Estimation
Cross-Curricular Focus: Mathematics

Estimation can be a powerful tool in mathematics. You can use it to check an answer when you are finished solving a problem. It will tell you whether or not your answer is **reasonable**. If your answer is somewhat close to your **estimate**, you know that you are on the right track. If your answer is off by hundreds, thousands or more, you know that you need to check your work. You may have missed something simple. Maybe you did not line up the place value columns. You might have put a decimal point in the wrong place. Sometimes you have to go back to the beginning and start again. Your estimate tells you when that is necessary.

An estimate is also useful for finding an answer quickly when an **approximate** answer is good enough. If you are the host of a birthday party and want to know about how many people are coming, an estimate will probably work. However, if it is a seated dinner where each guest has a steak of his own, an estimate is not very practical. It may leave you with too many, or even worse, too few plates to serve your guests.

Knowing when to use an estimate, and when to solve for an exact answer is a life skill that comes with practice. Shopping is an excellent activity to help you practice your skills of estimation. You have $23, and you are buying something that costs $9.98. You can quickly change the numbers into friendly numbers in your head by rounding. Twenty-three is close to 20, and $9.98 is close to 10. If you have $20 and spend $10, you will have $10 left.

When you go into the music store, you keep in mind that you have about $10 left to spend. This saves you time as you look for a CD to play during your party. You know that if the CD costs more than $10, you will not have enough money to buy it.

When you find a CD you think you want, you can look on the back and estimate again. If the playing time says 129 minutes, you can estimate that it plays for about two hours.

Name: _____

Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.

1) What is one beneficial thing about using estimation?

_____

_____

2) What is the difference between an approximate answer and an exact answer?

_____

_____

3) What is meant by the term friendly number ?

_____

_____

4) Describe a time when you used estimation. How was it helpful?

_____

_____

5) Use what you have learned. What is a good estimate for 48 + 37 ? Round to friendly numbers, then estimate the sum. _____

_____

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Name: **Key**

Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.

Actual wording may vary.

1) What is one beneficial thing about using estimation?

Your can check an answer or you can get a quick, approximate answer.

2) What is the difference between an approximate answer and an exact answer? **The exact answer is the real answer. The approximate answer is close to the exact answer.**

3) What is meant by the term friendly number ?

student's choice

4) Describe a time when you used estimation. How was it helpful?

a rounded number

5) Use what you have learned. What is a good estimate for 48 + 37 ? Round to friendly numbers, then estimate the sum. **85 or 90**