

Exploring Materials—Thin Films

ENCOURAGE CREATIVITY

- Participants may choose to **create** a greeting card, bookmark, or similar item out of the black paper. Encourage visitors to draw a design or write a special message and to cut their paper into a shape of their choosing.

Plan ahead: To promote creativity provide larger pieces of black paper. In addition to the activity materials, you'll also need to provide scissors for this extension. We suggest using Bristol paper as the dye in the paper doesn't bleed when it gets wet the way regular black construction paper does.

MAKE IT PERSONAL

- Encourage participants to **brainstorm** places they have seen iridescent colors before. Some examples are soap bubble, an oil slick on water, and even butterfly wings; all of which are examples of thin films.

HIGHLIGHT ALTRUISM

- **Oil spills** are a big problem for ocean life and the health of our planet. You saw how quickly one drop of nail polish could spread and create a nanofilm on the surface of water. How did the size and shape of the droplet change when it came in contact with the water's surface? Can you measure it? Imagine you were tasked with cleaning up

(continued on reverse)

an oil spill in the ocean. How would you use the iridescent properties of the oil film to detect where the affected areas were located? What tool would you invent to carefully remove nanofilms from the water's surface?

MAKE ACTIVITIES OPEN-ENDED WITH NO "RIGHT" ANSWERS

- Let visitors **experiment** with different colors of nail polish to see how the thin film changes.

Plan ahead: You'll have to provide various colors of nail polish for this extension.