

The first Chemistry paper! How CO2 cycles between the atmosphere, oceans and rock and disruptions to Earth's ecosystems. Due Friday, Sept. 29th (end of the R1 grading period)

For the last several weeks, we have been exploring how Carbon Dioxide levels have been increasing in the atmosphere, how it has been absorbed by the oceans and the ensuing chemistry that takes place. This includes the formation of Carbonic Acid, how marine creatures incorporate Carbonate and Silicate minerals into their bodies and how, in some places, minerals precipitate directly out of solution. Also, we've discussed the natural cycling of these minerals (Geo-Chemical cycles) which then brings CO2 back into the atmosphere. Of course, we've also discussed how humans are disrupting these cycles and the impacts on marine ecosystems (both now and in the past).

As a "chemistry" extension of this conversation, we embarked on a "pure chemistry" lab which explored how Calcium Carbonate (the primary constituent of shells for many marine species) reacts in acids, with the "stated objective" of determining the mass ratio of Calcium Carbonate in standard TUMS tablets (a mix of calcium carbonate and other fillers).

At the conclusion of all of this, students will write a paper, which attempts to both illustrate the students' knowledge of the carbon cycle itself, how humans are affecting and why it matters to life on Earth, as well as including a section describing the actual steps involved in determining how the mass ratio was determined. (note: this is a chance for the student to demonstrate the depth of their understanding!).

How the student weaves these topics together into a cohesive whole, is up to the creativity of the group, but the students should be clear on the objective, to demonstrate understanding of the chemistry and how its relevant to life on Earth!

Grading in Clark's Chemistry classes..

Stated objective is clearly described with summary of relevant topics to be explored	5	4	3	2	1	0
Overall clear progression of ideas	5	4	3	2	1	0
Accuracy of stated science, facts and math ¹	5	4	3	2	1	0
Creativity in writing, diagrams, layout or presentation.	5	4	3	2	1	0
Professional appearance overall.	5	4	3	2	1	0

Note: scoring all 4s = 88% (B+).

/23 total



¹ When appropriate

The first Chemistry paper! How CO₂ cycles between the atmosphere, oceans and rock and disruptions to Earth's ecosystems.

Due Friday, Sept. 29th (end of the R1 grading period)

For the last several weeks, we have been exploring how Carbon Dioxide levels have been increasing in the atmosphere, how it has been absorbed by the oceans and the ensuing chemistry that takes place. This includes the formation of Carbonic Acid, how marine creatures incorporate Carbonate and Silicate minerals into their bodies and how, in some places, minerals precipitate directly out of solution. Also, we've discussed the natural cycling of these minerals (Geo-Chemical cycles) which then brings CO₂ back into the atmosphere. Of course, we've also discussed how humans are disrupting these cycles and the impacts on marine ecosystems (both now and in the past).

As a "chemistry" extension of this conversation, we embarked on a "pure chemistry" lab which explored how Calcium Carbonate (the primary constituent of shells for many marine species) reacts in acids, with the "stated objective" of determining the mass ratio of Calcium Carbonate in standard TUMS tablets (a mix of calcium carbonate and other fillers).

At the conclusion of all of this, students will write a paper, which attempts to both illustrate the students' knowledge of the carbon cycle itself, how humans are affecting and why it matters to life on Earth, as well as including a section describing the actual steps involved in determining how the mass ratio was determined. (note: this is a chance for the student to demonstrate the depth of their understanding!).

How the student weaves these topics together into a cohesive whole, is up to the creativity of the group, but the students should be clear on the objective, to demonstrate understanding of the chemistry and how its relevant to life on Earth!

Grading in Clark's Chemistry classes..

Stated objective is clearly described with summary of relevant topics to be explored	5	4	3	2	1	0
Overall clear progression of ideas	5	4	3	2	1	0
Accuracy of stated science, facts and math ¹	5	4	3	2	1	0
Creativity in writing, diagrams, layout or presentation.	5	4	3	2	1	0
Professional appearance overall.	5	4	3	2	1	0

Note: scoring all 4s = 88% (B+).

/23 total



¹ When appropriate

The first Chemistry paper! How CO₂ cycles between the atmosphere, oceans and rock and disruptions to Earth's ecosystems.

Due Friday, Sept. 29th (end of the R1 grading period)

For the last several weeks, we have been exploring how Carbon Dioxide levels have been increasing in the atmosphere, how it has been absorbed by the oceans and the ensuing chemistry that takes place. This includes the formation of Carbonic Acid, how marine creatures incorporate Carbonate and Silicate minerals into their bodies and how, in some places, minerals precipitate directly out of solution. Also, we've discussed the natural cycling of these minerals (Geo-Chemical cycles) which then brings CO₂ back into the atmosphere. Of course, we've also discussed how humans are disrupting these cycles and the impacts on marine ecosystems (both now and in the past).

As a "chemistry" extension of this conversation, we embarked on a "pure chemistry" lab which explored how Calcium Carbonate (the primary constituent of shells for many marine species) reacts in acids, with the "stated objective" of determining the mass ratio of Calcium Carbonate in standard TUMS tablets (a mix of calcium carbonate and other fillers).

