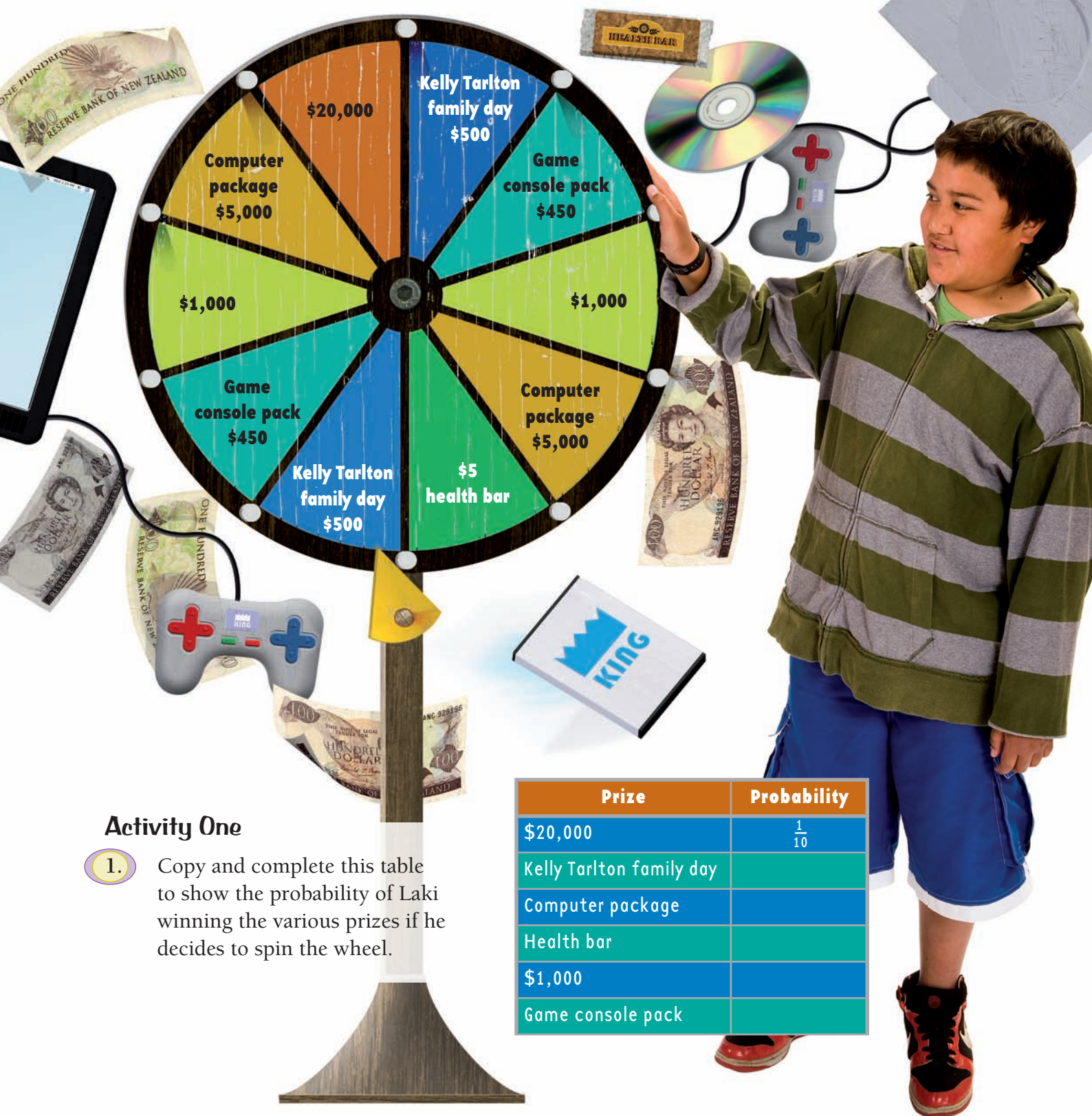
Spin to Win!

You need

- a copy of the winning wheel spinner (see copymaster)
- a computer spreadsheet/graphing program (optional)
- a paper clip
- classmates

Laki has beaten the other contestants in *The Winning Wheel* game show. He can either walk away with $4,000 cash or spin the wheel to win one of the prizes shown.



Activity One

1. Copy and complete this table to show the probability of Laki winning the various prizes if he decides to spin the wheel.

Prize	Probability
$20,000	$\frac{1}{10}$
Kelly Tarlton family day	
Computer package	
Health bar	
$1,000	
Game console pack	

2. Should Laki spin the wheel or take the $4,000 prize money?
Explain your reasoning (for example, using probabilities or a table).

3. The last two contestants to spin the wheel won the $20,000. Does this mean that Laki is less likely to win the big prize, or that it is a good time for him to spin because the wheel is on a lucky streak, or neither? Discuss with a classmate.

Activity Two

The producers of *The Winning Wheel* have a prize budget of $60,000 per season. Each of the 10 episodes in a season has a winner.

1. a. If, in one season, every winning contestant chose the $4,000 cash, what would be the total cost in prizes?

   b. What percentage of the prize budget would this be?

2. If every winner opted to spin the wheel, how much might it cost the producers? Discuss your reasoning with a classmate.

Activity Three

1. a. With a classmate, simulate a season of *The Winning Wheel*. For every episode, pretend that you are a new winner. Choose whether to take the $4,000 cash or spin the wheel using a paper clip and your copy of the wheel.

   Keep a record of the season's winnings, for example:

***The Winning Wheel*: Season's Winnings**			
Episode	Decision	Prize	Value
1	Spin	Console	$450
2	Cash	$4,000	$4,000
3	Spin	Health bar	$5
4			

   b. How much did your simulated season cost the producers?

2. a. Could the producers use this information as a guide for other seasons? Discuss with a classmate.

   b. Combine your data with that of other classmates to get simulated data for two or more seasons.
   Display the combined data on a graph. Discuss what it tells you.

3. Do you think the producers would prefer contestants to take the $4,000 or spin the wheel? Take into account the results of your combined simulations and the theoretical probabilities found in **Activity One**.

Focus Using probability to estimate costs and benefits