|  |  |
| --- | --- |
| San Francisco, USA | Miami, USA |
| London, England | Calcutta, India |
| Tokyo, Japan | Houston, USA |

**Middle school assessment**

Module 7, Lesson 1

Water world

You and your teammates have been selected to be part of an elite team of GIS experts who will determine the fate of a major city. Over the next 50 years, a rise in sea level of up to 50 meters will affect:

Select a city and develop an action plan for relocating the city and its resources. The plan must take into account the following factors:

|  |  |
| --- | --- |
| Major roads | Ocean ports |
| Railroads | Utilities |
| Airports | Relocation of people |

The available data sources are listed in the Assessment table “Data Sources.” You will add this data to the Water World data frame in the Global7 map document you used in the activity.

Your action plan must include each of the following:

* A time line describing the various phases of your plan. For example, one five-year  phase might include relocating people, while another may deal with relocating  specific businesses.
* A map displaying proposed changes. This could be a series of maps generated in  ArcMap or on paper.
* Data supporting your suggested changes. This data will come from the activity  and from the sources listed in the Assessment table “Data Sources” and can be  displayed in maps, charts, or tables.
* A written report explaining your plan.

**Middle school assessment**

Module 7, Lesson 1

Water world

You and your teammates have been selected to be part of an elite team of GIS experts who will determine the fate of a major city. Over the next 50 years, a rise in sea level of up to 50 meters will affect:

|  |  |
| --- | --- |
| San Francisco, USA | Houston, USA |
| London, England | Odessa, Ukraine |
| Tokyo, Japan | Rome, Italy |
| Miami, USA | Sydney, Australia |
| Calcutta, India | Buenos Aires, Argentina |

Select a city and develop an action plan that relocates the city, relocates the roles of the city to another city, adapts the city to its new environment, or develops another strategy. The plan must take into account the following factors:

|  |  |
| --- | --- |
| Major roads | Utilities |
| Railroads | Relocation of people |
| Airports | Economics and trade relations |
| Ocean ports and shipping lanes | Agriculture and manufacturing |

The available data sources are listed in the Assessment table “Data Sources.” You will add this data to the Water World data frame in the Global7 map document you used in the activity. You may need to consult an atlas or the Internet to research some factors.

Your action plan must include each of the following:

* A time line describing the various phases of your plan. For example, one five-year phase might include relocating people, while another may deal with relocating specific businesses.
* A map displaying proposed changes. This could be a series of maps generated in ArcGIS Online map viewer or on paper.
* Data supporting your suggested changes. This data will come from the activity and from the sources listed in the Assessment table “Data Sources.” and can be displayed in maps, graphs, or tables.
* A written report explaining your plan.

***Assessment table: Data Sources***

|  |  |
| --- | --- |
| **Layer** | **Data** |
| Roads & Rail | Lines that represent roads and railroads |
| World Cities | Points that represent major world cities and indicate shipping ports |
| U.S. Cities | Points that represent U.S. cities |
| Airports | Points that represent airports |
| Energy | Points that represent major power plants and indicate the types of energy (atomic, thermal, etc.) |
| Pipelines | Lines that represent major oil and gas pipelines |
| Manufacturing Places | Points that represent major manufacturing places |
| Mineral Resources | Points that represent mineral mining sites |
| Rivers | Lines that represent major rivers |
| Lakes | Polygons that represent major lakes |