

Can Take You Places

FOCUS AREA

Problem Solving

ACTIVITY TYPE

Budgeting/Life Skills

MATH GOAL

To create a 9-hour work schedule for five employees

RECOMMENDED NUMBER OF STUDENTS

About 30 children. Students may work in groups or as an entire class. Five of the students will need to be identified to act out a skit.

TIME NEEDED

45 minutes

Time Slot

4th - 6th Grade

OBJECTIVE

To use problem solving to create a work schedule for a ballpark concession stand.

MATERIALS

- Paper
- Pencils - enough for everyone
- Table and chair (props)
- Scheduling Worksheet - for each student
- A Scheduling Dilemma Skit - five copies, one for each actor

For Optional Introduction Activity

- *Math Can Take You Places* DVD, Episode 2: "All Aboard!" (Problem Solving)
- TV/DVD player

BEFORE YOU START

- When choosing the actors, pick students who are usually animated and outgoing.
- Try to give the skit to the actors as soon as possible so they can go over their lines. While the actors are practicing their parts, the rest of the class might help set up the room in theater-style seating to make the environment more actor-friendly.
- If you want to add an extra layer of creativity, allow the actors to come up with their own funny reasons why they can't work during a given time. For example, Mr. Joe says he has a doctor's appointment at 1:30, but he could be getting his hair colored or something else silly. If you choose this variation, be sure to give the kids parameters for their responses so that nothing inappropriate is said.
- Be sure to make enough copies of the worksheets and the skit.

HOW TO START

Tell the students that they will be working on trying to solve a dilemma of scheduling people to work a concession stand. You can use this time to ask them if they have ever wanted to own a business and have people work for them. Let them know the importance of having enough employees to cover a concession stand so that the customers can get what they want and they do not lose business. For the concession stand, they will need to have two people working at all times during a nine-hour shift.

Optional Introduction Activity: Watch the *Math Can Take You Places* video, Episode 2, “All Aboard!” (Problem Solving.) Tell the students that they will be working a similar problem as they create a schedule for the workers of a concession stand. Two people have to work the stand at all times for the entire day.

STEPS

Step 1

Choose five students to play the roles of Mr. Joe, Kim, Mike, Sue and Pam. Ask them to write their pretend name largely on a piece of paper and hold it up as they speak. Let them read over their lines while you give instructions to the rest of the class.

Step 2

Tell the class that the five students will act out a problem that they will need to solve. Give the students the Scheduling Worksheet with the descriptions of each person and their situations (like a logic problem).

Step 3

When the actors are ready, let them present the skit to the rest of the class. After their performance, conduct an orderly class discussion on how to solve the problem. Allow students to question the actors.

For example:

A student may ask “Kim,” “Can you work from 6 to 8 p.m.?”

The actor “Kim” might respond, “No I can't. Remember: I have a karate lesson at 5:30 p.m.”

Step 4

When the class thinks they have the answer to the problem, let them chart the solution on the Scheduling Worksheet. Discuss the solution aloud as a group.

WRAP UP

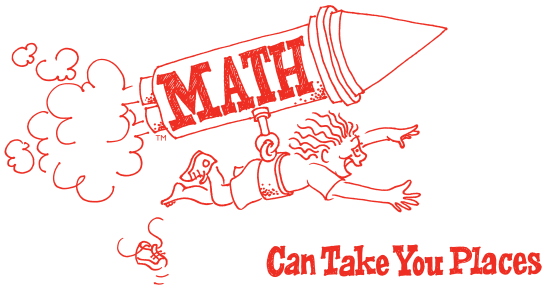
Divide the class into groups of four. Ask each group to create a logic problem of their own. Exchange with other groups.

OPTIONAL ACTIVITIES

- Writing: Allow students to write a journal entry describing a day in the life of one of the characters.
- Invite a manager from a local store to come and discuss what kind of problem solving is involved in his or her occupation.

SUGGESTED *MATH CAN TAKE YOU PLACES* CONNECTIONS

From *Math Can Take You Places Classroom Materials*, lesson plan: “A Scheduling Dilemma” (Problem Solving)



Activity Cue Card

- Choose actors. Give them their scripts and let them make their name tags.
- Let the actors perform the skit, “A Scheduling Dilemma.”
- The class will work together to solve the problem. Encourage interaction between the audience and the cast of actors.
- Chart the solution on their Scheduling Worksheet.
- Discuss the solutions as a group.

A Scheduling Dilemma Skit

[Mr. Joe is sitting at a table scratching his head.]

Mr. Joe: What am I gonna do? The hot dog stand will be open from 10 a.m. to 7 p.m. tomorrow and I've got to figure out who I should schedule to work. Let's see ... the shifts are 10 a.m. to 1 p.m., 1 p.m. to 4 p.m., and 4 p.m. to 7 p.m., and two people have to work the stand at all times. I can work the opening shift from 10 a.m. to 1 p.m. and the closing shift from 4 p.m. to 7 p.m., but I have a doctor's appointment at 1:30 p.m. Who can I get to ...

[Interrupted by Mike]

Mike: Hey Mr. Joe! What's happening?

[Mike and Mr. Joe give each other a high five.]

Mr. Joe: Hello, Mike.

Mike: I came in here to let you know that I can't work until after noon tomorrow because I have a piano lesson. Can you believe my mom wants me to learn the piano? Why couldn't she pick something cool like the drums? Anyway, I also have soccer practice at 4 p.m. But other than that I'm all yours! See ya' later, Mr. Joe.

