

Teacher's Guide for Ask

November/December 2014

Fairy Tale Science

This guide was prepared by Betty Lou Askin, a retired educator who lives in Toronto, Ontario.

Objectives:

1. To appreciate that some ideas and magic contained in fairy tales are not possible in real life
2. To learn how some plants and animals are able to use poison to protect them.
3. To learn about and appreciate the work of a scientist in her chosen field.

Pre-reading:

- A. Let the students predict what they think might be included in this issue of ASK based on the title.
- B. Ask them what they think is happening on the cover.
- C. View the Contents pages and discuss the illustrations and the article titles.
- D. Ask the students to prepare a **KWL Chart**-What I Know, What I Want to Know and What I Learned. Start by recording the students' responses for the first two columns of the chart. Add information to the chart after reading each article.

Scoops:

Say It in Chimpanzee

- Explain how scientists know that chimpanzees "talk".

Poking a Volcano

- What happened to Mount St. Helens in 1980?
- Define **magma**.
- Explain the experiment conducted by scientists.
- Describe what the scientists hope to learn.

Does Your Skin Smell?

- What are scent-sensors?
- What are smell receptors?
- Describe what happens to skin receptors.
- Explain how this information might be helpful in the future.

Chomp, Chomp, Chomp

- Explain how a plant can "hear".
- Tell how a plant can protect itself.

Ask the students to look for more science "scoops" while they read media or watch television news/shows. Create a bulletin board to post their findings.

Fairy Tale Science

Questions to consider:

1. Explain why there is modern magic that would be very strange to an ancient people.
2. Describe hibernation for creatures.
3. Explain why human hibernation might prove useful.
4. Describe how scientists have made glass tough.
5. How do scientists grow gems?
6. How is lab-grown sapphire used?
7. Explain why gold cannot be created.
8. Tell about gold found in seawater.
9. How do animals communicate?
10. Explain why humans and animals might never communicate.
11. Explain how human hair is strong.
12. What is an exoskeleton?
13. Explain how an exoskeleton works.
14. What is the Martin Jetpack?
15. Describe how a scientist has created a flying carpet.
16. How does the invisible cloak work?
17. Tell how else one can try to be invisible.

My Wand Is Broken

Suggestions for reading this article:

- Use the Read-Aloud Method with this article. Read through once. On the second reading, stop and discuss the information that is provided.
- The students might enjoy role-playing with this material.
- Explain this sentence "Reality is interfering with them".
- What are the rules for **matter** and **energy**?

Could Dragons Exist?

Suggestions for reading this article:

- Ask the students if they believe that dragons once existed. Record their answers.
- Let the students work with a reading buddy. Ask them to take turns reading the article.
- As a class, discuss the information.

Informative Writing:

- Ask the students to develop an essay using the information in this article to explain why dragons could not have existed.

Creative Work:

- Ask the students to do some drawings and/or paintings of dragons. If modelling material is available, the students could create 3D creatures.
- Most students are interested in dragons. They could write stories based on these creatures.

Jack and the Giant Kudzu

Questions to consider:

1. Describe Jack's problem.
2. Why do you think that Cope had a gleam in his eyes?
3. Tell what Cope said the kudzu was capable of doing.
4. Why was Jack's wife upset?
5. Explain why the cows were happy.
6. Explain the moral of this story.

The Real Frog Princess

Questions to consider:

1. Tell how Valerie Clark became interested in frogs.
2. Describe the Madagascar poison frog.
3. Why is the color of this frog important?
4. Explain how this frog protects itself.
5. How does Dr. Val know when she has a good sample of a frog to test?
6. What are **alkaloids**?
7. Explain how Mantella frogs get their alkaloids.
8. Explain why frogs living near people are less poisonous.

Creative Work:

- Develop an ad from the F.r.o.g.s. organization to inform and encourage people to help contribute to a sustainable effort.
- Develop an interview with Dr. Val. Work in pairs, with one student doing the interview and the other posing as Dr. Val. Share the students' interview with the entire class.

The Poisoned Apple

Vocabulary: amygdalin, cyanide

Suggestions for reading this article:

- Have the students work in groups. Ask them to take turns reading the material. Ask them to make "Quick Notes" using the information found in the article.
- Have the students use their notes to verbally take turns telling about the information.

New Magic

- Follow the instructions on page 31. Let the students share their ideas with their classmates.

Jimmy the Bug

Vocabulary: saliva, mucus, enzymes, glands

Questions to consider:

1. What is the purpose of drool?
2. How much is produced in a day?
3. Explain how saliva works.
4. What is the work of spit?

Marvin and Friends

- Explain why the friends tell Marvin that his trick is not magic.
- Why did Plush Pottom tell Ratsputin that his trick was not magic?
- Why was Puck's trick not magic?
- Explain why Zia won the contest.

Culminating Activities:

- Complete the **KWL Chart** if it was used during the reading of this magazine. The final section of the chart could be completed now if not done after each article.
- Choose five things from this magazine about which you have learned. Pretend that you are going to share this new knowledge with someone who has not read this issue of the magazine. Write a short paragraph about each of your chosen topics using information found in the articles.

Other Activities:

- There are excellent and amusing illustrations in this magazine. The students might like to choose an article and create their own drawings. Or, they might enjoy making their own cartoon about one of the topics including captions or verbal comments.
- There could be a discussion about how the illustrator was able to show action, emotions and how the words make sense.