Day One Lesson Plan

Objectives

- Students develop skills to work cooperatively with a group
- Students identify relevant information needed to solve a problem

Materials Needed

- Fraction of the Cost (FOC) CD and projection system
- FOC Video Challenge: Problem Solving Plan (FOC Packet). One per student.
- One balloon for each group (the larger the balloon, the better)
- Rulers
- Checklist

You should have the permanent groups for “Fraction of the Cost” selected today so that during the balloon activity the students can get acquainted with their group. Group selection is key to the success of the unit. Please take time to have a high, middle, and low ability student in each group. Students should not know this. Group size should be either three or four students. Five students is too large a group.

Introduction to Fraction of the Cost Video

Explain to the students that they will be watching a video of kids that decide to build a skateboard ramp. There are a number of things they need to figure out including how much money they have to spend, the materials they will need to build the ramp, and the plans for building the ramp. Tell students that after they watch the video, you will assign them to groups, and they will be working through a packet (FOC Packet) to figure out the best way to build the skateboard ramp.

Warm Up

Exercises/Questions

1. What does it mean to work cooperatively in a group? Be very specific and give examples.

2. Draw lines at the following lengths using a ruler.

   a) \(2 \frac{1}{2}\)  
   b) \(3 \frac{1}{4}\)  
   c) \(5 \frac{7}{8}\)  
   d) \(4 \frac{5}{16}\)
3. Add \[2 \frac{1}{2} \]
\[3 \frac{3}{4} \]
\[+ 1 \frac{1}{4} \]

**Balloon Activity**
Today I would like to see how well your new group is going to cooperate. I will divide you into groups that you will be working with for the next few weeks. It is very important that you work together well as a group.

1. Each group will receive a balloon.
2. One person in the group should blow up the balloon without popping it, and tie the balloon.
3. You will hold hands as a group to form a circle.
4. When I start the timer you will start trying to keep the balloon in the air without breaking your grip as a group. If you break your grip you must sit down. I will tell you how long you keep the balloon in the air and you should discuss what you did right and wrong as a group. Decide on a strategy you could use if you get to have another turn. The last group standing will be declared the winner.
Note: You can let the students have a few seconds to discuss a strategy once they get into their groups.
5. Now read off the groups and after everyone is assigned, they should select a place in the room that will be safe. [You can move to the stage area of the cafeteria or the gymnasium so students have enough room to move without worry about running into things.]
6. [You may let the groups have another turn in you wish. Also if the groups are being very successful, tell them they can only use their heads or just their feet. This should add more challenge to the group.]
7. Discuss as a class what worked well for each group and what they learned from the first time to the second time. Some questions to ask include: Does the balloon size matter? Does the group size matter? Do group members matter?

**View Fraction of Cost Video**

Before viewing the CD for the first time you may want to talk about the characters in the video. All of the students in the video had to memorize their lines. Sometimes the actors might be hard to understand, so if students have questions about what they are saying they should be encouraged to ask.
To view the video, from the Main Menu:
A) Click on Fraction of the Cost Video
B) Click Play

1. The first time watching the video, just have students watch without taking notes or writing anything down.
2. Hand out the packets and have the students write the problem that the actors on the video must solve on page 1 of the FOC packet. Tell students that the second time viewing the video they should find 5 to 8 items they feel will be important for them to know in order to solve the problem. Frame numbers may be hard to get, but write down a “ballpark” number beside the information on page 1 of the FOC packet. Each student should fill out his or her own packet.
3. View the video a second time.
4. Collect the packets at the end of class. Do not allow students to take these home.

[As students progress through the packet, there are a number of resources on the CD you can choose to use to help students solve the problems. Each of the resources is accessed from the Main Menu under Problem Solving and is described briefly below.]
A) Fraction of the Cost Video- allows students to view the video again to gain important information
B) 3-D Ramp Movie- shows a 3-D representation of the skateboard ramp
C) Building the Ramp- allows students to drag pieces of cut lumber to build the ramp
D) Schematic Plans- shows a two-dimensional plan of the skateboard ramp with measurements
E) Comparison of Length- allows students to drag pieces of available and needed wood to help figure out how much wood they need to purchase from the store
F) Spanish/Version Español- provides all of the above resources in a Spanish version

Wrap-Up Question

Why is cooperation going to be important during this project?

Checklist

Complete the Day 1 Checklist- Fraction of the Cost