

## TIC TAC TIME

**Objective:** Solve problems involving elapsed time and the conversion of units of time to equivalent units.

**Materials:** Tic Tac Time Game Sheet Transparency  
Tic Tac Time - Problems Involving Converting Units of Time Information Sheet  
Tic Tac Time - Problems Involving Elapsed Time Information Sheets(2)

**Procedures:**

1. Decide whether you are going to play one, two, or more games of "Tic Tac Time." If you are only going to play one or two games, determine which set(s) of problems you want to use. Announce these decisions to participants before beginning the game.
2. Summarize rules for the game as listed on the "Tic Tac Time" game sheet transparency.
3. Begin the game and continue play according to the rules on the "Tic Tac Time" game sheet transparency. In order to maximize participation, individual team members, in an order determined by the leader, should select a lettered square and then answer the question asked by the leader. Assistance from other participants should not be permitted. Participants can be asked problems orally or can be shown the problems visually on transparencies made from the information sheets containing these problems.
4. Repeat the game using different problems as time permits.

**Notes:**

1. There are 18 converting units of time problems and 18 elapsed time problems on the information sheets for this activity. This is enough problems for two games using each type of problem. If you are going to use only some of the problems, it is best to select these problems prior to starting the game.
2. By varying the number of times this game is played, leaders can increase or decrease the amount of time spent on the activity.

## TIC TAC TIME

A	B	C
D	E	F
G	H	I

### RULES FOR TIC TAC TIME:

1. Divide participants into two teams. Designate them as "Team X" and "Team O", and determine which team will go first.
2. Ask a member of the team that goes first to select a square by naming the letter it contains. This participant is then asked a question about time.
3. Place an "X" or "O" in the square selected if the participant correctly answers the question. If the participant misses the question, the square is left blank.
4. Have teams alternate turns until all boxes contain an "X" or "O".
5. Determine each team's score. For every "X" or "O", a team scores one point; for every three-in-a-row of "X's" or "O's", a team scores five points.

## TIC TAC TIME

### Problems Involving Converting Units of Time Information Sheet

1. How many seconds are there in 4 minutes?
2. How many seconds are there in 10 minutes?
3. How many seconds are there in 2 minutes and 10 seconds?
4. How many minutes are there in 3 hours?
5. How many minutes are there in  $2\frac{1}{2}$  hours?
6. How many minutes are there in  $3\frac{1}{4}$  hours?
7. How many hours are there in 2 days?
8. How many hours are there in 3 days?
9. How many hours are there in  $1\frac{1}{2}$  days?
10. How many days are there in 5 weeks?
11. How many days are there in 8 weeks?
12. How many days are there in the month of November?
13. How many months are there in 2 years?
14. How many months are there in  $4\frac{1}{2}$  years?
15. How many months are there in 5 years?
16. How many years are there in a decade?
17. How many years are there in a century?
18. How many decades are there in a century?

## TIC TAC TIME

### Problems Involving Converting Units of Time Information Sheet (with answers)

1. How many seconds are there in 4 minutes? (240 seconds)
2. How many seconds are there in 10 minutes? (600 seconds)
3. How many seconds are there in 2 minutes and 10 seconds? (130 seconds)
4. How many minutes are there in 3 hours? (180 minutes)
5. How many minutes are there in  $2\frac{1}{2}$  hours? (150 minutes)
6. How many minutes are there in  $3\frac{1}{4}$  hours? (195 minutes)
7. How many hours are there in 2 days? (48 hours)
8. How many hours are there in 3 days? (72 hours)
9. How many hours are there in  $1\frac{1}{2}$  days? (36 hours)
10. How many days are there in 5 weeks? (35 days)
11. How many days are there in 8 weeks? (56 days)
12. How many days are there in the month of November? (30 days)
13. How many months are there in 2 years? (24 months)
14. How many months are there in  $4\frac{1}{2}$  years? (54 months)
15. How many months are there in 5 years? (60 months)
16. How many years are there in a decade? (10 years)
17. How many years are there in a century? (100 years)
18. How many decades are there in a century? (10 decades)

