

## Flight Level 3 Quiz

1) Hot Air Balloons work because of the principle of:

**Select one:**

- a) volume
- b) temperature
- c) density
- d) mass

2) When the air inside a Hot Air Balloon heats up, what happens to the atoms?

**Select one:**

- a) The atoms move slower
- b) The atoms stick together
- c) The atoms get bigger
- d) The atoms move faster

3) Choose the correct formula for calculating density.

**Select one:**

- a)  $\text{Density} = \text{Volume}/\text{Mass}$
- b)  $\text{Density} = \text{Mass}/\text{Volume}$
- c)  $\text{Density} = \text{Volume}/\text{Temperature}$
- d)  $\text{Density} = \text{Mass} \times \text{Volume} - \text{Temperature}$

4) John has a gel pen. The gel pen has a mass of 8g and a volume of 2cm<sup>3</sup>. What is the density of the pen?

**Select one:**

- a) 4 g/cm<sup>3</sup>
- b) 4
- c) 16 g/cm<sup>3</sup>
- d) 0.25 g/cm<sup>3</sup>

5) In order for a hot air balloon to rise, the air inside of the balloon needs to be \_\_\_\_\_ than the air outside of the balloon.

**Select one:**

- a) more dense
- b) less dense

6) When air is heated, it becomes \_\_\_\_\_.

**Select one:**

- a) more dense
- b) less dense



7) Warmer air \_\_\_\_\_, and cooler air \_\_\_\_\_.

**Select one:**

- a) sinks; sinks
- b) sinks; rises
- c) rises; rises
- d) rises; sinks

8) An object with more mass needs more \_\_\_\_\_ in order to rise.

**Select one:**

- a) weight
- b) lift
- c) drag
- d) gravity

9) Which of the following are aerostats?

**Circle YES or NO for each item.**

- |                   |     |    |
|-------------------|-----|----|
| • Blimp           | YES | NO |
| • Zeppelin        | YES | NO |
| • Dirigible       | YES | NO |
| • Airplane        | YES | NO |
| • Hot Air Balloon | YES | NO |

10) Which of the following are dirigibles?

**Circle YES or NO for each item.**

- |                   |     |    |
|-------------------|-----|----|
| • Rigid Airship   | YES | NO |
| • Airplane        | YES | NO |
| • Zeppelin        | YES | NO |
| • Hot Air Balloon | YES | NO |
| • Blimp           | YES | NO |