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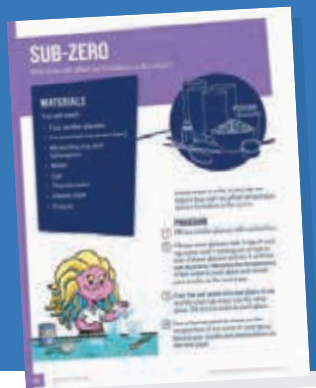
Chapter 4

Chapter 5

Chapter 6

Chapter 7

Chapter 8



QUESTION TYPES

Every question students are expected to answer is numbered and has an answer or brief discussion in the back, beginning on page 328.

There are a wide variety of question types including ones marked by the icons below:

★ CHALLENGE:

Starred questions and tasks have hints in the back starting on page 324.

💬 DISCUSSION:

Find a partner or group and work through these questions together.

💻 RESEARCH:

Students will need access to online resources to answer these questions.

📝 JOURNAL:

Collect answers to these questions in a separate science journal notebook.

STANDARDS

BA Science 4B content is aligned to the Next Generation Science Standards (NGSS), but often goes well beyond what is typically expected of students. Together with 4A, Level 4 will cover all of the concepts, practices, and standards outlined for grade 4.

Among the NGSS standards covered in this book are:

Energy (Unit 1: Chapters 1-6)

Explore strategies of using Earth's resources for energy. (4-ESS3-1)
Design a device that changes energy into a different form. (4-PS3-4)



Processes that Shape Earth (Unit 2: Chapters 7-10)

Identify solutions to reduce harm from natural disasters. (4-ESS1-1)



Waves and their Applications (Unit 2 & 3: Chapters 7-16)

Describe and model features of waves. (4-PS4-1)
Explain how the reflection of light allows animals to see. (4-PS4-2)
Compare strategies for transmitting information. (4-PS4-3)



Structure and Function (Unit 3: Chapters 11-16)

Explore how organisms react to the world using senses. (4-LS1-2)

MATERIALS

SCIENCE JOURNAL

Every student should collect their work in a science journal. Any notebook will do.

COMMON ITEMS (Used in several activities)

- Scissors
- Paperclips
- Water
- Tape
- Standard 6-sided dice
- Salt
- Calculator
- Disposable straws
- Freezer
- Ruler
- Spoons
- Video camera (optional)

CHAPTER 3

- Index cards
- Paper cups
- Floss

CHAPTER 7

- Plastic water bottle
- Cocoa powder
- Olive oil
- Empty milk carton
- Drinking glass
- Ice cube tray

CHAPTER 8

- Fruit juice
- Small heavy object
- Thermometer
- Large clean bowl
- Four drinking glasses
- Plastic cups
- Small clean bowl or glass
- Ice
- One fresh egg
- Plastic wrap
- Measuring cups
- Tablespoon

CHAPTER 9

- Pepper flakes
- Two identical plastic bottles
- Hot and cold water
- Shallow bowl or plate
- Thin waterproof card (used gift card or similar)
- Food coloring
- Small game tokens
- Pitchers (optional)
- Towels
- Large tray

CHAPTER 10

- 8-ft long rope (at least one-eighth inch thick)
- Large cake pan (2 inches or deeper)
- Large, rimmed baking sheet
- Towels
- Aluminum foil
- Pans of various sizes (optional)

CHAPTER 11

- Blindfold

CHAPTER 12

- Tone generator app
- Empty tissue box
- Rubber bands (many sizes)
- 3 identical glass bottles
- 10 counters in 2 colors (buttons, beans, or similar)
- 2 folders

CHAPTER 13

- Large bowl
- Handheld mirror
- White folder or paper
- Water hose (optional)
- Cereal box
- Tracing paper, parchment paper, or similar
- Magnifying glass (optional)
- Masking tape
- Paper towel tube
- Standard deck of playing cards
- Softball or similar

CHAPTER 14

- Flashlight (optional)

CHAPTER 15

- Paper towel tube
- Food coloring
- 3 small bowls
- Yogurt
- Index cards

CHAPTER 16

- Standard deck of playing cards

Grogg (me)

Built a spaghetti-and-marshmallow
tower taller than me!

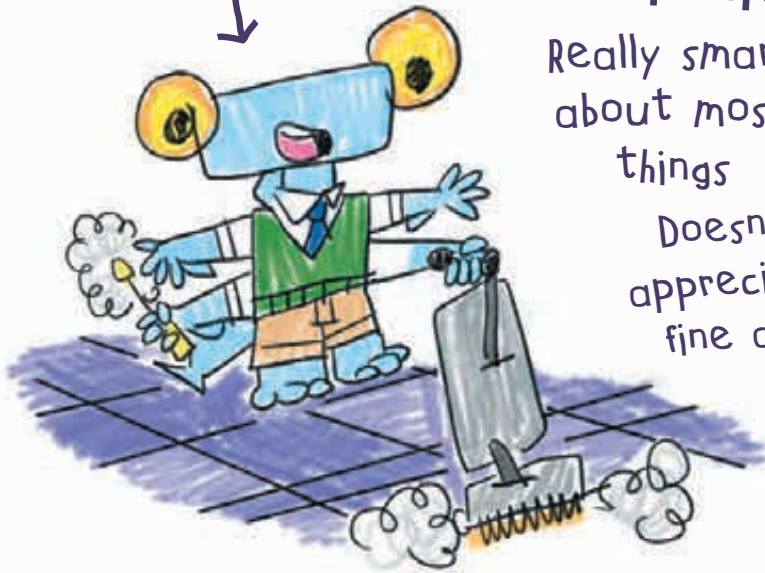
(Works best with uncooked
ingredients)



