

A Shoe Clue

You have been provided with :

SPECIMEN A : A sample of rock from the suspect's shoe.

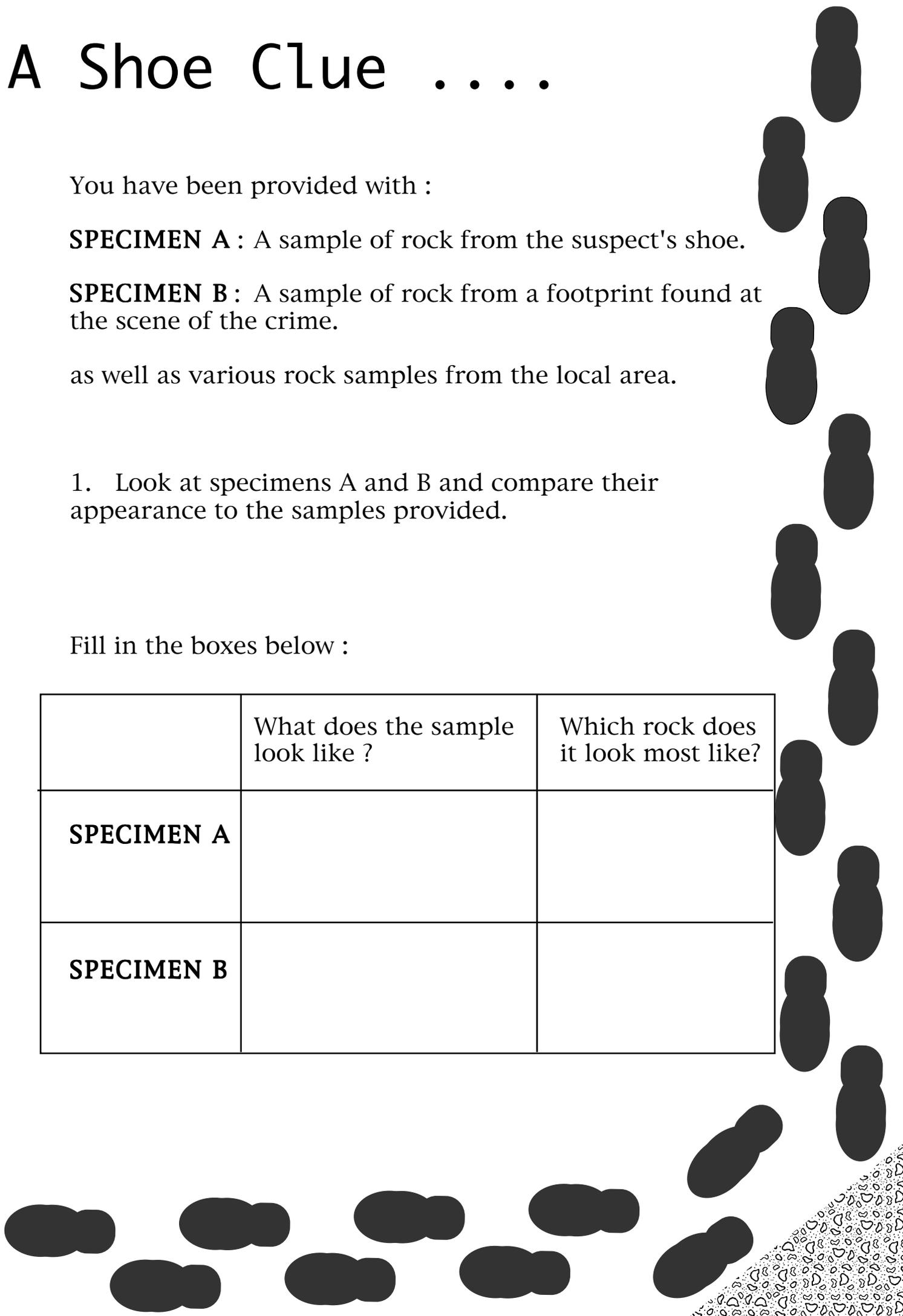
SPECIMEN B : A sample of rock from a footprint found at the scene of the crime.

as well as various rock samples from the local area.

1. Look at specimens A and B and compare their appearance to the samples provided.

Fill in the boxes below :

| | What does the sample look like ? | Which rock does it look most like? |
|-------------------|----------------------------------|------------------------------------|
| SPECIMEN A | | |
| SPECIMEN B | | |



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2. Place a small amount of each rock in a petri dish one at a time.

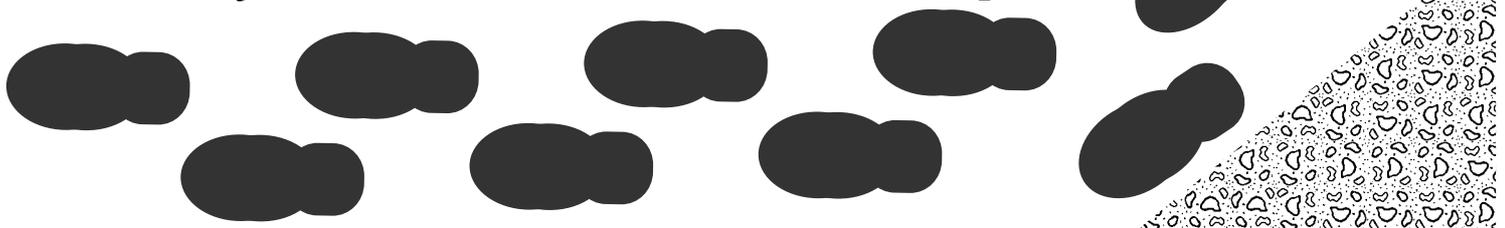
Add a small drop of acid. What happens to each rock?

Fill in your results below.

| ROCK SAMPLE | What happened when you added the acid? |
|-------------|--|
| LIMESTONE | |
| SANDSTONE | |
| GRANITE | |
| SPECIMEN A | |
| SPECIMEN B | |

Do you know why these samples react differently with acid ?

Fill in your conclusions on the Court Report



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Notes for teachers/demonstrators

Identification of geological samples

This clue is based on the fact that rocks such as limestone or chalk (ie carbonates) will react with dilute acid to produce carbon dioxide. The specimens used to test the package were sandstone, limestone and granite.

You can divide the test samples up into separate bags for each group.

The pupils should first guess the identity of the rocks visually and then confirm this using the acid test. The limestone sample should fizz when acid is added and they will need help to identify this as CO_2 .

Requirements :

Rock samples

0.1M HCl

2 x 25 ml dropping bottles

Watch glasses or Petri dishes for each sample

