

Kingdom Chaos Bingo!



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Specific Learning Outcomes

6-1-01: Use appropriate vocabulary related to their investigations of the diversity of living things.

6-1-06: Identify the five kingdoms commonly used for the classification of living things, and provide examples of organisms from each to illustrate the diversity of living things.

6-1-07: Recognize that many living things are difficult to see with the unaided eye, and observe and describe some examples.

6-1-08: Observe and describe the diversity of living things within the local environment.

General Learning Outcomes

6-0-1a: Formulate specific questions that lead to investigations.

6-0-1b: Identify various methods for finding the answer to a specific question and select one to implement.

6-0-2a: Access information using a variety of sources.

6-0-5a: Make observations that are relevant to a specific question.

6-0-6f: Evaluate the methods used to answer a question or solve a problem.

Vocabulary

wetland, classification system, classification key, monerans, protists, fungi, plants, animals, invertebrates, vertebrates

Summary

Students explore the five kingdoms used to classify living things. They will become familiar with various wetland examples from each kingdom while playing Bingo.

Materials

- *Computer and projector to present slideshow*
- *Print out bingo cards, one per student (recommend laminating for reuse)*
- *Writing utensil for each student (pencils if cards are paper; water-based non-permanent markers if working with laminated cards)*

Procedure

Warm Up

Begin with the provided slideshow presentation, which briefly reviews the need for classification when studying living things and explores the main characteristics of each kingdom. The slideshow will be both the warm up and facilitate the majority of the activity.

Activity

After reviewing the kingdoms, the slideshow will include slides required for playing bingo. Pass out bingo cards to students.

A wetland is an area of land that holds shallow water, with a maximum depth of two metres. The water makes the soil very moist, so water-loving plants will grow in and around the water; this is why a wetland can not be deeper than two metres, because otherwise these kinds of plants drown and do not receive enough sunlight. The water moves slowly because there are so many plants that slow the water down, absorbing some of the water like a sponge and filtering it as it moves through.

A classification system is an approach to classification, where a large group is divided into smaller subgroups then arranged in a particular way, used to better differentiate between those in a group.

A classification key is a tool that helps determine the identity of something in the natural world through the process of elimination. The key gives you choices based on structural or behavioural features, and as you select one it narrows down the possibilities until you get to a species. If you have correctly used the key and have chosen the right kind of key(s), you arrive at the correct name of the species you are trying to identify.

Once students have the required materials, explain that a living thing from a wetland will be shown on the screen. If the students have that living thing on their bingo card, they will have to write down which kingdom they think the living thing belongs to in the space provided on the card. Students will have a bingo when they have five living things marked in a line (either across, in a row, or in a column). Show as many living things as it take for someone to get a bingo (thirty-one different living things).

Optional: You can mix the order of the slides (slides twelve through forty-two) if you wish to change the order of living things shown if playing multiple rounds of bingo.

After a student has a bingo, have students classify their remaining living things on their card. Using the slideshow (beginning from slide forty-three), show each living thing, first asking students how they classified each living thing, then showing the answers.