Alex

His room is waaaaay
cleaner than mine

makes neat vacuum
patterns in his rug



Winnie

Really smart
about most
things

Doesn't
appreciate
fine art



This does NOT
look like me!

Lizzie

Loves to read

writes book reviews on her own
SCALES TALES website

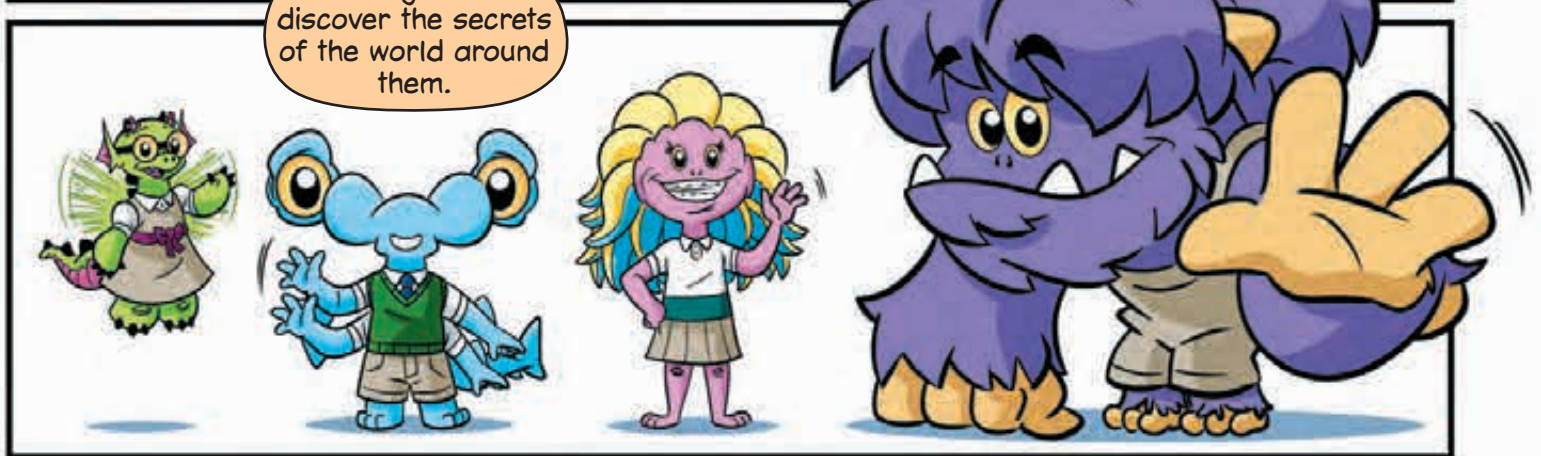


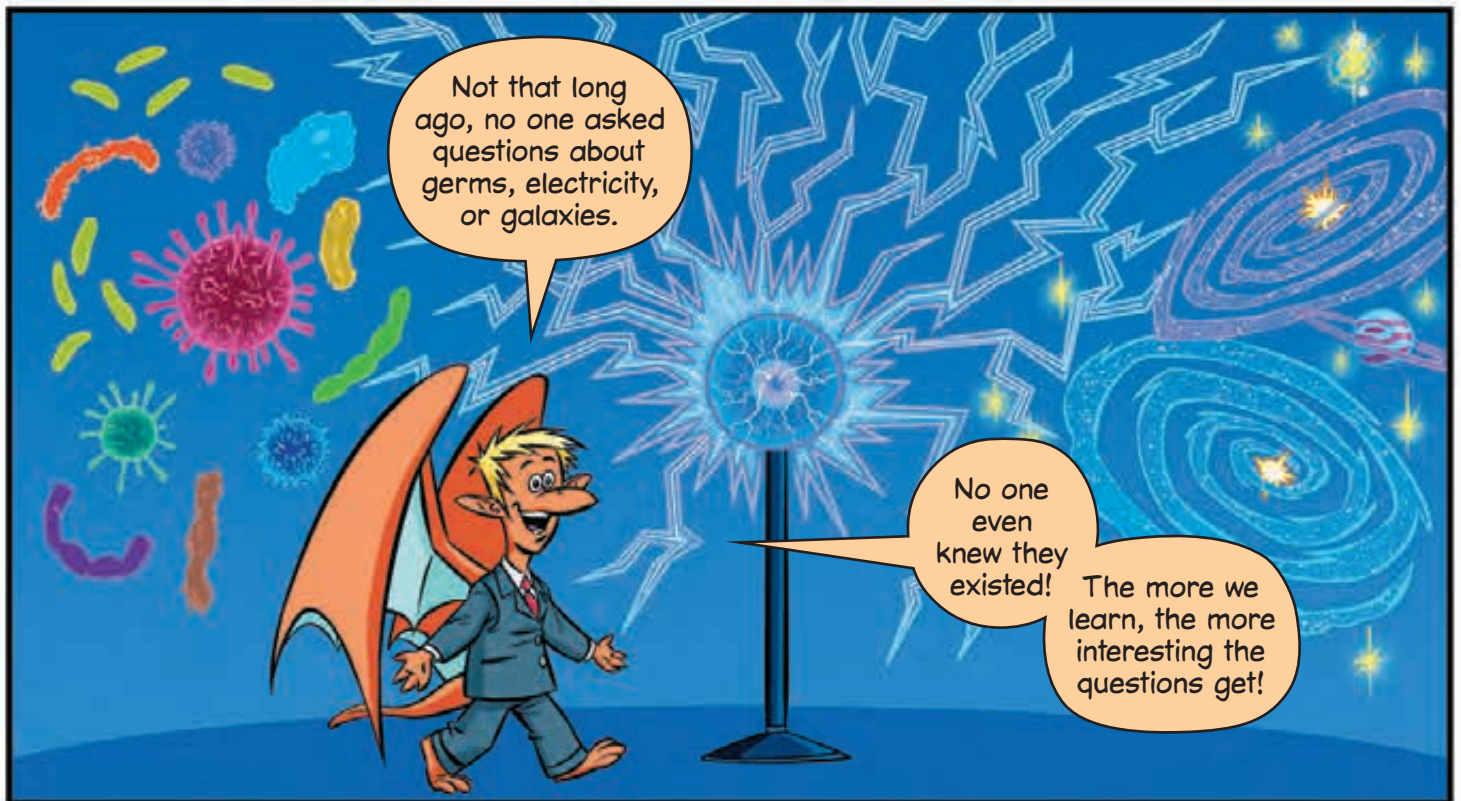