## TIC TAC TIME

### Problems Involving Elapsed Time Information Sheets

1. What time will it be 3 hours and 10 minutes after 7:00 p.m.?
2. What time will it be 2 hours and 40 minutes after 4:00 p.m.?
3. What time will it be 4 hours and 20 minutes after 11:00 a.m.?
4. What time will it be 2 hours and 45 minutes after 6:45 p.m.?
5. What time was it 8 hours before 2:00 p.m.?
6. What time was it 2 hours and 30 minutes before 10:00 p.m.?
7. What time was it 4 hours and 20 minutes before 7:30 p.m.?
8. What time was it 1 hour and 50 minutes before 7:15 a.m.?
9. What is the length of time in hours between 10:00 a.m. and 1:00 p.m.?
10. What is the length of time in minutes between 11:00 a.m. and 2:15 p.m.?
11. What is the length of time in hours and minutes between 3:45 p.m. and 7:00 p.m.?
12. What is the length of time in hours and minutes between 10:30 p.m. and 2:45 a.m.?
13. This inservice training program started at 8:30 a.m. and will be over at 4:00 p.m., including lunches and breaks; how long will the program last?
14. A training session is three hours long and includes a 15 minute break. If this session started at 8:30 a.m., what time will it be over?
15. If a movie began at 8:30 and has an intermission after 1 hour and 45 minutes, at what time will the intermission occur?
16. If after a hard day at school you went to bed at 8:00 p.m. and slept straight through until 7:15 a.m. How long did you sleep?
17. Because of a traffic jam, it took one of the participants 1 hour and 45 minutes to reach the site of today's training program. If this participant left his house at 7:40 a.m., at what time did he reach the training site?

## TIC TAC TIME

### Problems Involving Elapsed Time Information Sheets (with answers)

1. What time will it be 3 hours and 10 minutes after 7:00 p.m.? (10:10 p.m.)
2. What time will it be 2 hours and 40 minutes after 4:00 p.m.? (6:40 p.m.)
3. What time will it be 4 hours and 20 minutes after 11:00 a.m.? (3:20 p.m.)
4. What time will it be 2 hours and 45 minutes after 6:45 p.m.? (9:30 p.m.)
5. What time was it 8 hours before 2:00 p.m.? (6:00 a.m.)
6. What time was it 2 hours and 30 minutes before 10:00 p.m.? (7:30 p.m.)
7. What time was it 4 hours and 20 minutes before 7:30 p.m.? (3:10 p.m.)
8. What time was it 1 hour and 50 minutes before 7:15 a.m.? (5:25 a.m.)
9. What is the length of time in hours between 10:00 a.m. and 1:00 p.m.? (3 hours)
10. What is the length of time in minutes between 11:00 a.m. and 2:15 p.m.? (195 minutes)
11. What is the length of time in hours and minutes between 3:45 p.m. and 7:00 p.m.? (3 hours and 15 minutes)
12. What is the length of time in hours and minutes between 10:30 p.m. and 2:45 a.m.? (4 hours and 15 minutes) -
13. This inservice training program started at 8:30 a.m. and will be over at 4:00 p.m., including lunches and breaks; how long will the program last? ( $7 \frac{1}{2}$  hours - 7 hours and 30 minutes)
14. A training session is three hours long and includes a 15 minute break. If this session started at 8:30 a.m., what time will it be over? (11:45 a.m.)
15. If a movie began at 8:30 and has an intermission after 1 hour and 45 minutes, at what time will the intermission occur? (10:15 a.m.)
16. If after a hard day at school you went to bed at 8:00 p.m. and slept straight through until 7:15 a.m. How long did you sleep? ( $11 \frac{1}{4}$  hours - 11 hours and 15 minutes)

17. Because of a traffic jam, it took one of the participants 1 hour and 45 minutes to reach the site of today's training program. If this participant left his house at 7:40 a.m., at what time did he reach the training site? (9:25 a.m.)
18. According to Texas Education Agency requirements, the minimum length of a program for which credit can be given is six hours, exclusive of breaks, lunch, and travel time. One leader started her workshop at 8:45 a.m. and gave participants 1 1/2 hours for breaks and lunch. What is the earliest time at which this leader could conclude the training program? (4:15 p.m.)