



American Heart Association.

**KIDS
HEART
CHALLENGE™**

**AMERICAN
HEART
CHALLENGE™**

0110
1010
0101



JUMPING ROPE

STEAM Activity

Grades K-5

The American Heart Association recognizes the importance of building healthy bodies and minds. This STEAM activity is an introduction to science and math concepts particularly in the areas of Physics.

Objective:

Students will be introduced to the concept of circular motion, which is a term used to describe revolutions and rotations. Students will conduct experiments using different length jump ropes, and attempt to identify which length jump rope is ideal.

Materials Needed:

 Jump rope

 Pencil

 Stopwatch

Have you ever wondered how you could jump rope faster? The world record for the greatest number of jumps in one minute is 332, by Beci Dale! That's more than six jumps a second! How close do you think you can get to that number? What are some of the factors that will help you jump faster? One is the length of the jump rope!

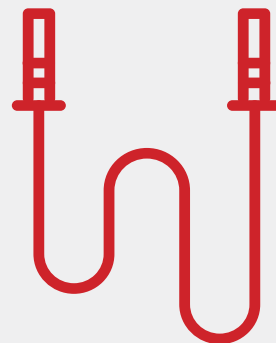
Discussion questions:

What does something in motion look like?

How does the length of a jump rope affect how many jumps a person can make in a minute?

What turns faster, a shorter or longer jump rope?

What would you do to improve your speed?





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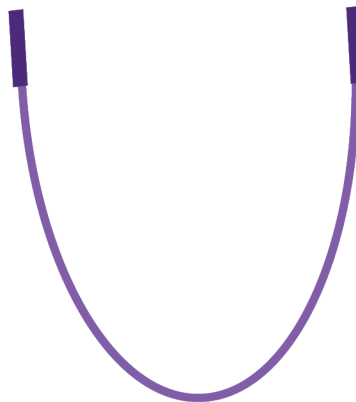
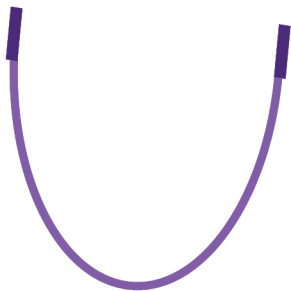
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Grades K-2

Jump Rope Lengths

Student Name: _____ Teacher: _____ Date: _____

Match the photos of which rope would work best for each person.



5'8



5'2



4'10





Jump Rope Lengths

Student Name: _____ Teacher: _____ Date: _____

Activity:

1. With a small group or a partner put a jump rope handle in each hand, standing on the midpoint, and pull the handles straight up along your sides to your armpits.
2. Shorten the rope by moving the handles halfway between your belly button and armpits, then tie knots in the rope just below the handles to adjust to this height. This is the shortest jump-rope length you'll test.
3. With your stopwatch, have your partner time you while you jump rope for one minute. As you jump, you should count how many jumps you do. When one minute is up, the person timing you should tell you to stop. If you "mess up" within the minute do not stop, but continue timing, jumping rope and counting the jumps. For example, if after 10 successful jumps, the rope hits your foot and you have to restart, the counter should count the next successful jump as number 11.
4. Readjust the rope length so that the tips of the handles are now just barely brushing your armpits. This is the medium length you'll test. Jump rope for one minute and count how many jumps you do in that minute.
5. Readjust the rope so that the tips of the handles barely brush your chin. This is the longest length you'll test.

Rope Length	Jumps in One Minute
Short	
Medium	
Long	

Post Activity Group Activity:

- How many successful jumps did you do in one minute using the shortest jump-rope length?
- How many successful jumps did you do a minute using the medium length? Was it greater or less than the number of jumps you made using the shortest rope length?
- How many successful jumps did you do per minute using the longest rope length? Was it greater than or less than the number of jumps you made using the shortest and medium lengths?
- Was the same jump rope length the "best" one for both of you or did each person do better with different lengths? Was the same rope length the "worst" one for both of you?