

ASK, Scientists at Work

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Betty Lou Askin, a retired educator, who lives in Toronto, Ontario prepared this guide.

Scoop (pages 2-3)

Whatever Happened to that Tool Bag?

- Why is there a tool bag floating in space?
- What is its future?

Vanishing Dance of the Fireflies

- Why do fireflies light up at night?
- What is happening to the fireflies in Thailand?

It's All in the Tail

- Why is the dolphin a fast swimmer?

Nestor's Dock (pages 4-5)

- Why do owls regurgitate their food?

Kristin Laidre: Arctic Adventurer (pages 6-11)

Possible questions for discussion:

- What is a narwhal?
- Why are the scientists placing a satellite transmitter on the narwhal?
- Explain how childhood dreams may or may not work out for people.
- What did Kristin do when she got back to her interest in whales?
- How does a narwhal go about getting its food?
- Why is Laidre's work important?

You Study What? (pages 12-13)

- There are seven pieces of information on these two pages. Divide the class into 7 groups. Ask each group to read their section, make notes and be prepared to present that information to the rest of the class.

Cool Tools (pages 14-21)

Ideas to help with the content of this article:

- What do you think that scientists do when they need a new tool?
- Why was the amphora a significant find for the scientists?
- Q.FAB was not enough information. Explain this statement.
- What is photonics?
- Can you think of other applications for the use of photonics? Name some.
- Describe the AUV.
- Explain the changes that have been made to the *Odyssey IV*.
- How does an MRI work?
- How might the African plant, jatropha, help the environment?
- Explain how Wiesman is helping farmers.
- Creative Work:

After reading this article, discuss possible other cool tools. Ask the students to design a cool tool. Allow them to present their idea to the rest of the class. The illustration on page 14 might provide inspiration.

The Art of Science (pages 22-27)

- Explain how Maria's upbringing helped her realize her dream.
- What is metamorphosis?
- How did Maria persist in keeping her art and interest in insects alive when she was a youth?
- Describe Maria's style of work.
- Describe Maria's work in Surinam.
- Explain how Maria was "undergoing her own metamorphosis."
- Why can a scientific illustration show more than a photograph?
- Creative Work:
Make some drawings/paintings of insects. If possible use real life specimens. If not, use science books showing pictures of insects.

Jimmy the Bug (page 32)

- Explain what Jimmy has to say about *growing pains*.