Curling is a sport similar to shuffleboard where each team of four players slide “stones” (about 44 pounds of polished granite) across a “sheet” of ice towards a target on the far side of the “sheet” called the “house”. The target is composed of 4 concentric circles. Each team has eight stones the team members alternate throwing.

At the completion of an end (all 16 stones have been thrown) the score is determined. The only team to score is the team with the closest stone to the center of the house. That team will receive points for however many of their own stones are closer to the center of the house than any of the other team’s stones.

Here’s an example: If the two teams throw their stones and the end of the sheet looks like this …

The team with the gray stones will win the end. The gray stone team will be the only team to receive points. Because there are two gray stones closer to the center of the house than any checker stones, the gray team will win the end and score 2 points. The checker team will score 0 points.

Here’s a scorecard for you to fill out for the next few problems.
1. Who will win this *end* and what will the score be? Enter the score on the scorecard given above.

2. What will the score be after this *end*? Notice that the checker team has one stone on the “button”.

3. And here?

An Olympic game consists of ten *ends* that are sort of like baseball innings. During an *end* the last stone thrown is called the *hammer*. Players are encouraged to yell, “Imma Droppin’ tha Hammer” as loud as they possibly can when throwing it.

There is also a lot of strategy in curling. The other team’s stones can be knocked away from the *button*. A stone can be made to “curl” after it has been delivered. On every shot, two team members sweep like-all-get-out to melt the lumpy ice and make the stone have less friction and direct the stone to the best advantage.

Let’s consider how and why to sweep. The curling sheet (the playing field shown below) is not made up of smooth ice.

The ice is sprayed with droplets of water to make the surface rough and pebbly. So, when a member of the *rink* (team) *delivers* the *stone* it will be slowed by friction. But suppose there are two opposing stones
along the centerline of the sheet. Then the straight direction to the house is blocked and you need to throw the stone so that it goes around the interference … so that the stone curls.

So suppose that the house looks like the picture below when I’m about to drop the hammer. I’m pushing that left-hand gray stone towards the button. I’d like my team to turn our stone so that it bumps the opponent stone (the checkered one that is closest to the button) out of the house. If the friction on the stone’s slide were reduced on one side of its path then the stone would curl in the opposite direction because it would more easily spin on the swept side.

4. Assume I’m on the gray team. The checker team has placed two stones in my way for aiming straight at the button. If I deliver the stone in the direction of my arrow, where should my team sweep in order to get the stone to knock out that checkered stone closest to the button? Feel free to draw on this picture.

![Diagram](image.png)

Cool. Eh?

5. Draw another curling situation where you think sweeping might change the outcome of the end. Explain what your drawing illustrates.

![Diagram](image2.png)

A few other interesting facts about curling

Each team member wears two specialized shoes. One of the shoes has traction and the other is a slider shoe. The shooter will push off from one of two permanently set “hocks” on the sheet in order to have leverage when pushing off. Then he/she slides with the stone no further than the “hog line” to send the stone on its way.

In curling it is important to show good sportsmanship. Teams congratulate each other after good throws. After a match, the losing team generally treats the winning team to a beverage to show that there are no hard feelings = good sportsmanship = “spirit of curling”.

Sources: [http://keepingscoreblogs.time.com/2014/02/10/sochi-winter-olympics-curling/](http://keepingscoreblogs.time.com/2014/02/10/sochi-winter-olympics-curling/)  

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