ANSWER KEY

Exercise: 1

Instructions: The climate of an area is influenced by many factors. By doing this exercise, you will learn about how these factors influence climate.Answer the following questions using the Digital Atlas, the Internet and your library as sources of information and imagery (as needed):

1. What is the rain shadow effect?   The rain shadow effect explains why there is so little precipitation on the downside of mountain ranges. As clouds and moist air move up a mountain, the air expands and its temperature drops. As the air cools, its relative humidity increases and precipitation falls. After it passes over the mountain, the air drops back down, gets compressed, and becomes warmer. There is now very little moisture left in this air and the chance of getting more precipitation is small. This process forms a rain shadow on the downwind side of mountain ranges like the cascades and the Owyhee mountains.

2. What are condensation nuclei?   Condensation nuclei are what water condenses on. They can consist of dust particles, pollen, pollution, or any type of solid particle floating around in the air.

3. Briefly describe how a raindrop forms.   Air contains water in a gaseous state. As air temperature cools, water molecules have less energy and condense to a liquid state on condensation nuclei. Cloud droplets are formed in this manner. When these droplets get large enough to where they no longer can be suspended in the atmosphere, they fall in the form of rain, sleet, or snow.

4. List and describe six commonly seen cloud types. For each one use a pen or pencil and sketch their shapes, or find a unique picture to print or cut out, and paste in.

1. Altostratus

2. Altocumulus

3. Cirrostratus

4. Cirrocumulus

5. Cirrus

6. Cumulonimbus

7. Cumulus

8. Nimbostratus

9. Nimbus

10. Stratocumulus

11. Cumulus

5. What kind of weather is typical to your hometown/city? What are your seasonal highs/lows for temperature? What about precipitation?