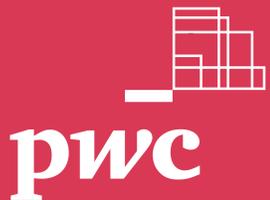


# Technology Skills Curriculum Lesson 3:

## Data Science and Analytics - Problem Solving with Big Data



# Agenda

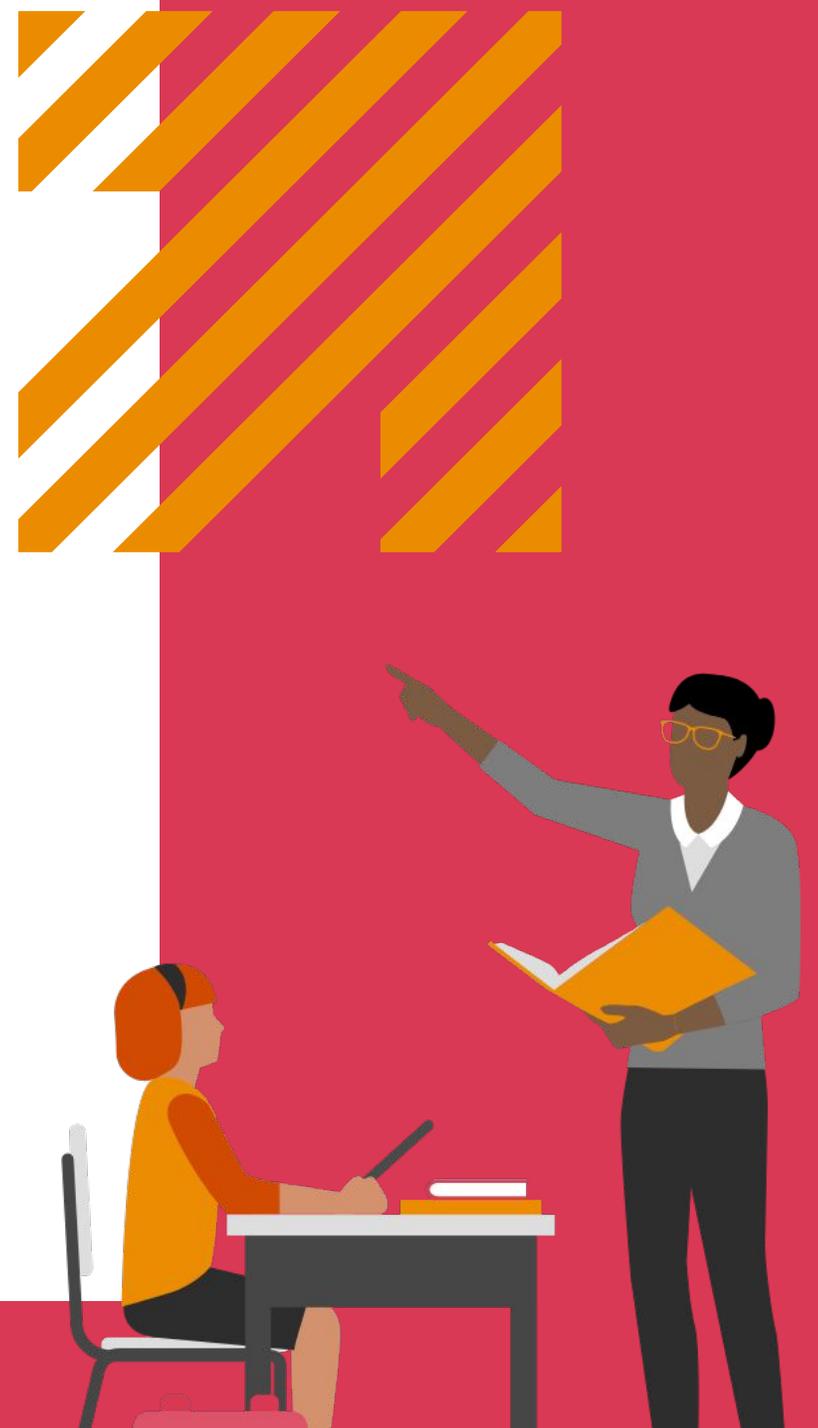
## Let's get started

1. Getting started: Ways to collect data
2. Main activity: Data in the real world
3. Routz Activity
4. Nyle Activity
5. Wrap up: What data are companies collecting?