At the conclusion of all of this, students will write a paper, which attempts to both illustrate the students' knowledge of the carbon cycle itself, how humans are affecting and why it matters to life on Earth, as well as including a section describing the actual steps involved in determining how the mass ratio was determined. (note: this is a chance for the student to demonstrate the depth of their understanding!).

How the student weaves these topics together into a cohesive whole, is up to the creativity of the group, but the students should be clear on the objective, to demonstrate understanding of the chemistry and how its relevant to life on Earth!

Grading in Clark's Chemistry classes..

Stated objective is clearly described with summary of relevant topics to be explored	5	4	3	2	1	0
Overall clear progression of ideas	5	4	3	2	1	0
Accuracy of stated science, facts and math ¹	5	4	3	2	1	0
Creativity in writing, diagrams, layout or presentation.	5	4	3	2	1	0
Professional appearance overall.	5	4	3	2	1	0

Note: scoring all 4s = 88% (B+).

/23 total



¹ When appropriate

The first Chemistry paper! How CO₂ cycles between the atmosphere, oceans and rock and disruptions to Earth's ecosystems.

Due Friday, Sept. 29th (end of the R1 grading period)

For the last several weeks, we have been exploring how Carbon Dioxide levels have been increasing in the atmosphere, how it has been absorbed by the oceans and the ensuing chemistry that takes place. This includes the formation of Carbonic Acid, how marine creatures incorporate Carbonate and Silicate minerals into their bodies and how, in some places, minerals precipitate directly out of solution. Also, we've discussed the natural cycling of these minerals (Geo-Chemical cycles) which then brings CO₂ back into the atmosphere. Of course, we've also discussed how humans are disrupting these cycles and the impacts on marine ecosystems (both now and in the past).

As a "chemistry" extension of this conversation, we embarked on a "pure chemistry" lab which explored how Calcium Carbonate (the primary constituent of shells for many marine species) reacts in acids, with the "stated objective" of determining the mass ratio of Calcium Carbonate in standard TUMS tablets (a mix of calcium carbonate and other fillers).

At the conclusion of all of this, students will write a paper, which attempts to both illustrate the students' knowledge of the carbon cycle itself, how humans are affecting and why it matters to life on Earth, as well as including a section describing the actual steps involved in determining how the mass ratio was determined. (note: this is a chance for the student to demonstrate the depth of their understanding!).

How the student weaves these topics together into a cohesive whole, is up to the creativity of the group, but the students should be clear on the objective, to demonstrate understanding of the chemistry and how its relevant to life on Earth!

Grading in Clark's Chemistry classes..

Stated objective is clearly described with summary of relevant topics to be explored	5	4	3	2	1	0
Overall clear progression of ideas	5	4	3	2	1	0
Accuracy of stated science, facts and math ¹	5	4	3	2	1	0
Creativity in writing, diagrams, layout or presentation.	5	4	3	2	1	0
Professional appearance overall.	5	4	3	2	1	0

Note: scoring all 4s = 88% (B+).

/23 total



¹ When appropriate

The first Chemistry paper! How CO₂ cycles between the atmosphere, oceans and rock and disruptions to Earth's ecosystems. *Due Friday, Sept. 29th (end of the R1 grading period)*

For the last several weeks, we have been exploring how Carbon Dioxide levels have been increasing in the atmosphere, how it has been absorbed by the oceans and the ensuing chemistry that takes place. This includes the formation of Carbonic Acid, how marine creatures incorporate Carbonate and Silicate minerals into their bodies and how, in some places, minerals precipitate directly out of solution. Also, we've discussed the natural cycling of these minerals (Geo-Chemical cycles) which then brings CO₂ back into the atmosphere. Of course, we've also discussed how humans are disrupting these cycles and the impacts on marine ecosystems (both now and in the past).

As a "chemistry" extension of this conversation, we embarked on a "pure chemistry" lab which explored how Calcium Carbonate (the primary constituent of shells for many marine species) reacts in acids, with the "stated objective" of determining the mass ratio of Calcium Carbonate in standard TUMS tablets (a mix of calcium carbonate and other fillers).

At the conclusion of all of this, students will write a paper, which attempts to both illustrate the students' knowledge of the carbon cycle itself, how humans are affecting and why it matters to life on Earth, as well as including a section describing the actual steps involved in determining how the mass ratio was determined. (note: this is a chance for the student to demonstrate the depth of their understanding!).

How the student weaves these topics together into a cohesive whole, is up to the creativity of the group, but the students should be clear on the objective, to demonstrate understanding of the chemistry and how its relevant to life on Earth!

Grading in Clark's Chemistry classes..

Stated objective is clearly described with summary of relevant topics to be explored	5	4	3	2	1	0
Overall clear progression of ideas	5	4	3	2	1	0
Accuracy of stated science, facts and math ¹	5	4	3	2	1	0
Creativity in writing, diagrams, layout or presentation.	5	4	3	2	1	0
Professional appearance overall.	5	4	3	2	1	0

Note: scoring all 4s = 88% (B+).

/23 total



¹ When appropriate