EO M336.04 – EXPLAIN THE EFFECTS OF HUMIDITY AND TEMPERATURE ON WEATHER

1. **Performance.** Explain the Effects of Humidity and Temperature on Weather.

2. **Conditions**

   a. Given:

      (1) Supervision, and

      (2) Assistance as required.

   b. Denied: N/A.

   c. Environmental: Classroom or training area large enough to accommodate the entire group.

3. **Standard.** The cadet shall explain the effects of humidity and temperature on weather, to include:

   a. the relationship between humidity and temperature, and

   b. types of precipitation.

4. **Teaching Points**

TP	Description	Method	Time	Ref
TP1	Explain humidity, to include: a. condensation, b. sublimation, c. dewpoint, and d. relative humidity.	Interactive Lecture	10 min	C3-116 (p. 135, p. 136)
TP2	Explain temperature, to include: a. the source, b. diurnal variation, c. seasonal variation, d. the heating process, and e. the cooling process.	Interactive Lecture	15 min	C3-116 (p. 136, p. 137)
TP3	Conduct an in-class activity to illustrate the effects of temperature on relative humidity, to include: a. the effects of raising the temperature, and b. the effects of lowering the temperature.	In-Class Activity	10 min	C3-116 (p. 136)
TP4	Explain the effects of temperature and humidity on weather, to include: a. dewpoint, b. relative humidity, and c. precipitation.	Interactive Lecture	5 min	C3-116 (p. 136, p. 137)
TP5	Explain types of precipitation, to include: a. drizzle,	Interactive Lecture	10 min	C3-116 (p. 146, p. 147)

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TP	Description	Method	Time	Ref
	b. rain, c. hail, d. snow pellets, e. snow, f. ice prisms, and g. ice pellets.			

5. **Time**

a.	Introduction/Conclusion:	10 min
b.	Interactive Lecture:	40 min
c.	In-Class Activity:	10 min
d.	Total:	60 min

6. **Substantiation**

   a. An interactive lecture was chosen for TPs 1, 2, 4, and 5 to introduce temperature, humidity, and precipitation to the cadets.

   b. An in-class activity was chosen for TP 3 as an interactive way to provoke thought about temperature and humidity.

7. **References.** C3-116 (ISBN 0-9680390-5-7) MacDonald, A. F., & Peppler, I. L. (2000). *From the Ground Up: Millennium Edition*. Ottawa, ON: Aviation Publishers Co. Limited.

8. **Training Aids**

   a. Presentation aids (eg, whiteboard/flip chart/OHP/multimedia projector) appropriate for the classroom/training area,

   b. Water,

   c. Small cup, and

   d. Large cup.

9. **Learning Aids**

   a. Water,

   b. Small cup (one per cadet), and

   c. Large cup (one per cadet, twice the size of the small cup).

10. **Test Details.** This EO is assessed IAW Chapter 3, Annex B , Appendix 5, (Aviation Subjects – Combined Assessment PC).

11. **Remarks.** Video resources are available for purchase through flight training centres or aviation supply websites. These videos may be used to augment instruction.

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