### Objectives

You will be able to:

- Give examples of how data is collected from sensors and tracking user behaviour
- Determine data that would be helpful in solving a problem, and how that data could be collected



# 01

## Getting Started

# Getting Started

There are lots of ways that apps, companies, or governments might collect data.

**What ways to collect data are you already aware of?**

## Task:

1. Discuss in pairs as many ideas as you can about how data can be collected. Be ready to share your answers with the class. You have 5 minutes to do this



# 02

Main activity: Data  
in the real world

# Data in the real world - case study one (1/2)

## Routz

Routz is a company that helps people navigate traffic. It has maps of locations all around the world and knows real-time information about traffic conditions. When you type in a destination you want to go, it will give you the best route it can find. Routz wants to improve its data to provide even better directions.

**Your challenge:** Your job is to help the company decide what data it could collect to improve those directions.

### Task:

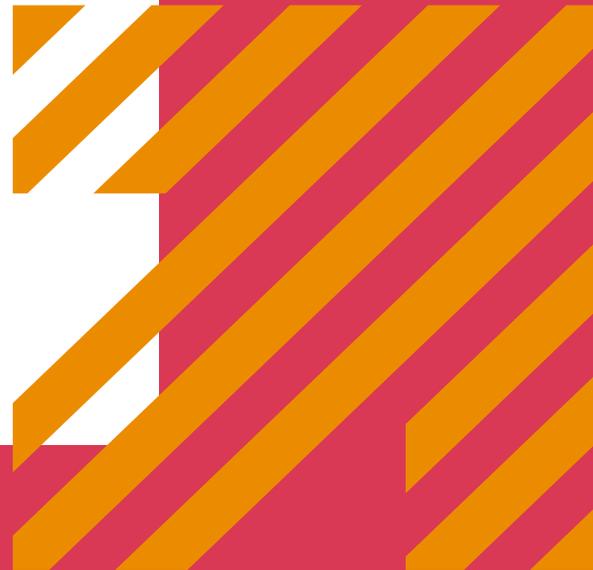
1. **Discuss** with a partner your ideas about how the company should decide what data to collect
2. **Write** these ideas into the table on the first page of your Activity Guide. You won't be able to answer the question about Waze yet.
3. **Stretch task:** If you complete the table, think about other types of data and how they could be collected

**You have 10 minutes to do this**



# 03

## Nyle Activity



# Data in the real world - case study one (2/2)

## Nyle

Nyle is a company that sells all kinds of products online. Users on the site can search for and order products that are interesting to them.

Advertisers would like to advertise their products on Nyle to increase sales. Ideally they would only show ads to people who are likely to buy their products.

## Task:

1. **Answer the first two questions** about the **kind of information** and **how Nyle should collect this information** in your Activity Worksheet. You won't be able to answer the question about Amazon yet. **You have 5 minutes to do this**
2. Then we are going to watch this [video about Amazon](#). **While watching this think about how what it is saying could help Nyle solve its problem.**
3. After the video **discuss with your partner your different ideas** and then fill in the third box on your Activity Worksheet with your ideas



# Data in the real world - case study one (2/2)

Watch this [video](#) and think about how the information could help in supporting Routz with its challenge.

## Task:

1. Once the video has finished **discuss these two questions in pairs:**
  - **What** data should Routz collect to improve its recommendations?
  - **Where** could it get that data?

Be prepared to share your ideas with your classmates in a group discussion.

**You have 10 minutes to do this**



# 04

Wrap up: What data are companies collecting?

