

# Activity 20: Pattern Pull

3rd - 6th Grade

## OBJECTIVE

To compete in a pattern relay

## MATERIALS

- Tug-of-war rope
- Yardstick
- Scarf
- Masking tape
- Optional: Scratch paper and pencils for those students who need additional help
- Optional: Wrap-up activity - MCTYP video, Episode I: "What's Cooking?" (Patterns)
- Pattern Pull worksheets - one per team

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

### FOCUS AREA

Patterns

### ACTIVITY TYPE

Active Team Building

### Math Goal

Learn to identify patterns

### NUMBER OF STUDENTS

Two teams with a maximum of 10 players per team and no more than total of 20 participants

### TIME NEEDED

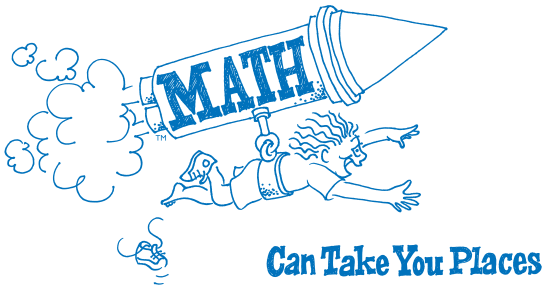
30 minutes

## BEFORE YOU START

- Before class, use the yardstick to measure the distance teams must pull to win the tug-of-war by placing masking tape on the yard stick at both ends. Tie the scarf to the middle of the rope.
- When dividing students into teams, make sure to have an even distribution of ability levels. This game will not work if all of the advanced students are on one team.

## HOW TO START

Ask: "Has anyone ever played tug-of-war? What factors can help a team win in a game of tug-of-war?" Answers may include: stronger players, more players, or unequal pulling distances. Go on saying, "Well, you'll be playing a pattern game today where a tug-of-war will determine the winner."



## STEPS

### Step 1

Group students into two teams. It's okay if one team has one more player than the other. Line the two teams up next to each other as though they are about to compete in a relay. Give the first member of each team a Pattern Pull worksheet.

### Step 2

The facilitator will read a random problem from the Pattern Pull worksheet. The first two players will race to solve the pattern correctly. The first player to raise his or her hand gets to answer the problem. Whoever answers the problem correctly earns a point. If neither player answers correctly, no one receives a point. Then, those two players will go to the end of the line. The next two players will then compete, and so on.

### Step 3

There are ten questions per game. At the end of each game, the teams will play a game of tug-of-war. Find the difference in the winning team's score and the losing team's score. That number translates to the number of players the winning team can take from their opponent team to help win the tug-of-war. For example, imagine that Team A has 6 points and Team B has 4 points. The difference in their scores is 2 ( $6-4=2$ ). So Team A gets to pick two members from Team B to help in the tug-of-war. Therefore, a student may end up playing on a different team and the teams will not be even.

### Step 4

The winner of the tug-of-war wins the game. Redistribute the teams and play another game if time permits.

## WRAP UP

Optional: Watch the Math Can Take You Places student video, Episode 1: "What's Cooking?" (Patterns). Discuss the importance of understanding patterns. Explain that patterns help us to determine what will happen in the future. Help students make more real-life applications: weather forecasting, deciding how much food to buy for the school cafeteria, etc.

## **SUGGESTED MATH CAN TAKE YOU PLACES CONNECTIONS**

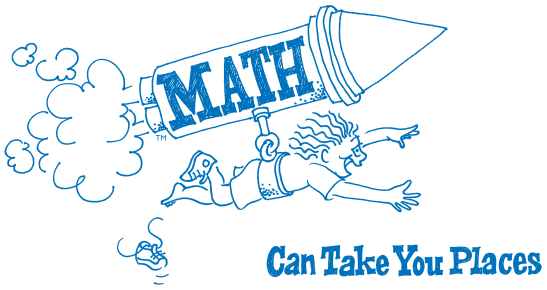
*Math Can Take You Places After-School Kit* activity “Name That Pattern”  
*Math Can Take You Places* video, Episode 1: “What’s Cooking?” (Patterns).

### **AT HOME**

Allow each family member to pack a different bag or piece of luggage. See which person's bag weighs closest to 18 pounds

### **WEB RESOURCES**

- Patterns - [http://www.bbc.co.uk/schools/revisewise/maths/number/10\\_act.shtml](http://www.bbc.co.uk/schools/revisewise/maths/number/10_act.shtml)
- Online pattern game - <http://www.scweb4free.com/patt2.html>
- The history of tug-of-war - <http://www.ttvbakkeveen.nl/engelswatistouwtrekken.htm> or [http://www.ehow.com/how\\_7943\\_play-tug-war.html](http://www.ehow.com/how_7943_play-tug-war.html)



## Activity Cue Card

- Divide students into two equal teams and line them up relay-style.
- Facilitator will read a random problem from the Pattern Pull worksheet.
- Players will compete to solve patterns. The player that answers correctly receives a point.
- Team with the most points after each round gets to choose players from the other team to help with tug-or-war, based on the difference in their scores.
- Tug-of-war determines the winner of the round. The team that wins the most rounds out of three wins the game.