Example 3: Personnel scheduling for an Amusement Park.

For employees working five consecutive days with two days off, find the schedule that meets demand from attendance levels while minimizing payroll costs.

Sch.	Days off	Employees	Sun	Mon	Tue	Wed	Thu	Fri	Sat
A	Sunday, Monday	4	0	0	1	1	1	1	1
B	Monday, Tuesday	4	1	0	0	1	1	1	1
C	Tuesday, Wed.	4	1	1	0	0	1	1	1
D	Wed., Thursday	6	1	1	1	0	0	1	1
E	Thursday, Friday	6	1	1	1	1	0	0	1
F	Friday, Saturday	4	1	1	1	1	1	0	1
G	Saturday, Sunday	4	0	1	1	1	1	1	0

Schedule Totals: 32   24   24   24   22   20   22   28

Total Demand: 22   17   13   14   15   18   24

Pay/Employee/Day: $40
Payroll/Week: **$1,280**

Color Coding

Target cell
Changing cells
Constraints

The goal for this model is to schedule employees so that you have sufficient staff at the lowest cost. In this example, all employees are paid at the same rate, so by minimizing the number of employees working each day, you also minimize costs. Each employee works five consecutive days, followed by two days off.

Problem Specifications

Target cell	D20	Goal is to minimize payroll cost.
Changing cells	D7:D13	Employees on each schedule.
Constraints	D7:D13>=0	Number of employees must be greater than or equal to 0.
	D7:D13=Integer	Number of employees must be an integer.
	F15:L15>=F17:L17	Employees working each day must be greater than or equal to the demand.
Possible schedules	Rows 7-13	1 means employee on that schedule works that day.

In this example, you use an integer constraint so that your solutions do not result in fractional numbers of employees on each schedule. Selecting the **Assume linear model** check box in the **Solver Options** dialog box before you click **Solve** will greatly speed up the solution process.