Concept

Fraud detection analysts search for fraud patterns. Fraud detection is intuitive as much as it is empirical. Detecting fraud is sometimes a matter of sensing what doesn't "fit" in a pattern, as much as it is looking at facts and statistics.

Help students understand that:

- Fraud Detectives collect data to establish consumer patterns.
- A data cluster is a group of related information.
- Algorithms are used to create data clusters. For example: Where do customers buy? How often do they buy? What do they buy?
- It takes intuition as well as data to detect potential fraud.

Step-By-Step Instructions

Page 1

Teacher: *Every time you go online, you leave a Digital Footprint.*

Have one student read the definition of **Digital Footprint** aloud.

Teacher: *Fraud Detectives monitor this activity for signs of **fraud.** But what does Fraud mean exactly?*

Allow students to respond and then elicit discussion.

Teacher: *That's right. A fraud is a fake, an impostor, pretending to be someone else, trickery.*

Direct students to the footprints. Have them circle those that indicate fraud.

Teacher: *Mastercard's Fraud Detectives make sure that someone using a card is actually that person. Fraud Detectives look at patterns to see if something doesn't fit.*

Page 2

Teacher: *Now, let's look at some customer purchases. Remember, we're on the lookout for possible fraud.*

Direct students to the photos at the top of the page. Introduce each customer and discuss their purchases.

Teacher: *Here is the 1st purchase customer A made. Here is the 2nd purchase…*

Discuss which purchases do or do not fit the customer's pattern. Then have students complete the chart at the bottom of the page. When they are done, discuss.

> **Customer A** – No fraud. All purchases fit a pattern.
>
> **Customer B** – Definite fraud. The telescope does not fit the pattern.
>
> **Customer C** – Possible fraud. But if the customer plays soccer, they might also buy a cooler to bring snacks to practice.

Teacher: *Fraud Detectives use math, but they also need intuition and common sense.*

Page 3

Teacher: *Let's look at the information in a new way. Let's look at these data clusters.*

Have one student read the definition of **data cluster** aloud.

Teacher: *On the graphs, we can see how often customers buy, where they buy and what they buy. After the data is collected, an algorithm is used to process the data and create data clusters.*

Have students match each graph to one of the customers. Discuss responses and confirm student answers by reading through the chart at the bottom of the page.

Teacher: *Congratulations! You are now a K4T Fraud Detective!*