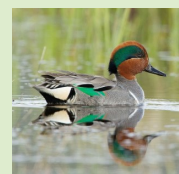
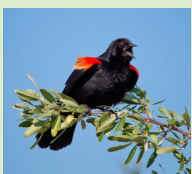
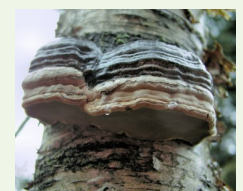
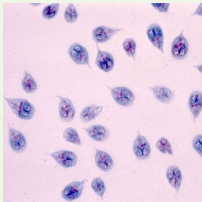
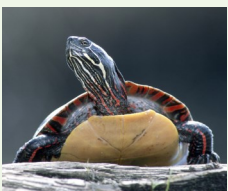
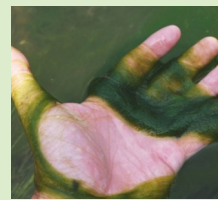
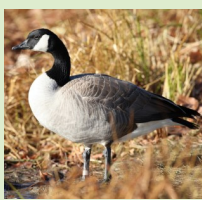
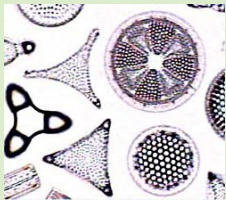
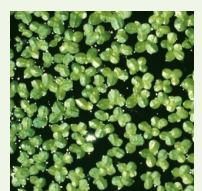
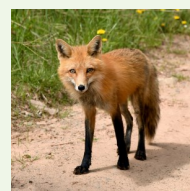
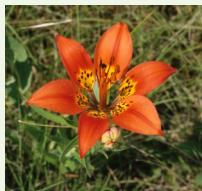
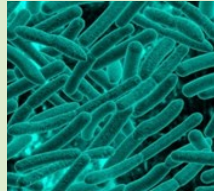
Wrap Up

Wrap up the activity with a discussion. Ask students to identify the different characteristics of each kingdom. Ask how difficult it was classifying the living things—are some of these characteristics easy to distinguish? Which ones? Are some living things visible with the unaided eye (other than when viewing an image)? Do some characteristics of living things require further investigation using special tools, like a microscope, in order to classify them accurately?

Conclude by explaining that as a class you will be visiting a wetland called Oak Hammock Marsh where students will be exposed to the many different kinds of living things.

Optional: While on your field trip, keep a tally of how many living things you see at the marsh as a class, then try to classify them into their appropriate kingdoms.

Wetland Discovery Centre's Kingdom Chaos Bingo!






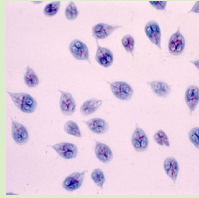




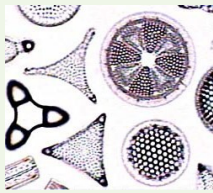


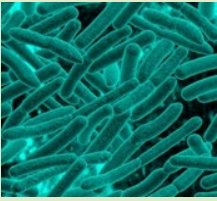






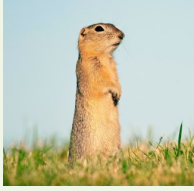



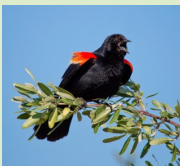

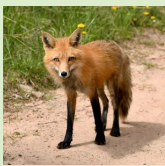
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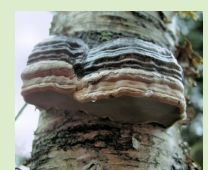
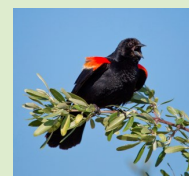
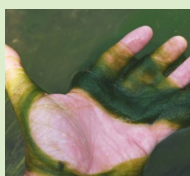
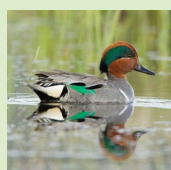
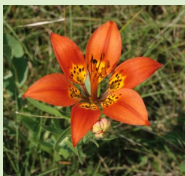
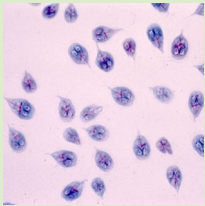
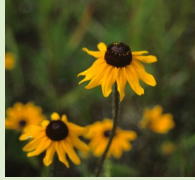
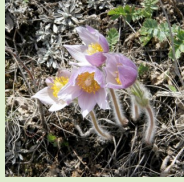
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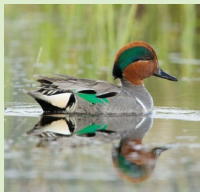




