)
- Soldiers Travels (History)
- City Planning (Maths)
- Shortest paths to school (Maths)
- Areas of Countries/States/Cities (Maths)
- Treasure/Scavenger hunt