Course

Principles of Health Science

Unit X

Vital Signs

Essential Question

What is Military Time and why do we use it?

TEKS

130.202 (c) (1) A, C, F

Prior Student Learning

Ability to tell time

Estimated time

1 hour

Rationale

Military time is a concise method of expressing time used by the military, law enforcement, hospitals, and other entities. Therefore, health care students should understand and be able to calculate Military time.

Objectives

Upon completion of this lesson, the learner should be able to
- recognize time on a 24-hour clock; and
- convert times between Military time and Civilian time.

Engage

Look at the clock in the classroom and write down what time it is in military time.

If Dr. Smith is going to perform an Appendectomy at 8 o'clock, does that mean 8 o'clock AM or PM?

Key Points

I.   Time
   A. 12 hours are on a clock
   B. 24 hours are in a day
   C. AM – stands for *ante meridiem, Latin for before noon or midday*
   D. PM -- stands for *post meridiem, Latin for afternoon or midday*

II.   In a health care setting, it is important that time be stated in a clear and concise way. Time will indicate:
   A. When treatment is going to be done
   B. When medication is to be administered
   C. How long procedures will last
   D. When vital signs were taken
   E. When meals will be served

III.   Military time
   A. The military services were the first to use a 24-hour clock
   B. Always expressed in four digits with no colons used to separate hours and minutes
   C. Always use a 0 to complete the four-digit number
      1. 0300 instead of 300
   D. State the time in hundreds; not thousands
      1. 3:00 AM – zero three hundred hours
      2. 10:00 PM – twenty-two hundred hours, not two-thousand

and two hundred hours
    E. The 24-hour clock eliminates confusion between AM and PM hours
        1. AM – 0100 to 1200
        2. PM – 1201 to 2400
    F. Conversion Methods from Civilian Time to Military Time
        1. If the time is AM in Civilian time place a zero at the front and use no colons when the time is 1-9AM. After 9AM simply write the number without a colon.
            a. 3:00AM – 0300 hours
            b. 11:00AM – 1100 hours
        2. If the time is PM in Civilian time add 1200 to that time and use no colons.
            a. 4:00PM – 1600 hours
    G. Conversion Methods from Military Time to Civilian Time
        1. If the time is AM in Military time remove the zero at the front of the time and add a colon after the first digit when the time is 0100-0900 hours. After 0900 hours simply write the military time but use a colon.
            a. 0700 hours – 7:00AM
            b. 1000 hours – 10:00AM
        2. If the time is PM in Military time, subtract 1200 and you will get your Civilian time.
            a. 1400 hours – 1200 hours = 2:00PM
            b. 2300 hours – 1200 hours = 11:00PM
        **** *Note: Midnight can be written as 0000 or 2400 hours*

Activity

    I.   Complete the <u>Military Time – Bus Schedule Conversions</u>
    II.   Play a speed round of <u>Military Time Bingo</u>
    III.   Switch phone to military time for one week and write an essay outlining the challenges with the change

Assessment

Successful completion of Conversions

Materials

Military Time Conversions worksheet
Military Time Conversions Answer Key
Military Time Bingo cards and call sheet
Dried beans to use for Bingo

Accommodations for Learning Differences

For reinforcement, the student will develop a picture of a clock comparing military time to 12 hour time.

For enrichment, the student will research and report on the historical development of military time.

National and State Education Standards

National Health Science Standards
HLC1O.01 Technical Skills
Health Care Workers will apply technical skills required for all career specialties. They will demonstrate skills and knowledge as appropriate.

TEKS
130.202 (c)1(A) convert units between systems of measurement;
130.202 (c)1(C) interpret technical material related to the health science industry;
130.202 (c)1(F) formulate responses using precise language to communicate ideas

Texas College and Career Readiness Standards
Mathematics
IV.A.1. Select and use the appropriate type of unit for the attribute being measured.
IV.B.1. Convert from 1 measuring system to another.

MILITARY TIME – BUS SCHEDULE CONVERSIONS

You live on a military post and work at the security office. Your car recently broke down and you need to get to work by taking a bus instead of your car. Fortunately you have a bus stop outside your front door and there is a bus stop not too far down the street from your work building. Use the schedule below to plan your departure time from home and arrival time at work.

