

Crushing test

Can you identify the unknown crystal by crushing the different crystals and comparing them?

If you were going to test and identify rock samples, you might use a hardness test. In a hardness test, you scratch a rock sample with different substances. If the rock gets scratched it means that it is not as hard as that substance. Hardness is a characteristic property of a rock. So knowing a rock's hardness can help you identify it.

Since the household crystals you are working with are so small, they would be difficult to scratch. But you can crush the crystals and compare how they break. Are they easy to break? Do they make a certain cracking sound? Do they leave a certain mark on a surface? Do the crushed pieces look a certain way? If "crushability" is a characteristic property of a substance, you may get some information that could help you identify the unknown crystal.

Plan your crushing test

1. What is one way you could crush samples of crystals?

2. What would you do to make sure that you crush each crystal with the same amount of force so that the test is fair?

Conduct your crushing test

Student activity sheet

Activity 2.2

Crushing test *(continued)*

Name: _____

Interpret your observations

After you have conducted the crushing test, answer the following questions.

3. Can you single out a crystal that is definitely *not* the unknown?

4. Which crystal or crystals might be the unknown?

5. Do you have enough information from this crushing test to say that you know the identity of the unknown for sure?
