

Cycle 3 Science Script

Week 3 #74 Fingerprints



Song to the tune of Pop Goes the Weasel



The Scientific Method is Purpose Hypothesis Materials Procedure (pop!) Results Conclusion

Purpose – To collect and observe the patterns of fingerprints.

Introduce Experiment

(Questions)

Did you know that God knows how many grains of sand are in the sea? Did you know that Psalm 147:4 states each star has its own name? Isn't that amazing? The Bible says that God even knows the number of hairs on each of our heads. This is saying that when God looks at us he sees us as the unique individuals he created each one of us to be. Can you list some ways each of you are different? Possible answers....hair color, height, weight, physical and mental abilities, shape etc.... How about fingerprints? Do you think God designed even our fingerprints to be unique?

(Purpose)

Today each of you are going to collect four of your finger prints on a sheet of paper and look carefully at them to see if you have arch, loop, and/or swirl patterns. Then you will examine them to see if your fingerprints match each other.

****optional**** if we have time after we do the 1st project, we will collect the fingerprints of your class mates and study them as well. We will specifically look to see if any of them seem to be exactly the same as someone else's fingerprint.

(Materials) *****ask parents ahead of time if it is ok to collect the fingerprints for the optional demonstration and allow for an opt out or plan to destroy these prints if someone is uncomfortable with this collection*****

Our materials for this demonstration are a magnifying glass, a pencil, 4 pieces of transparent tape and Miss Wizzle's fingerprint collection sheet.

(Hypotheses)

How many of you think your fingerprints patterns (arch, loop, swirl) will match each other?

Optional demonstration

How many of you think that all the fingerprints will be the same? How many of you think that each of the fingerprints you collect will be different than all the others in your collection? Do you suppose you might find just a pair or two that match? Let's find out.

(Procedure)

Now let's make an individual personal fingerprint police style where they lift the fingerprint from an item before they transfer it. For this I would like you to rub the side of the lead on your pencil back and forth on the paper 15-20 times until you get the effect of a dark and stormy night ☺ Now rub your finger on the dark and stormy night until you get a good coating of graphite from the pencil on your finger. Now take a piece of tape and stick it to the finger coated in graphite. Carefully lift this tape and stick it on the recording sheet to transfer the fingerprint. Do this for any four of your fingers onto Miss Wizzles fingerprint sample page.

Optional demonstration

*****Note to tutor...I tried this with a children's art stamp pad and poster paint but neither produced a nice print*****

For speed and efficiency in collecting everyone's finger prints we will line up assembly line style and quickly transfer our fingerprints so we have time to examine them. Instead of coloring the papers with pencils I have provided each of you with a preblackened paper to work from.

When the children are done, have each child clean hands with a wipe and sit down.

(Results)

Now take the magnifying glasses and look carefully, what do you see?

(Conclusion)

God is so amazing that, like the sand on the sea, the stars in the heavens, the snowflakes in the sky, and the hairs on our head he designed us so that no two of us would be alike. Even our cells are different from every other person on the planet because of DNA. DNA and fingerprints are so reliably unique to everyone that the police are able to use them to solve crime cases.