

# ScienceTellers

## *Science & Storytelling Study Guide*

### “Dragons: Return of the Ice Sorceress”

#### **Section 1. Science Vocabulary**

The assembly will cover a wide range of topics in physics and chemistry for students in grades PreK-5. This section is an opportunity to review any vocabulary and concepts that may align with your curriculum. Don't worry if any of the words are new; you don't need any prior knowledge of these concepts to experience the full impact of a ScienceTellers show!

Bernoulli's Principle: As air moves around an object, it creates different pressures on that object. Faster air means lower pressure. Slower air means higher pressure.

Carbon Dioxide: A gas naturally present in the air, abbreviated “CO<sub>2</sub>”. It is released by humans and animals when they exhale, and consumed by plants during photosynthesis. Carbon dioxide freezes at around -109.3 degrees F.

Cloud: A visible collection of water vapor suspended in the air.

Condensation: Turning from a gas (vapor) into a liquid. This is part of the water cycle. The opposite of condensation is evaporation.

Conservation of Matter: “Matter is neither created nor destroyed.” After a reaction, there is the same amount of matter as before (but it may be in a different form).

Energy: The ability to do work. The faster something moves, the more energy it has. When two objects collide, the energy is transferred from one to the other.

Evaporation: Turning from a liquid into a gas (vapor). This is part of the water cycle. The opposite of evaporation is condensation.

Experiment: A scientific procedure to test a hypothesis and make a discovery.

Explosion: When something under pressure forces its way out of a container (through the weakest point).

Gravity: The force that pulls an object toward the center of the earth.

Hypothesis: A scientific guess, which is the starting point for investigation.

Matter: Any physical substance that takes up space and has weight (mass). Most matter is either a solid, liquid or a gas.

Newton's First Law of Motion: "An object at rest stays at rest, while an object in motion stays in motion" (unless acted upon by another force). Also called the Law of Inertia.

Physical Change: A change that affects the form or shape of something, but not its chemical composition. Examples of physical changes are ripping a piece of paper and freezing water into ice.

Pressure: How hard a gas or liquid pushes against the walls of its container.

Sublimation: Changing directly from a solid into a gas (skipping the liquid phase).

Water Vapor: Water in the form of a gas. When water boils, it turns into water vapor. When water vapor touches a cool surface, it condenses (turns back into liquid water).

## Section 2. Storytelling Components

During the assembly, you will hear a story that ties the experiments together. The story is called “Dragons: Return of the Ice Sorceress.” This section is an opportunity to review key storytelling components that you may encounter in your curriculum.

Protagonist: The main character in a story. Our protagonists are Henry and Beth.

Antagonist: A character opposed to the protagonist. Our antagonist is the Ice Sorceress.

Conflict: A problem that the characters face. Every story has a conflict.

Fiction: A story about imaginary events and people, as opposed to non-fiction (which is about real events and people).

Climax: The most exciting part of a story, when the characters face the conflict.

Resolution: The final part of the story where the characters solve the conflict.

Character: A person, animal or object that a story is about.

Setting: When and where a story takes place.

Narrator: The person telling the story. The narrator can be limited to knowing the thoughts of one character, or omniscient (knows the thoughts of all characters).

Tense: When the events take place, either past tense or present tense.

### **Section 3. Making Predictions**

The story you will hear in the assembly is called “Dragons: Return of the Ice Sorceress.” Knowing the name of a story can give us clues about what to expect. Here are some questions to think about:

1. Who might some of the characters be?
2. Where and when do you think the story takes place?
3. What could be some possible conflicts in this story?
4. How do you think the conflict(s) could be resolved?
5. What do you already know about dragons and other mythological or fantasy creatures?