Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Phase Diagram Practice**

**Instructions:** Use the phase diagram for water to identify the state of matter for the temperature and pressure points below.



1. Temperature 100$℃$; Pressure 1 atm

**State of matter:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Temperature 50$℃$; Pressure 0.006 atm

**State of matter:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Temperature 374$℃$; Pressure 218 atm

**State of matter:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Temperature 0.01$℃$; Pressure 0.006 atm

**State of matter:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Temperature 200$℃$; Pressure 0.005 atm

**State of matter:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Temperature 0$℃$; Pressure 1 atm

**State of matter:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Temperature 374$℃$; Pressure 1 atm

**State of matter:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Temperature 100$℃$; Pressure 100 atm

**State of matter:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Temperature 100$℃$; Pressure 218 atm

**State of matter:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Come up with your own temperature and pressure point and identify the state of matter that the water will be in at that point based on the phase diagram.
2. Why are phase diagrams useful to scientists?
3. How do you see or use water in each of its three states throughout a day?