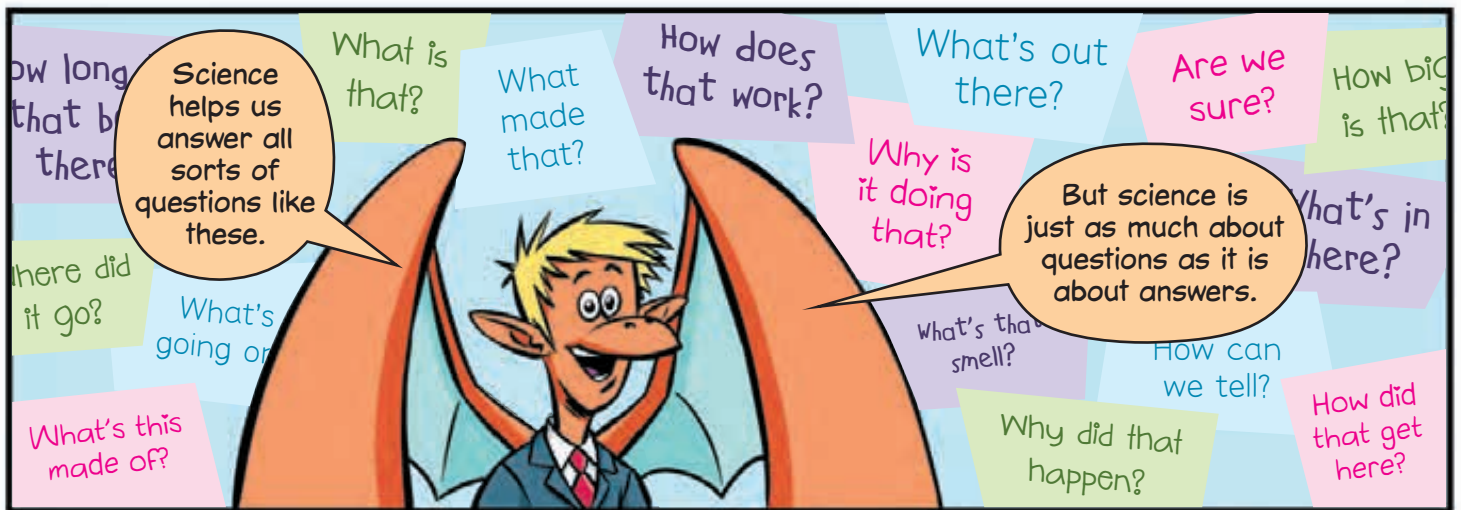


R&G
School
custodian(s)
~~has~~ ~~have~~
totals:
1 tail
2 heads
3 eyes
4 arms



Dr. Hau
NOT a real rock.
VERY old - old enough to remember
when there were NINE planets!





THE BEAST ACADEMY WORLD WORKS JUST LIKE OURS. THE CREATURES MAY LOOK DIFFERENT, BUT THE WAY THINGS WORK AND WHAT THEY'RE MADE OF ARE THE SAME AS HERE ON EARTH!