Home bus departure time	Work bus arrival time
0630	0650
0845	0905
1100	1120
1315	1335
1530	1550
1745	1805
2000	2020

Example: On Tuesday you are scheduled to work at 1:45 p.m. You will catch the bus at <u>1315</u> (1:15 p.m.). The bus will arrive in front of the library at <u>1335</u> (1:35 p.m.).

1. On Monday you work at 9:30 a.m. What time will you catch the bus? _____
     What time will the bus arrive at the library? _____

2. On Tuesday you work at 7:00 a.m. What time will you catch the bus? _____
    What time will the bus arrive? _____

3. On Wednesday you work at 2:00 p.m. When will you catch the bus? _____
    When will the bus arrive? _____

4. On Thursday you work at 4:15 p.m. When will your bus depart? _____
    When will your bus arrive? _____

5. On Friday you need to be at work by 1:45 p.m.   When will you take the bus?
    _____ When will you get to work?_____

6. What is the latest civilian departure time on the schedule above?
    _____

7. What is the earliest civilian departure time on the schedule above?
    _____

8. How long is your bus ride to work? _____

MILITARY TIME CONVERSIONS

Convert the following to Military Time

1. 10:43 a.m. _____
2. 10:27 p.m. _____
3. 11:21 a.m. _____
4. 8:16 p.m. _____
5. 9:32 p.m. _____
6. 3:19 p.m. _____
7. 9:10 a.m. _____
8. 12:22 a.m. _____
9. 12:22 p.m. _____
10. 6:01 p.m. _____

Convert the following times to Military Time

11. Quarter to seven in the morning _____
12. Half past one in the afternoon _____
13. Quarter past four in the afternoon _____
14. Five minutes to midnight _____
15. Ten past eight in the evening _____
16. Five to six in the morning _____
17. Half past two in the morning _____

Write these Military Times as12-hour clock times, using a.m. and p.m.

18. 1213 _____
19. 1705 _____
20. 0622 _____
21. 1635 _____
22. 1942 _____
23. 2205 _____
24. 1340 _____
25. 1445 _____

Write out these Military Times as you would say them out loud

26. 0100 _____
27. 2100 _____
28. 1800 _____
29. 0430 _____
30. 0800 _____

MILITARY TIME – BUS SCHEDULE CONVERSIONS
KEY

You live on a military post and work at the security office. Your car recently broke down and you need to get to work by taking a bus instead of your car. Fortunately you have a bus stop outside your front door and there is a bus stop not too far down the street from your work building. Use the schedule below to plan your departure time from home and arrival time at work.

Home bus departure time	Work bus arrival time
0630 6:30a.m.	0650 6:50a.m.
0845 8:45a.m.	0905 9:05a.m.
1100 11:00a.m.	1120 11:20a.m.
1315 1:15 p.m.	1335 1:35p.m.
1530 3:30p.m.	1550 3:50pm.
1745 5:45p.m.	1805 6:05p.m.
2000 8:00p.m.	2020 8:20p.m.

Example: On Tuesday you are scheduled to work at 1:45 p.m. You will catch the bus at <u>1315</u> (1:15 p.m.). The bus will arrive in front of the library at <u>1335</u> (1:35 p.m.).

1. On Monday you work at 9:30 a.m. What time will you catch the bus? 0845
    What time will the bus arrive at the library? 0905

2. On Tuesday you work at 7:00 a.m. What time will you catch the bus? 0630
    What time will the bus arrive? 0650

3. On Wednesday you work at 2:00 p.m. When will you catch the bus? 1315
    When will the bus arrive? 1335

4. On Thursday you work at 4:15 p.m. When will your bus depart? 1530
    When will your bus arrive? 1550

5. On Friday you need to be at work by 1:45 p.m.   When will you take the bus? 1315
    When will you get to work? 1335

6. What is the latest civilian departure time on the schedule above? 8:00p.m.

7. What is the earliest civilian departure time on the schedule above? 6:30a.m.

8. How long is your bus ride to work? 20 minutes

MILITARY TIME CONVERSIONS
KEY

Convert the following to Military Time

1. 10:43 a.m.   1043
2. 10:27 p.m.   2227
3. 11:21 a.m.   1121
4.   8:16 p.m.   2016
5.   9:32 p.m.   2132
6.   3:19 p.m.   1519
7.   9:10 a.m.   0910
8. 12:22 a.m.   0022
9. 12:22 p.m.   1222
10.   6:01 p.m.   1801

