KINDERGARTEN SCIENCE: LIVING THINGS

BIRDS

BACKGROUND KNOWLEDGE

- There are over 10000 species of birds in the world!
- They have a wide variety of diets including insects, seeds, fruit & meat.
- Contrary to popular belief- bread is not a healthy snack for birds.
- Instead unsalted seeds, nuts, cracked corn & fruit, are better options.

ACTIVITY: BIRD FOOD BALLS

Allow the lard to warm to room temperature. Break into smaller pieces.
Pour bird seed and put lard into the tub and allow kids to explore the texture of the two ingredients together with their hands.
Encourage students to roll into ping pong sized balls.
Place into mesh bag and hang outside using string.
Find a hiding place nearby to observe birds. What birds do you see?

MATERIALS

- Lard/Suet
- Unsalted Bird Seed
- String
- Tub or tray
- Mesh Bag (produce bag)

HEALTH & SAFETY

- Consider allergies- some bird seed mixes contain nuts.
- Consider cultural rules around handling animal fat.

HELPFUL HINTS

- Best done in the winter months or early spring when the birds need it most. Lard can also go rancid in warmer weather.

TAKING IT FURTHER

- Field Trip- Natural spaces like the river valley, North East Swale, Saskatoon Natural Grasslands & Beaver Creek afford prime bird watching habitat. Click here to book.
- Expert- Book a virtual guest presenter, like a Meewasin interpreter to learn more. Click here to book.

EXTENSIONS

- Math- Make predictions about the number of different coloured birds you will see, keep a tally while outside & graph afterwards.
- Physical Education- Play migration headache. Link to video.
- Language Arts- Make a descriptive word web of the birds seen.

RESOURCES

- Meewasin Birding Video- Click here.
- Merlin Bird ID excellent app for identifying birds.
- PowerPoint with common local birds. Click here.
- Cornell Lab of Ornithology- Abundant info on birds. Link.

INQUIRY QUESTIONS

- Why are there less birds around in the winter?
- How do birds stay warm in the cold?

HOME CONNECTION

- What birds can you see in your backyard or local green space?

DID YOU KNOW?

Meewasin helps support bird science research with its annual bird counts? Learn more.

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GRADE 1 SCIENCE: USING OUR SENSES

MINDFULNESS MOMENT

OUTCOME

- SE1.1 Investigate characteristics of the five traditional external senses (i.e., sight, sound, smell, touch, and taste) in humans and animals.
- SE1.2 Explore how humans and animals use their senses to interact with their environment.

BACKGROUND KNOWLEDGE

- Mindfulness exercises in nature can help release negative tensions.
- Time spent in nature helps kids to refocus when learning.
- Sense organs help animals to monitor the world around them and send signals to the brain to keep them aware of their surroundings.
- Sight is the sense most relied on by humans, while other animals rely on different senses.

ACTIVITY: MINDFULNESS

1. Mindfulness exercises in nature can help release negative tensions.
2. Time spent in nature helps kids to refocus when learning.
3. Sense organs help animals to monitor the world around them and send signals to the brain to keep them aware of their surroundings.
4. Sight is the sense most relied on by humans, while other animals rely on different senses.

MATERIALS

- Weather appropriate clothing.

RESOURCES

1. Website- Info & pics to better understand senses. Link.
2. Article & Video- To learn more about mindfulness- Link.

HEALTH/SAFETY

- During the spring, ticks can be found in the grass. Do a quick critter check once finished. The most common tick in Sask is not a major concern- simply flick the tick. More info.

TOP TIPS

1. Great for all seasons!
2. Space the kids apart- less distraction.
3. Speak softly once mindfulness moment is done- keeps kids calm.

ESSENTIAL QUESTIONS

1. What do our senses tell us?
2. How do our senses help us?

EXTENSIONS

1. **HEALTH (USC1.1) -** Discuss other strategies that help them feel calm.
2. **PHYS ED (PE1.10) -** Blind trust walk in schoolyard or local park (avoid hazards).
3. **ELA (CC1.2) -** Keep a visual log of all the senses stimulated on each visit. See example.

TAKING IT FURTHER

1. **EXPERTS-** Book a Meewasin guide or other naturalist to help identify sounds, smells and critters you may find crawling in the grass.

2. **FIELD TRIPS-** Compare your schoolyard to a more natural space with a visit to the Grasslands, North East Swale or other wild habitat!