[Mike leaves.]

[Mr. Joe is shaking his head, looking worried.]

Mr. Joe: Now what am I gonna do?

[Pam and Sue walk in together, laughing and talking.]

Pam: Hello, Mr. Joe!

Sue: Hi, Mr. J!

Pam: I wanted to tell you I can work anytime before 4 p.m. tomorrow. I have a birthday party to go to at 4:30 p.m.

Sue: Really, girl? That sounds like fun. Whose is it?

Pam: Oh, it's just my Aunt Gertrude. My parents are making me go.

Sue: Don't you hate it when ...

[Mr. Joe interrupts]

Mr. Joe: Excuse me, girls, but I have a lot of work to do here.

Sue: We're sorry. But before we go, I just found out I have to baby-sit my little brother tomorrow until my parents come home at 3:30 p.m. I can work anytime after that. Thanks, Mr. Joe.

Pam: See ya later!

[Pam and Sue walk out as Kim walks in.]

Mr. Joe: Oh no. What now?

Kim: Hi, Mr. Joe. You don't look so good.

Mr. Joe: Well, I'm trying to figure out the schedule for tomorrow, but everyone keeps coming in and telling me they can't work this time, or they can't work that time. It's getting a little frustrating.

Kim: Um ... well ... uh ... let's see ... uh ...

Mr. Joe: *[sounding tired]* What times do you need off tomorrow?

Kim: I'm sorry Mr. J., but I can't work after 1 p.m. tomorrow. I just found out my family is going out of town to visit relatives. Look, next week you can schedule me anytime you like.

[Kim waves good-bye and walks out.]

Mr. Joe: A lot of good that will do me this week.

[Mr. Joe stands up and faces the class room.]

Mr. Joe: What am I gonna do?

Actor Information:

This will help you remember when you can and can not work the concession stand. Use this when the audience asks you questions.

Mr. Joe - I can work the opening shift from 10 a.m. to 1 p.m. and the closing shift from 4 p.m. to 7 p.m. I have a doctor's appointment at 1:30 p.m.

Mike - I have a piano lesson until after noon. I have soccer practice at 4:30.

Kim - I can work anytime before 1 p.m. In the afternoon my family is leaving to visit relatives.

Pam - I have a birthday party to attend at 4 p.m. I can work anytime before 4 p.m.

Sue - I have to babysit my little brother until my parents get home at 3:30 p.m. I can work any time after 4 p.m.

Scheduling Worksheet

Directions: Listen carefully to the skit, "A Scheduling Dilemma." It will give you important clues to help you solve this problem. After the performance, you may ask the actors questions to help narrow down the solution to the problem. Color in the boxes of the shifts that the person is able to work. Put an "x" in the boxes beneath the shift that the person is unable to work. Remember that two people have to work the stand at all times for the entire day.

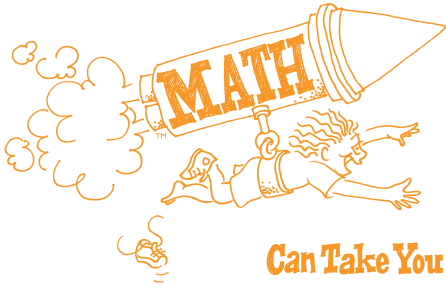
Employee	First Shift 10 a.m.-1p.m.	Second Shift 1 p.m. - 4 p.m.	Third Shift 4 p.m. - 7 p.m.
Mr. Joe			
Sue			
Mike			
Kim			
Pam			

Scheduling Worksheet
ANSWER KEY

Employee	First Shift 10 a.m.-1p.m.	Second Shift 1 p.m. - 4 p.m.	Third Shift 4 p.m. - 7 p.m.
Mr. Joe			
Sue			
Mike			
Kim			
Pam			

Name That Pattern

3rd - 4th Grade



Can Take You Places

FOCUS AREA

Patterns

ACTIVITY TYPE

Team Building

MATH GOAL

To learn to identify patterns

RECOMMENDED NUMBER OF STUDENTS

Divide the class into three even teams, with no more than about 30 students total

TIME NEEDED

30 minutes

OBJECTIVE

To name the rule for a set of related numbers, letters and shapes.

MATERIALS

- Timer
- Dry Erase Markers (1 per team)

From *Math Can Take You Places After-School Kit*

- Name That Pattern Cards

BEFORE YOU START

There are three levels of cards in a game:

- **Level One:** The Name That Pattern Cards will show a pattern using shapes. The last space on the card will be blank. The student who figures out what shape completes the pattern is to stand up, turn completely around, sit back down and raise a hand. The first to do this gets to answer first. On Level One, the students simply **say** the answer. Level One questions are worth **5 points**. A sample student response would be, "Blue Circle".
- **Level Two:** The Name That Pattern Cards will show a pattern using shapes, letters, or numbers. The last space on the card will be blank. The student who figures out what shape, letter, or number completes the pattern is to stand up, turn completely around, sit back down and raise a hand. The first to do this gets to answer first. However, on Level Two questions, students will go to the front of the room and **write** the shape, letter or number that completes the pattern on the pattern card. Level Two questions are worth **10 points**. (Students may need to draw the shape and say the color it would be if the proper color marker is not available.)
- **Level Three:** There will be one final challenge card that the entire team will work on as a group. Each **team** will have an opportunity to give a response. Each team that answers correctly earns **25 points**.