GPS Occultations Worksheet Answers

Fill in the blanks:

1. Originally created for the **military**, GPS satellites can now be used by anyone to help with navigation, surveying, farming and other purposes.

2. Studying our planet with satellites is advantageous because satellites **orbit** around our planet. Without satellites, you would need to have people and **equipment** at every location.

3. When studying the atmosphere, engineers and scientists use a technique called radio **occultation** with GPS satellites to analyze the effects the atmosphere had on signals that passed through the atmosphere.

4. Making measurements or receiving information about an object, phenomenon or location, without making physical contact with the target is called **remote** sensing.

5. The abbreviation for the six satellite constellation orbiting 800 km above Earth is **COSMIC**.

6. GPS satellites orbit 20,000 km above the Earth, more than 1.5 times the **diameter** of our planet!

7. When a GPS signal passes through the atmosphere, it bends due to gravity and atmospheric effects. This bending **delays** the signal, making it take longer to reach the receiver.

8. Engineers use satellite geometry and timing to find out the longitude, latitude and **altitude** of where disturbances are taking place.

9. A GPS occultation can last from a few seconds to a few **minutes**.

Word Search: Use the answers from the fill-in-the-blanks section to complete the search
(words can be spelled in any direction, up/down/left/right/diagonally)

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C D E D T K C Z Q I Z T T L Q
A X D I I T L C R T I N M S C
S F A J E A J K I B E I Q Y S
E T O M E R M B L M N C P A U
H H Y N D J R E P U S B U L L
G I P O J O V I T V P O E E B
A J M I Z M U E V E F Y C D L
L T F T W Q S F W R R D P K J
T R Q A E S I G R K D G O L H
I G F T O V I L B E D U S H U
T A Y L F K K J L I R K C N Y
U V Z U M I L I T A R Y A B I
D P W C O A K K N T Q N V E P
E I S C Y G R C N J Z L Y Y C
Q Y R O U B M W B G H J Y O T
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Write the 10 words that you find here:

ALTITUDE
COSMIC
DELAYS
DIAMETER
EQUIPMENT
MILITARY
MINUTES
OCCULTATION
ORBIT
REMOTE