HOME CONNECTION

- Invite your family to participate in a mindfulness moment in your back yard or local green space.

DID YOU KNOW?

Meewasin helps to manage many of the tranquil, natural spaces in Saskatoon and surrounding area? See Meewasin map.

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GRADE 2 SCIENCE: ANIMAL GROWTH & CHANGES

BIRD BUDDIES

OUTCOME

- AN2.1 - Analyze the growth and development of familiar animals, including birds, fish, insects, reptiles, amphibians, and mammals, during their life cycles.
- AN2.3 - Assess the interdependence of humans and animals in natural and constructed environments.

BACKGROUND KNOWLEDGE

- The life cycle of a bird- egg, hatchling, nestling, fledgling, adult.
- Birds use nests to lay their eggs and raise their babies.
- There are many different kinds of birds' nests- cavity nests, mud nests, floating nests, and more!
- In the spring, baby birds sometimes end up on the ground- help them out by returning to nest. Parents won't abandon babies due to human smell.

ACTIVITY: BIRD NEST

1. Walk in local green space to collect appropriate nest materials- dead twigs, plant fluff, moss, leaves, pine needles, feathers, dry grass (chem free), small strips of bark.
2. Stuff mesh bags with nest building material.
3. Hang with natural fibre on the trunk of a tree or on fence post.
4. Nearby dig up a small dirt patch and add some water to make mud.

MATERIALS

- Container to transport water.
- Hand trowel.
- Reused mesh produce bags
- Natural fiber string/yarn- hemp, burlap.

HEALTH/SAFETY

- Items harmful to birds- **ribbon, yarn, dryer lint, animal fur, string, thread, tinsel, foil, plastic & cloth.** Possibility for entanglement or breathing blockage.
- Talk to children about harmful items not to touch if found (glass, needles).

ESSENTIAL QUESTIONS

1. What kind of nests do birds in Saskatoon make?
2. What problems might birds face in an urban setting?
3. How can we help birds in our communities?

TOP TIPS

1. Make sure to set up in early spring when birds are busy making nests.
2. Be sure to give nesting birds space to not disturb the families.

EXTENSIONS

1. **ART (CP2.8) & MATH (SS2.3)-** Make 3D nest & egg sculptures.
2. **MATH (SS2.1)-** Measure out the sizes of different nests onto paper, then have students measure with non standard units of measurement.

TAKING IT FURTHER

1. **EXPERTS-** Have a bird expert come visit your class! Book a Meewasin Interpreter, or book a presentation from Living Skies Rehabilitation centre.
2. **FIELD TRIPS-** Visit a natural space like the River Valley or Maple Grove to hunt for birds and nests!

HOME CONNECTION

- Go on a nest hunt with your family around your neighbourhood. Be sure to keep a respectful distance.

DID YOU KNOW?

Meewasin helps support bird science research with its regular bird counts. Learn more here.

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GRADE 2 SCIENCE: ANIMAL GROWTH & CHANGES

RESOURCES

1. Website- Information on how to help urban wildlife.
2. Video- Life cycle of birds.
3. Website- Cornell Lab of Ornithology- Live feeder bird cams.
5. Artifacts- Saskatoon Zoo Society Bird Box- Book through school resource centre.
6. Books- “An Egg is Quiet” and “A Nest is Noisy” by Dianna Hutts Aston

GRADE 3 SCIENCE: STRUCTURES & MATERIALS

SURVIVAL SHELTER

OUTCOME

- SM3.1 - Investigate properties of materials and methods of joinery used in structures.

BACKGROUND KNOWLEDGE

- Shelters provide necessary protection from the elements.
- Shelters vary around the world, based on their purpose, climate, environment and materials available.
- 2D and 3D shapes can be found in structures, offering strength, and stability.
- Rectangles, arches, and triangles are the most common shapes found.
- Animals also construct a variety of shelters!

ACTIVITY: EMERGENCY SHELTER

1. Send home a list of desired items for the project.
2. Ask families to label any items they want returned.
3. Show students short student survival video-
4. Bring all collected items outside and spread out so that everything is visible.
5. Divide class into groups of 3-4 students.
6. Teams take turns selecting items from the collection.
7. With materials chosen- groups need to create an emergency shelter.
8. Once complete, students present their shelter and classmates evaluate their design.