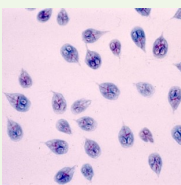
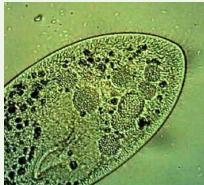
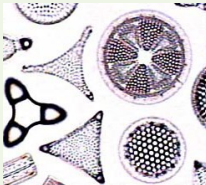


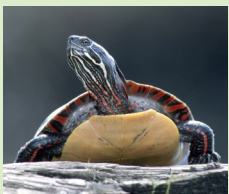
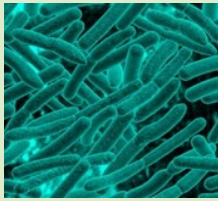











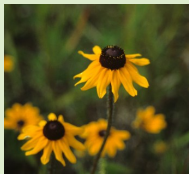
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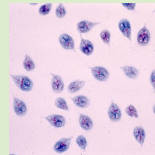
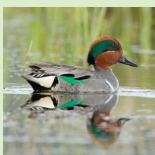
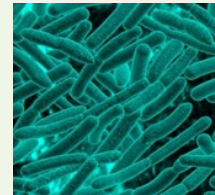
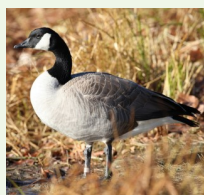
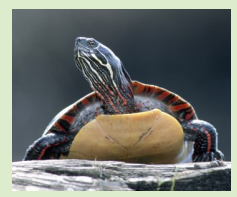
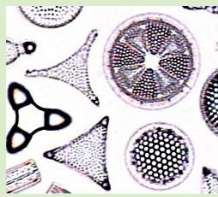
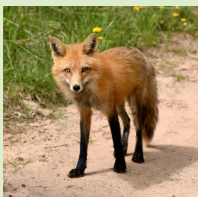
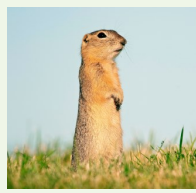
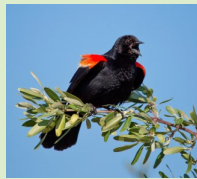


