# Cycles in the Biosphere

## Purpose

### Learn how to develop an interactive, fluidly responsive education resource

#### ASP.NET MVC approach

#### JQuery / Bootstrap or other appropriate web framework

#### Adobe Muse etc.

### Learn how to use the full power of Adobe Creative Cloud

#### Photoshop

##### Image manipulation

#### Illustrator

##### Diagrams

##### Data visualisation

##### Logos etc.

#### Animate

##### Create animated visualisations

##### Active illustrations

#### Muse

##### Web site prototyping

##### Responsive design

#### Reflow

##### Fluid design

#### In Design

##### Downloadable documents

### Looking at cyclic processes in the Biosphere

### Create a marketable educational resource

#### Level I – Primary / Junior

#### Level II – Snr Junior

#### Level III – 11 – 13

#### Level IV – GCSE

#### Level V – A level

#### Level VI – Undergraduate

#### Level VI – Postgraduate

##### To do – need to harmonise global educational levels, i.e. US, Chinese, Russian etc.

## Introduction

### What

### Why

### Where

### When

### Who

## Cycles

### Creation of everything

#### The Big Bang

##### The Standard Model

#### Stellar cycles and the creation of raw materials

### Geologic

#### Plate tectonics

##### The Wilson Cycle

##### The tectonic cycle

#### Weathering and Erosion

### Water

#### Water is a magic substance

#### Where is all the water

#### Water cycle

### Carbon

#### Hydrocarbons

### Nitrogen

### Other key Chemicals

#### Phosphorus

#### Sulphur

### Soil

### Life

#### Intraspecies cycles

##### Seasonal

##### Lunar

#### Interspecies relationships

##### Cyclic processes in predator-prey relationships and feedback

###### Simulating predator-prey relationships

Lotka-Volterra equation

<http://en.wikipedia.org/wiki/Lotka%E2%80%93Volterra_equation>

<http://www.scholarpedia.org/article/Predator-prey_model>

Develop a computer model in iPython to demonstrate

##### Parasite / host cycles

##### Trophic relationships – food webs etc

#### Speciation / Extinction

### Atmospheric

### Oceanic

### Energy

#### Photosynthesis

#### Respiration

#### Entropy

### Chaos theory

## Bibliography

### Books

### Scholarly publications

### Internet

#### Websites

#### Blogs