MATERIALS

Variety of fort building materials:

- tarps.
- large pieces of cardboard.
- old sheets.
- newspaper.
- particle board.
- thin blankets.
- rope.
- duct tape.
- zip ties.
- bungee cords.
- long branches.
- pieces of wood, etc.

TOP TIPS

1. Can be done in all seasons!
2. Block off at least half the day for this activity.
3. Ideally find a space with trees.
4. Try to space teams apart so that ideas are original.
5. If you need more building materials, ask staff to contribute.

ESSENTIAL QUESTIONS

1. What are the best building materials?
2. What shelter designs are best suited for our local environments?

HEALTH/SAFETY

- Monitor students to make sure that they aren't balancing larger items overhead.

EXTENSIONS

1. **MATH (SS3.3)-** Measure and record the dimensions of their shelters.
2. **MATH (SS3.5)-** Document shapes found in their design.
3. **ELA (CC3.2) –** Make a blueprint before starting, including sketches and notes.
4. **ELA (CC3.4)-** Write a short survival story using their shelters for inspiration.

DID YOU KNOW?

Beavers are so efficient at felling trees that Meewasin needs to protect some trees in the river valley from being chewed down!

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GRADE 3 SCIENCE: STRUCTURES & MATERIALS

TAKING IT FURTHER

1. **EXPERTS-** Invite a parent who works in construction to bring in their work tools & PPE to talk about their job!
2. **FIELD TRIPS-** Visit Beaver Creek to learn more about Nature's greatest engineer- the beaver!

RESOURCES

1. Blog post- How to build an outdoor fort.
2. Video- Homes around the world.

HOME CONNECTION

- Build a fort at home- snow, blanket, box, ice blocks, cardboard, tarp, branches, etc.

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GRADE 4 SCIENCE: SOUND

WILDLIFE SYMPHONY

OUTCOME

- SO4.1 - Explore natural and artificial sources of sound in the environment and how those sounds are detected by humans and animals.

BACKGROUND KNOWLEDGE

- Sound is made of vibrations, or sound waves.
- Sound waves travel to our ears and make the skin of our eardrums vibrate.
- Our brain interprets these vibrations to make sense of their source.
- Animals produce a variety of sounds using different body parts.
- Humans can make lots of sounds using our voice box (larynx).

ACTIVITY: EMERGENCY SHELTER

1. Go outside and have students lay quietly with their eyes closed, listening for sounds.
2. After ten minutes, get them to share what they heard.
3. Get them to lay back down and play different animal sounds.
4. Students guess the animal and how the sound was produced.
5. Make small groups and assign each group an animal sound.
6. They have to reproduce that sound- using voices, body parts or items from class.
7. Once everyone has a sound, put together a song. Teacher conducts by pointing at groups.

HEALTH/SAFETY

- During the spring, ticks can be found in the grass. Do a quick critter check once finished. The most common tick in Sask is not a major concern- simply flick the tick.More info.

MATERIALS

- A cell phone or tablet with access to the internet.

TOP TIPS

1. Can be done in all seasons!
2. Best done away from the school so as not to disturb other classes.

ESSENTIAL QUESTIONS

1. How are sounds made?
2. How do animals produce sounds?

HOME CONNECTION

- Make a recycled homemade musical instrument to by played outside!

EXTENSIONS

1. **MATH (P4.1)-** Create their own wildlife song, represented however makes sense to them.
2. **ELA (CC4.1) –** Compose lyrics for their songs.
3. **PHYS ED (PE4.3)-** Create a workout routine to go with songs. Each animal noise is a different exercise.
4. **ART- (CP4.2)-** Create a dance routine to go with your songs.

DID YOU KNOW?

Identifying animal sounds helps Meewasin to better document the biodiversity at their sites!

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GRADE 4 SCIENCE: SOUND

TAKING IT FURTHER

1. EXPERTS - Invite a music teacher or family member who is musical into the class to talk more about musical sounds & song composition.
- Invite a Meewasin interpreter to teach how to ID birds by song.

2. FIELD TRIPS - Visit a high school band class or concert to learn more about instruments and sound production.
- Visit a natural green space to see if more wildlife sounds can be heard.

RESOURCES

1. Webpage- Sound creation. Link.
2. Webpage- Human sound creation. Link.
3. Encyclopedia- Animal sound production. Link.
4. Video- Man making animal sounds. Link.
5. Software- Beast Box- Make animal music online. Link.