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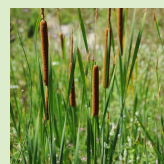
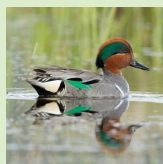
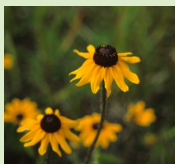
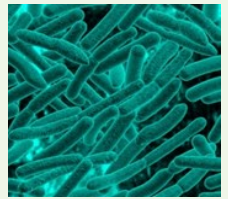
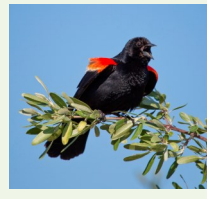
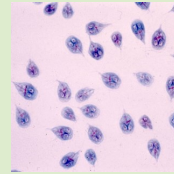
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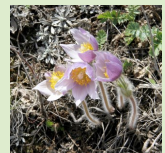
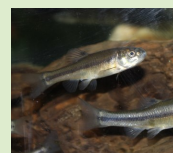
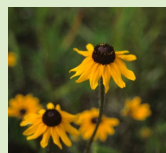
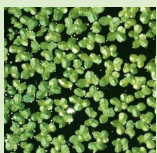
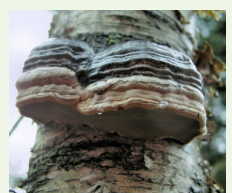
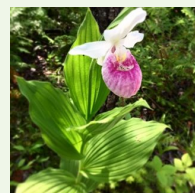
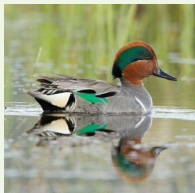
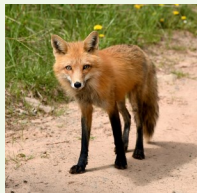
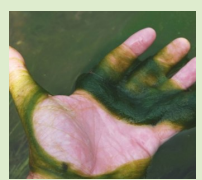
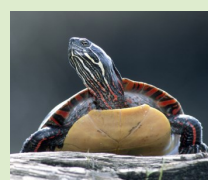
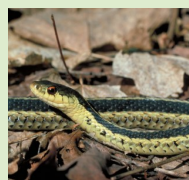
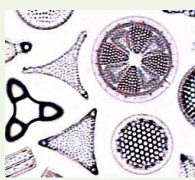
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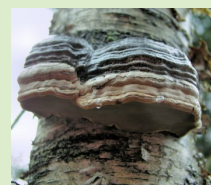
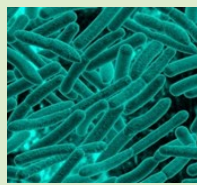
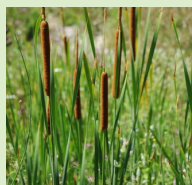
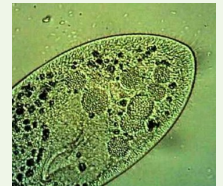
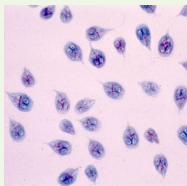
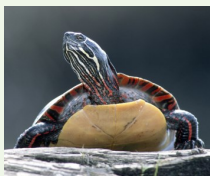
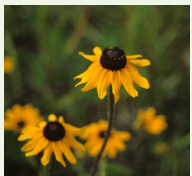
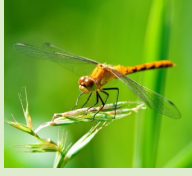
Dandelion image: [brideley.edu](#), Basidium mushroom image: [from toponomaster.com](#), Rhizobium picture by: [Dr. Jeremy Burgess](#), Blue-green algae image: [from thesuffurpitar.com](#), Shrew lady-slipper photo by: [Barbara Bushell](#), Beronocystium dila image: [from youtube.com/channel/UC8m9VGL1L6_VNCS8PQ](#), Elephant snout algae image: [from potamoecivaekeepernetwork.org](#), Girardis image: [from www.cdc.gov](#), Swamp leucosp, photo by: [Les Coe](#), pistor.com, Coink photo: [from medicamshrooms.net](#), Methanogens image: [by biology.tutorsto.com](#), Flecky milkcap image: [from wikipedia](#), Cattail image: [from sandiegozoo.org/animals/cattail](#), All other images: [from Darius Unlimited Canada](#).



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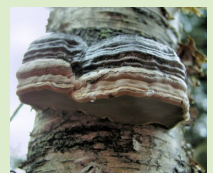
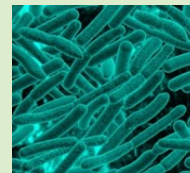
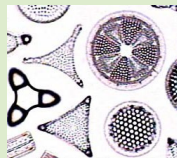
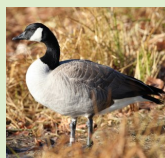
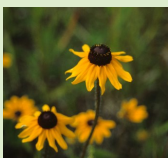
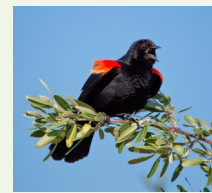
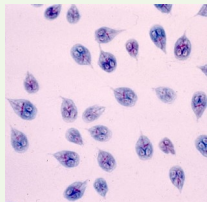
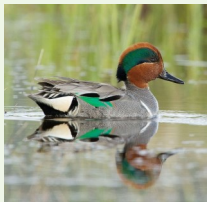
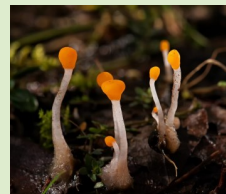
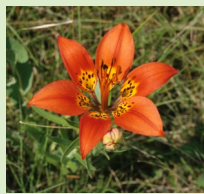
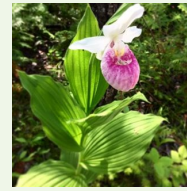
Dandelion image: brisley.edu; Basella mushroom image: from toprams.com; Rhizobium picture by Dr. Jeremy Burgess; Blue-green algae image from thesuffragist.com; Showy lady-slipper photo by Barbara Bushell; Brontosaurus dino image from youtube.com/channel/UC5m9VGL1L7L6; MICRUSP.Q; Elephant snail algae image from potcomservativekeepernetwork.org; Gloridius image from www.cdc.gov; Swamp leucophaea photo by Les Coe; pbs.com; Crink photo from medicamphrooms.net; Methanogens image by biology.tutorvista.com; Fleecy milkcap image from Wikipedia; Cottontail image from sandiegozoo.org/animals/cottontail; All other images from Ducks Unlimited Canada.



