Guide: Protecting and Caring for Fossils Slideshow

Notes, background information, and discussion prompts

This guide accompanies the slides in "Protecting and Caring for Fossils" to provide teachers with background information and context. The slideshow is intended for a wide audience and some of the content may not be suitable for your classroom. Use your own judgement and adapt as needed.

Please note that not all slides have extra information and/or discussion prompts. Photo credits/sources are listed on page 34.

Slide 2: Why Protect Fossils?

Discussion Prompt: *We know that fossils are rare and can't be replaced, but why do we or should we care about protecting and preserving them?*

➔ This is leading up to the next slide where we will go over four different values: scientific study, natural heritage, education, and recreation and tourism.

Slide 4: Scientific Study

Discussion Prompt: *Can you think of any other things we can learn from fossils?*

➔ The slide has some examples: evolution, mass extinction events, other changes in biodiversity, changes in climate, the movement of continents and other landforms.

➔ You could also talk about what we can learn about an individual species, morphology/biology, organism's diets such as from teeth and coprolites or how they moved (from footprints, trackways, and other trace fossils).

Slide 6: Education

You can share with students that when people see fossils, it gives a picture of the past – millions of years ago. This sparks our natural curiosity and makes us want to learn more!

Discussion Prompt: *Can you recall anywhere you have learned about fossils?*

Slide 7: Recreation and Tourism

There is a non-exhaustive list of BC parks and museums that feature fossils on the Extra Resources page (page 31) under Where to Learn About Fossils in B.C.

Slide 8 & 9: Working with Industry

These slides provide information about how government and museums work with industry. You can decide if this is appropriate for your classroom level.

Slide 10 & 11: Citizen Scientists

Amateur paleontologists are sometimes also called recreational collectors.

Discussion Prompt: *Why do you think we need to have rules for fossil collecting?*

You can find the full guide to recreational fossil collecting in B.C. linked on the Extra Resources page (page 29) under BC Fossil Management Office Resources.

Slide 12: Common Fossils from Land Surface

Common fossils may not have significance to science if they are poorly preserved or are not useful to advance research if they are well known from other sites. This means they are okay to collect, like clam shells or ammonites. If a collector finds a significant fossil such as a dinosaur bone, they should leave it in place and contact the BC Fossil Management Office.

Slide 14 & 15: Caretaker Responsibilities

Researching where to collect is important because there are areas where people are not allowed to collect fossils.

Fossils lose their scientific value if you do not document where the fossils were collected. Geological context of the fossil site location is as important as the fossil itself.

Photos, drawings, GPS coordinates, and notes all help to provide context to the fossil. This information is critical for research and reporting your discovery!

Discussion Prompt: *Why do you think location information is important? What can it tell us about the fossil?*

- ➔ Example: Knowing the geology (context) of a fossil site is important because it can help determine the time period a fossil is from.
- ➔ Example: Recording the GPS coordinates of a site is important so someone can return to the location to conduct further research.

BC Fossil Management webpage: https://www2.gov.bc.ca/gov/content/industry/natural-resource-use/fossil-management

Collection and Use webpage: https://www2.gov.bc.ca/gov/content/industry/natural-resource-use/fossil-management/collection-and-use

Report a Fossil webpage: https://forms.gov.bc.ca/industry/report-a-fossil/

Slide 16 & 17: Labeling and Recording Fossils

After you have looked at these two slides, you can do the “Label and Record a Fossil” activity to give students the chance to create their own fossil label. There are two versions of the worksheet, and the activity is adaptable to your classroom needs. You can find the instructions for this activity on page 23.