Science app review

Although the app I have chose doesn’t special in science alone, Socratic is an app helpful for all homework, including science. This app scans photographs of your work and demonstrates step by step how the problem would be solved. It also pulls up websites, articles and videos to help you farther understand the problem. Let’s say I was balancing a chemical equation and I didn’t know how to balance it. Socratic would show me step by step how to balance it and pull up YouTube videos, Science articles and websites explaining how to balance chemical equations. I find this app extremely useful and it has not only helped me with science but other subjects as well.

Here is what I got on Socratic when I searched up how to balance chemical equations. This is directly from the online website, but the app provides the same information.

How do you balance chemical equations step by step?

Let us use a double displacement reaction of Lead (II) Nitrate and Potassium Chromate to produce Lead (II) Chromate and Potassium Nitrate to practice balancing an equation.

We begin with the base equation provided in the question.

P

b

(

N

O

3

)

2

(

a

q

)

+

K

2

C

r

O

4

(

a

q

)

→

P

b

C

r

O

4

(

s

)

+

K

N

O

3

(

a

q

)

Looking at the the atom inventory

Reactants

P

b

=

1

N

O

3

=

2

K

=

2

C

r

O

4

=

1

Products

P

b

=

1

N

O

3

=

1

K

=

1

C

r

O

4

=

1

We can see that the

K

and

N

O

3

are imbalanced.

If we add a coefficient of 2 in front of the

K

N

O

3

this will balance the equation.

P

b

(

N

O

3

)

2

(

a

q

)

+

K

2

C

r

O

4

(

a

q

)

→

P

b

C

r

O

4

(

s

)

+

2

K

N

O

3

(

a

q

)

Note that I leave the polyatomic ions

N

O

3

and

C

r

O

4

together when they appear on both sides of the equation seeing them as one unit not separate elements.

I would watch the following videos to understand the process of balancing equations more in depth.

SMARTERTEACHER YouTube

F2f

Bozeman Science YouTube

Mr. Causey YouTube

Why are equations balanced?

When we balance equations, we need to make sure that the same number of atoms of each element is present on each side of the equation. The reason for this is that during a chemical process, the atoms rearrange, but aren't either created or destroyed. As a result, to keep with the law of conservation of mass, you've got to do the balancing.

OK.

Here is a video which discusses this topic.

misterguch · 1 · 2 comments · Jun 20 2014

What law is satisfied by a balanced chemical equation in chemistry?

Conservation of matter is the law. You can also call it the conservation of mass.

When we balance an equation, we determine the ratio of reactants to products which allows for the total number of atoms of reactants to match the number of atoms of the products. Since the type of atoms does not change (nuclear processes are a different story) and the number of atoms stays that same, the total mass that goes into the chemical change will match the mass that comes out after the change.

Here is an example:

2

H

2

+

O

2

-> 2

H

2

O

OR

H-H + H-H + O=O -> H-O-H + H-O-H

There are 4H atoms before and after the reaction (each with a mass of 1 amu)

There are 2O atoms before and after the reaction (each with a mass of 16 amu)

The total mass before the reaction is 4x1 + 2x16 = 36amu

The total mass after the reaction is 4x1 + 2x16 = 36amu