Use data to research – Lesson plan

INTRODUCTION

In this lesson, students explore data related to the Southern Resident orca whales, an endangered population of orcas living in the Salish Sea of the Pacific Northwest. This self-paced Excel activity introduces data cards and how they can be used in the context of exploring the Southern Resident orca family trees, understanding orca taxonomy and investigating orca sighting locations.

LEARNING OBJECTIVES

1. Access information in Excel using data types and data cards.
2. Compare and contrast taxonomic data to explore differences and similarities of organisms using data types.
3. Use data cards to access geographic data related to orca sighting locations.

INSTRUCTIONS

1. Open the "Day of Data: Use data to research" workbook and familiarize yourself with how to use it by reading the Instructions worksheet in the workbook.
2. Complete the guided steps in the workbook for each of the worksheets prior to introducing the activity to your students.
3. Instruct your students in locating and opening the Excel workbook. Introduce the students to the lesson using the Introduction worksheet and video link. Then show them how to navigate the workbook and earn their Orca Research badge on the Instructions worksheet.
4. With guided or independent study, have students complete each of the lesson sections in the workbook. Student reflections will auto populate in the student journal and can be saved as a PDF and submitted for credit. Use these responses to initiate a class share out and discussion.

STANDARDS

- NGSS MS-LS4-2. Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.
- ISTE 5b – Students collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.

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