Lesson 1-1: Introduction to learning styles
~20 minutes

Student Version	Teacher Discussion Notes	Materials
Syllabus	Engage students in a discussion about how they learn best. We found that, at first, students had difficulty identifying approaches to learning that were effective for them. If this is the case, allow them time to talk to the person next to them about this topic and then return to the class discussion. We have seen classes come up with a list similar to this: ● Hands-on activities ● Group learning ● Visual ● Student-driven ● Real-world context Explain to students that the case study method that you will be using strives to incorporate many of these approaches. If students come up with learning approaches indicative of a lecture, explain that these approaches are valuable but not the focus of the case study method. While lecture-based lessons are useful for teaching concepts, vocabulary, and formulas, case studies allow students to explore personally-relevant topics and develop different analytical skills. Hand out the syllabus for the case study. Outline the learning goals and the five steps of the case study process. Give a general timeline of what they will be doing during the case study and deadlines that have been set. Be sure to inform your students that by the end of the case study they will have completed original research, a communication piece that will be sent outside the classroom, and a presentation.	Syllabus with timeline and learning goals

Welcome to iCons Case Study!
"The whole is greater than the sum of its parts"
--Aristotle

<u>What is iCons?</u>

iCons (Integrated Concentration in Science) is a college-level science program that takes a new approach to teaching and learning science. This approach emphasizes student **engagement** through **collaboration**, active assignments, mentorship, and **real-world application**. It is impossible to learn everything you need to succeed in your career during high school since the world is rapidly changing around us. However, the iCons approach develops **thinking and reasoning** skills that are applicable to whatever you face in your future.

Learning Goals
- Collaborate in groups and use each student's strengths to solve complex problems.
- Apply scientific thought to topics of personal interest.
- Develop confidence in your ability to think scientifically.
- Use scientific principles and concepts, experimentation, and analytical reasoning to understand, explain, and solve real-world problems.
- Accurately assess your own abilities, contributions, work, learning processes, and opportunities for growth.

Learning skills
- Formulate a research question.
- Identify reliable sources and use them to gather relevant information.
- Recognize the limits of valid conclusions, i.e. a study about one city may not apply to another.
- Effectively communicate scientific process, questions, findings, and application.
- Give and receive constructive criticism and feedback.

<u>What are we doing?</u>

This case study will focus on the issues surrounding **oil spills**, on the individual, community, and global level. Using your knowledge and research skills, you will study a piece of this societal problem and propose your own solution using the iCons case study approach outlined below.

1. Inception→ Get background information and connect with the topic
2. Engagement→ Get a deeper understanding. Identify what you know and questions you still have.
3. Research→ Find or produce data to answer a question.
4. Create→ Draw conclusions and create a product to communicate a new understanding.
5. Reflect→ Look back on work and identify areas of strength and opportunities for growth.