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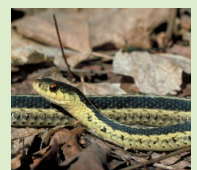
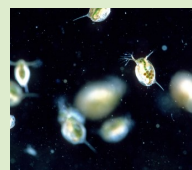
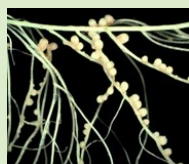
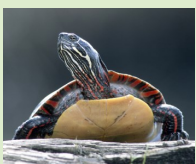
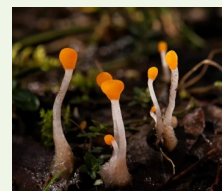
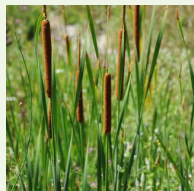
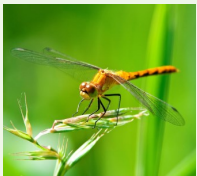
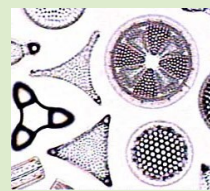
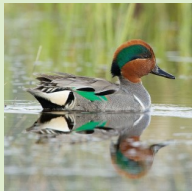
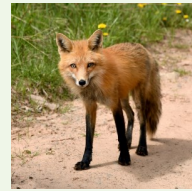
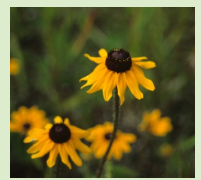
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Dandelion image: [brakeley.com](#); Basilisk in a room: image from [texasman.com](#); Rhizobium picture: by Dr. Jeremy Burgess; Blue-green algae: image from [thesuffragette.com](#); Showy lady-slipper photo: by Barbara Buehler; *Bromosium dioica* image from [youtube.com/channel/UC8m9VSL1Jfs_VNCS8RQ](#); Elephant snout algae: image from [potamoecologykeepernetwork.org](#); Giraffids image from [www.cdc.gov](#); Swamp leucospir: photo by Les Coe; *Plectonon* image by [biology.tutorvista.com](#); Fleecy milkcap image from [Wikipedia](#); Cottontail image from [sandiegozoo.org/animals/cottontail](#); All other images from Ducks Unlimited Canada.



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Diatoms: Image: brisley.edu. Basidiomycota: Image: from toponews.com. Rhizobium: picture by Dr. Jeremy Burgess. Blue-green algae: image from thesuffragan.com. Showy lady-slipper: photo by Barbara Buhell. Brachycephalus: photo from youtube.com/chemell/CC0/9/5/1/1/6. VICIS: SPO. Elephant snail: algae: image from potamoeciviekeepernetwork.org. Gloriodia: image from www.cdc.gov. Swamp leucophaea: photo by Les Coe, pbs.com. Coink: photo from medicampharmoms.net. Methanogens: image by biology.tutorvista.com. Flecky milkcap: image from Wikipedia. Cottontail: image from sandiegozoo.org/animals/cottontail. All other images from Ducks Unlimited Canada.



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