

Using *The Price is Right* in Your Mathematics Classroom

Who does not love to watch *The Price is Right*? When I was in elementary school, my sick days and summers were spent glued to the popular game show. My niece and nephew then took over the game show obsession. Currently, my 14-year old great-nephew has found his new favorite past time during the coronavirus pandemic. Although he is a dedicated student and enjoys the online environment, I think what he enjoys most is the flexibility to watch *The Price is Right* every day. He is enjoying the mathematics involved in many of the games and often calls or texts to ask about some of the underlying concepts. It was during one of our phone calls that I realized the teaching possibilities of many of the games from the show.

Most games, including the bidding process to get on stage to play a game, involve knowledge of products and prices. However, some games, regardless of price, involve mathematical concepts. Many of these can be re-created in your classroom to emphasize certain topics.

I have used the Dice Game, Card Game, and the Showcase Showdown in my classes for several years. Students always enjoy playing a game and almost all of them are familiar with the games from watching the show. Before any of the classroom activities, I show a video of the game being played to hype the activity.

If you or any of your students are not familiar with a particular game, all of the games mentioned below can be found through a Google search. An excellent resource for descriptions of the games can be found at https://priceisright.fandom.com/wiki/The_Price_Is_Right_Wiki and then choosing active or retired games. Videos of most games are also widely available.

Below are curriculum strands and some of the games associated with the strand. Each game can be simulated with short handouts you create or from many websites dedicated to

teaching with *TPIR*. While this is not an exhaustive list of all *TPIR* games, hopefully, you can include a bit of fun while teaching certain concepts.

Numbers and Operations

Bullseye Game

This game involves multiplying the price of an item by the number of items to reach a particular range of values. If the contestant does not hit the bullseye the first time, they can choose a different item and quantity to try again.

Grocery Game

Similar to Bullseye, the Grocery Game uses a cumulative total to win a prize rather than starting over each time with each subsequent item. The concepts of multiplication and addition are used in this game.

Check Game

The contestant uses the price of the prize plus the amount of the check to reach a specified total given at the beginning of the game. This game can also be used in an algebra setting.

It's In The Bag

Combined with knowledge of prices of items, this game demonstrates powers of two and how quickly values increase in the doubling process. Each time the contestant matches an item to its correct price, the amount of money won is doubled. The game is also a good way to “visualize” 2^0 power.

Money Game

Although knowledge of the price of a car is a component of this game, the main teaching advantage comes in the form of reinforcing place value.

Algebra

Balance Game

This game is an algebra balance scale taken to the game-show level. Again, price knowledge is involved, but students can see the balancing act of different priced items on a large scale.

Do The Math

The contestant is shown the difference in the price of two prizes. It is then their job to determine if that value should be added or subtracted to the price of Prize #1 to get the price of Prize #2.

$$\text{Prize \#1} \pm \text{Given Value} = \text{Prize \#2}$$

Magic Number

This is a game similar to Do The Math in that it involves the prices of two prizes.

However, in this case, the contestant has to find a value between the two prize prices.

$$\text{Prize \#1} < \text{Magic Number} < \text{Price \#2}$$

Range Game

The contestant must stop the range finder in an interval that includes the price of the prize. This is an excellent way to demonstrate inequalities and the prices that fall into the winning interval.

Probability and Statistics

Any Number

The three prizes use all the digits 0 – 9 for the prices. Contestants guess numbers in hopes of winning the big prize (with four digits in the price). The piggy bank prize is

always less than \$10. In theory, there is an equal chance of each digit being chosen, but knowledge of prices plays a role as well.

Dice Game

This game limits the numbers in the price of the prize (a car) to the numbers 1 – 6 so that the price can be determined by rolling a die. Usually, the first number in the price is given and the contestant rolls the die in hopes of landing on the correct number in the price. If the number rolled is not correct, the contestant must decide if the price is higher or lower, using theoretical probability and price knowledge.

Bonkers

This is similar to the Dice Game, but only involves the numbers 3 – 8. An incorrect price is shown and the contestant must determine if the correct digit is higher or lower. There is also a time limit involved in this game.

Bonus Game

Based on guessing if the price of an item is higher or lower than the incorrect price that is shown, a contestant can win one of four spaces on the game board. While price knowledge may impact a true 50-50 probability of higher or lower, the game can reinforce probabilities of $\frac{1}{4}$ as well as a probability of 1 if a contestant guesses correctly for all four prices.

Card Game

In this game, contestants use a deck of cards to accumulate a total toward the price of a car within a certain specified range. The game illustrates probabilities associated with cards, but with the added feature of allowing an ace to be a “wild card” where the contestant can make the card any value they choose.

Many other games such as Cover, One Away, Pocket Change, Punch Game, and Spelling Bee also offer probability lesson opportunities, the ones outlined above have been the easiest for me to incorporate into classroom activities.

Geometry and Measurement

Geometry using TPIR is not as accessible as other mathematical topics in the curriculum. However, one activity that I have found useful is in recreating the Big Wheel for the Showcase Showdown. Using a hamster wheel as the Big Wheel, students can use the diameter of the wheel to determine the circumference. Knowing that twenty spaces are needed on the wheel, students then determine the size of each numbered space and create their own Big Wheel to spin.

Calculus

Like geometry, calculus is not the first mathematical topic many people think of with TPIR. However, the Clock Game is an excellent opportunity to look at the concept of limits. Contestants are shown a prize and have thirty seconds to guess the price of the prize. They begin with an initial guess and the host informs them if their guess needs to be higher or lower. The contestant then begins to hone-in on the price until, hopefully, they are successful. The price is the limit value, and the contestant is gradually narrowing down their guess using the process of a one-sided limit. For many students, simply showing a video of the game makes this idea “click” for them, even more so than using graphical representations.

Conclusion

Since my conversations with my great-nephew and researching some of the games, I am more excited than ever to include more activities in my teaching. Whenever we return to the classroom and can have students work together in groups, I hope these ideas will be useful to you.