Convert the following times to Military Time

11. Quarter to seven in the morning   0645
12. Half past one in the afternoon   1315
13. Quarter past four in the afternoon   1615
14. Five minutes to midnight   2355
15. Ten past eight in the evening   2010
16. Five to six in the morning   0555
17. Half past two in the morning   0215

Write these Military Times as 12-hour clock times, using a.m. and p.m.

18. 1213   12:13 p.m.
19. 1705   5:05 p.m.
20. 0622   6:22 a.m.
21. 1635   4:35 p.m.
22. 1942   7:42 p.m.
23. 2205   10:05 p.m.
24. 1340   1:40 p.m.
25. 1445   2:45 p.m.

Write out these Military Times how you would say them out loud

26. 0100   zero one-hundred hours
27. 2100   twenty one hundred hours
28. 1800   eighteen hundred hours
29. 0430   zero four hundred thirty hours
30. 0800   zero eight hundred hours

MILITARY TIME BINGO

Instructions: Cut out cards and distribute one to each student in your classroom. Hand each student a handful of dry beans -- enough to fill a card if you did blackout. Play any combination of BINGO that you desire and read out loud the AM and PM times for them to convert to Military Time.

B	I	N	G	O
1400	1200	0100	1500	2400
2200	0600	0800	1600	0300
1000	1700	Free	1100	1900
0500	0200	0900	2100	2000
1300	2300	0400	1800	0700

B	I	N	G	O
0100	1500	2400	1400	1200
0800	1600	0300	2200	0600
1700	1100	Free	1900	1000
0900	2100	2000	0500	0200
0400	1800	0700	1300	2300

B	I	N	G	O
2400	1400	1200	0100	1500
0300	2200	0600	0800	1600
1900	1000	Free	1700	1100
2000	0500	0200	0900	2100
0700	1300	2300	0400	1800

B	I	N	G	O
1200	0100	1500	2400	1400
0600	0800	1600	0300	2200
1000	1700	Free	1100	1900
0200	0900	2100	2000	0500
2300	0400	1800	0700	1300

B	I	N	G	O
1500	2400	1400	1200	0100
1600	0300	2200	0600	0800
1100	1900	Free	1000	1700
2100	2000	0500	0200	0900
1800	0700	1300	2300	0400

B	I	N	G	O
1300	0500	1900	2200	1400
0700	2000	1100	0300	2400
1800	2100	Free	1600	1500
0400	0900	1700	0800	0100
2300	0200	1000	0600	1200

B	I	N	G	O
1400	1300	0500	1900	2200
2400	0700	2000	1100	0300
1500	1800	Free	2100	1600
0100	0400	0900	1700	0800
1200	2300	0200	1000	0600

B	I	N	G	O
0500	1900	2200	1400	1300
2000	1100	0300	2400	0700
1800	2100	Free	1600	1500
0900	1700	0800	0100	0400
1200	1000	0600	1200	2300

B	I	N	G	O
2200	1400	1300	0500	1900
0300	2400	0700	2000	1100
1600	1500	Free	1800	2100
0800	0100	0400	0900	1700
0600	1200	2300	0200	1000

B	I	N	G	O
1200	0900	1800	2000	0700
1700	2100	1100	0500	0600
2400	0300	Free	1000	0100
1300	1400	2200	0800	1500
0400	2300	1900	1600	1200

B	I	N	G	O
1900	2200	1400	1300	0500
1100	0300	2400	0700	2000
2100	1600	Free	1500	1800
1700	0800	0100	0400	0900
1000	0600	01200	2300	0200

B	I	N	G	O
0700	1200	0900	1800	2000
0600	1700	2100	1100	0500
0100	2400	Free	0300	1000
1500	1300	0400	2200	0800
1200	0400	2300	1900	1600