# Wrap up

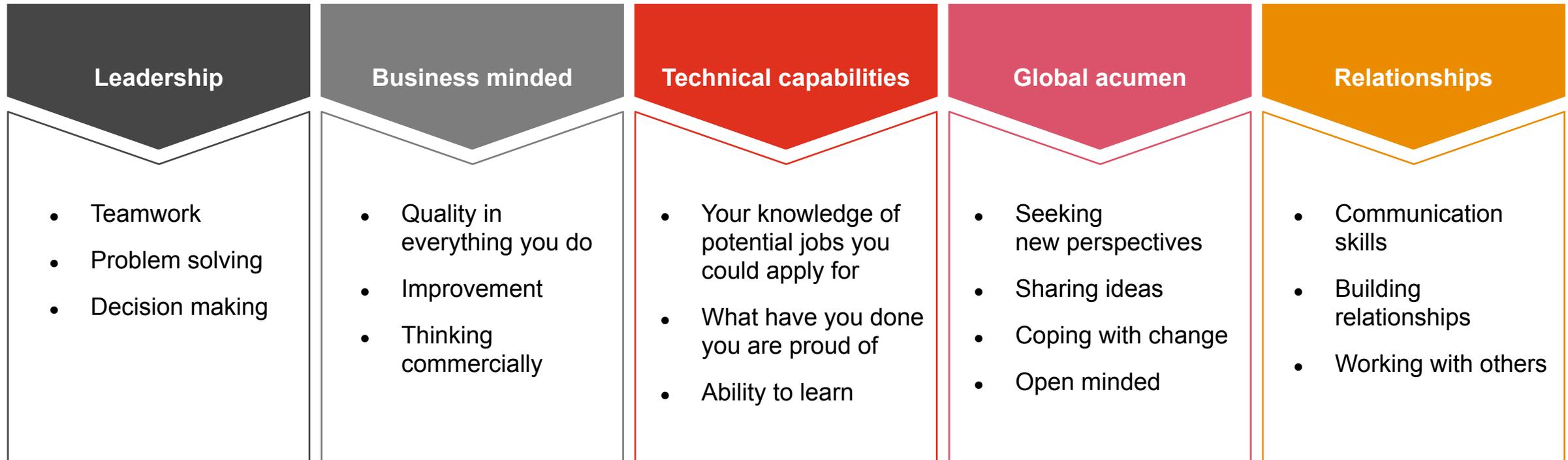
Today we looked at companies that collect data to solve problems.  
Look at the table and then complete the following tasks.

## Task:

- 1) Think about other websites, apps, or companies you use or know about.
  - **Discuss** what form of data are they collecting?
  - **Write** as many examples from your discussions today into the table in your Activity Guide
- 2) Sometimes people do not realise that they are providing data when they use technology.
  - **Discuss** with your partner examples of data that a user may not want to share?
  - **Think** about why a user might want to keep this data private?
  - **Write** down your ideas in the 'Brainstorming and notes' section in your Activity Guide

What data is being provided	How data is provided
<b>User Actively Provided</b>	The user actively provides data and understands that their actions are providing data to the company
<b>User Passively Provided</b>	The user might not know that their behavior on the website is generating data to solve a problem.
<b>Sensor data</b>	Sensors automatically collect data about the world. Usually this is not measuring anything about people.

# What employability skills have you developed in this session?



# Want to find out more?

**Keep up to date:** [PwC Podcast - spotify - A-Z of tech](#): A is for Artificial Intelligence, B is for Blockchain, C is for Cyber Security. Follow our journey through an alphabet of technology trends with PwC's technologists and special guests.

**Opportunities in tech:** You might be interested in technology opportunities at university or in the workplace. Lots of companies and universities have opportunities. **Here are some at PwC:**

- 5 day paid work experience 'Insight Weeks' for Year 12 students.
- Technology Degree Apprenticeships and Data Science Graduate Apprenticeships.
- School and College Leaver Apprenticeships at PwC



# Thank you

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