

Creating the context

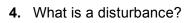
I ask myself questions

1. Where does oil come from?



2. What is oil used for?

3. Is oil an inexhaustible resource?



- 5. What kind of disturbance is an oil spill?
- **6.** What is an ecosystem?





Creating the context (continued)

- 7. What is contamination?
- 8. Describe the characteristics of terrestrial and aquatic biomes in the Arctic.
- 9. What are the ecological consequences of an oil spill?

- 10. What factors influence the temperature of the water at the surface of the oceans?
- 11. What is the main difference between fresh water and seawater?

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Creating the context (continued)

12.	Why do oil spills have a more dramatic effect on population density among Arctic species than among species that live in temperate or equatorial regions?
13.	What is ocean circulation?
14.	Which type of ocean current particularly affects the movement of an oil slick from a spill? Explain your answer.
15.	What is atmospheric circulation?
16.	What is an air mass?



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Creating the context (continued)

I must

₹	eflection Yes N
20.	Choose the four materials that you will test.
19.	Formulate a hypothesis and justify it.
t	hink
18.	Reformulate the goal of the case study.
17.	What are the independent and dependent variables of the experiment you must carry out for the case study?

Do I fully understand the scientific concepts covered in this case study?



Planning the case study

I plan

1. Make a list of the materials you will need to do your experiment.

2. Describe the procedure for your experiment. Remember to plan a control test.

Planning the case study (continued)

3. Prepare a table for recording your results and observations. Remember to give it a title.

4. What safety rules should you follow during the experiment?

Reflection Yes No

Have I considered other approaches?



Completing the case study

I experiment

- **1.** Do the experiment. Record your observations in the table you have prepared.
- 2. Did you alter your plan of action during the experiment? If so, explain your answer.

3. Did you work safely during the experiment? Justify your answer with at least two examples of safety-conscious behaviour.

Reflection Yes No

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Analyzing results and drawing conclusions

I analyze my results

1.	Which materials were most effective for absorbing and recovering the oil from cold salt water? Explain your answer.
2.	What are the advantages of using these materials? Explain your answer.
3.	What are the disadvantages of using these materials? Explain your answer.
4.	What factors did you consider to ensure the reliability of your tests?

Analyzing results and drawing conclusions (continued)

5. What are the possible sources of error in your experiment? Suggest a way to eliminate them.

6. Would you have obtained the same results in the middle of the ocean? Explain your answer.

I draw my conclusions

7. Which absorbent material would you recommend? Justify your recommendation.

- 8. Was your hypothesis confirmed or not? Explain your answer.

Analyzing results and drawing conclusions (continued)

9. Describe the environmental characteristics of the Arctic.