Given the following Television object class, answer the questions that follow.

```java
public class Television {
    protected String brand = null;
    protected int screenSize = 0;

    public Television() {
    }

    public Television(String brand, int screenSize) {
        this.brand = brand;
        this.screenSize = screenSize;
    }

    public void setBrand(String brand) {
        this.brand = brand;
    }

    public String getBrand() {
        return brand;
    }

    public void setScreenSize(int screenSize) {
        this.screenSize = screenSize;
    }

    public int getScreenSize() {
        return screenSize;
    }

    public void turnOn() {
        System.out.println("Turning on...");
    }

    public String toString() {
        StringBuffer buffer = new StringBuffer();

        buffer.append("\nbrand: " + brand);
        buffer.append("\nscreenSize: " + screenSize);

        return buffer.toString();
    }
}
```

1. Write a Java class PlasmaTV that that extends the Television object. Add the member variables plasmaID as an integer and numPlasmaCells as an integer. Override the turnOn() method to output "Charging plasma cells...". The PlasmaTV object class should override the toString() method and display all variables (including the inherited ones).

2. Write a Java class LiquidCrystalDisplayTV that that extends the Television object. Add the member variables liquidCrystalDisplayID as an integer and numGlassPlates as an integer. Override the turnOn() method to output "Charging liquid crystals in glass plates...". Add the method turnOff() which outputs the string "Powering down...". The LiquidCrystalDisplayTV object class should override the toString() method and display all variables (including the inherited ones).

3. Write the Java class ExampleHmWk12 to test the PlasmaTV and LiquidCrystalDisplayTV classes written above that inherits the properties of the Television object. ExampleHmWk12 should create at least 1 PlasmaTV object and 1 LiquidCrystalDisplayTV object, and then output the values for the Plasma TV and the LCD TV to the screen. After displaying the PlasmaTV object's data, execute the turnOn() method. After displaying the LiquidCrystalDisplayTV object's data, execute the turnOn() and turnoff() methods.