

Teacher's Guide for Ask

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Dropping

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

Objectives:

1. To understand how gravity works.
2. To appreciate how some simple things helped early scientists learn about gravity.
3. To learn about g-force and inertia.

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 article titles.
- D. Ask the students to develop 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:

Where Do the Turtles Go?

- Where do young loggerhead turtles go?
- Why is this information important to the scientists?

Houston, We Have a Fashion Question

- Students might enjoy creating spacesuits for the future.

Face to Face

- Why do archaeologists believe that these masks were created?

Sticky Cheese

- How is cheese glue made?
- How durable is cheese glue?

Nestor's Dock

- Why was Trip excited?
- How did Lonna help?

Oops

Suggestions for reading this article:

- There are 8 sub-titles in this article. Depending on the number of students in your class divide them so that there are 8 groups. Assign one sub-title to each group.
- They should read their section and make Quick Notes about the information.
- Each group presents their section to the rest of the class using their notes.

Drip Drop Art

Suggestions for reading this article:

- Use the Read-Aloud Method. Let the students take turns reading the information. Read through once.
- On the second reading, stop after each section to discuss the information that is provided.

The Moon Is Falling

Questions to consider:

1. Explain what people believed about gravity in the 1600s.
2. Why do you think that Newton wanted a better understanding of gravity?
3. Explain "inertia".
4. How did an apple help Newton think about the earth, moon and planets?
5. When does gravity weaken?
6. Explain why the moon does not fall from the sky.
7. Describe how thinking of a cannonball helped Newton.
8. Explain what Newton learned about matter.
9. Why are there high and low tides?
10. Why do things dropped on Earth fall towards the Earth's center?
11. Explain why gravity is important to spaceships.
12. Describe how a water drop falls.

The Feather-Hammer Drop

Questions to consider:

1. Before reading this article ask the students which would fall faster – a feather or a hammer.
2. Why is Galileo famous?
3. Explain how Galileo tested his theory.
4. Why do "dropped things fall at the same rate"?
5. Explain why feathers fall more slowly than hammers on Earth.
6. Tell why the feather and the hammer land at the same time on the moon.

A Wild Ride

Questions to consider:

1. Explain how a roller coaster works.
2. Why are there different heights of hills on a roller coaster ride?
3. Describe g-force
4. Explain "airtime".
5. Why are roller coaster tracks slanted on curves?
6. Tell why a ball in a swinging pail does not fall out.

Informative Writing:

- Write a newspaper article to inform the public about the safety features of a roller coaster ride.

Prince Rupert's Drop

Questions to consider:

1. Explain what happens when a drop of molten glass begins to cool.
2. Describe what happens to the inside of the glass when the outside is already hard.
3. Why might the whole glass shatter?

Drop the Art

- Follow the instructions and use your imagination to create images. With a partner, make a liquid colored drop. Each of you tell what you see in the drop. Your ideas may be very different.

Jimmy the Bug

- What are neurons?
- What makes you smart?
- Explain why people are more fortunate than animals.

Marvin and Friends

- Explain how gravity helped Avery.

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 that 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 the information found in the articles.