GRADE 5 SCIENCE/SOCIAL STUDIES: HEALTHY HUMAN BODY

LOCAL HEALTHY FOODS

OUTCOMES

- HB5.1 - Analyze personal and societal requirements for, and the impact of, maintaining a healthy human body.
- DR5.1 - Analyze the historic and contemporary relationship of people to land in Canada.
- DR5.2 - Assess the impact of the environment on the lives of people living in Canada.

BACKGROUND KNOWLEDGE

- Indigenous peoples in Saskatchewan have relied on local plants & animals to provide them with their dietary needs since time immemorial.
- There are many plants found locally that are edible, have high nutritional value and medicinal uses.
- Indigenous teachings talk about how different plants help to keep certain body parts & systems healthy.

ACTIVITY: EDIBLE PLANTS

1. Take your students for a hike in a naturalized park or the river valley to see how many edible plants you can find and identify.
2. Use plant field guides, the app iNaturalist or the ID sheet (resources) to help you identify.
3. In appropriate areas, harvest some berries. Always leave at least 10% of the berries for wildlife.
4. Consider giving students a pinch of loose tobacco to put in the earth to show respect to the plants that they are taking from, recognizing Indigenous worldviews.

TOP TIPS

1. Best done early in the fall when there are still a few ripe berry options- Chokecherries & Rose Hips will likely be your best bet!
2. See if there is a knowledge keeper or elder available who can share plant teachings in more detail.

MATERIALS

- Phone- iNaturalist app
- Plant field guides
- Edible plants ID sheet
- Small paper bags
- Loose tobacco (optional)

HEALTH/SAFETY

- Only pick berries that you can identify with 100% certainty.
- Keep eyes on students when near a body of water.

ESSENTIAL QUESTIONS

1. Where does our food come from?
2. How did people survive in this land before grocery stores?

EXTENSIONS

1. **ART (CP5.8)–** Have students take pictures or sketch the plants that you find.
2. **HEALTH (USC5.1)-** With the berries you collected, make rose hip tea and choke cherry syrup.

EXTENSIONS

1. **EXPERTS -** Invite a Meewasin interpreter to share more about local plants.
   - Ask your families if there is anyone familiar with plant foraging who could join you.
2. **FIELD TRIPS -** Visit Wanuskewin to learn more about Indigenous relationships with plants.

HOME CONNECTION

- Make muffins using your favourite locally grown berries!

DID YOU KNOW?

Wanuskewin river valley has provided food and shelter for humans and animals for 6000 years!

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GRADE 5 SCIENCE/SOCIAL STUDIES: HEALTHY HUMAN BODY

RESOURCES

1. Plant field guides- Include edible/medicinal properties. Check school library.
2. iNaturalist App- Helps identify plants. Link.
3. Document- First Nations Traditional Foods. Link.
4. ID sheet- Local Edible Foods.

GRADE 6 SCIENCE: LIVING THINGS

WHAT AM I?

OUTCOME

- DL6.1 - Recognize, describe, and appreciate the diversity of living things in local and other ecosystems, and explore related careers.
- DL6.2 - Examine how humans organize understanding of the diversity of living things.
- DL6.3 - Analyze the characteristics and behaviours of vertebrates (i.e., mammals, birds, reptiles, amphibians, and fish) and invertebrates.

BACKGROUND KNOWLEDGE

- There are different ways of classifying animals. This activity focuses on the Linneas system- Kingdom, Phylum, Class, Order, Family, Genus, Species.
- There are five kingdoms of life: Monera (Ex- Bacteria), Protista (Ex- Protozoa), Fungi, Plantae, Animalia.
- The animal kingdom is divided into two big groups- vertebrates & invertebrates. 90% of animals are invertebrates!
- There are five classes of vertebrates- fish, birds, amphibians, reptiles, and mammals.
- Vertebrates can be distinguished by their skin covering: fish- scales & fins, birds- feathers, amphibians- moist & smooth, reptiles- dry scales, & mammals- fur.
- There are seven main groupings of invertebrates: Porifera (sponges), Cnidarians (jellyfish), Echinodermata (sea urchins), Annelida (segmented worms), Platyhelminthes (flat worms), Mollusca (clams, squids), Arthropoda (insects, arachnids, crustaceans).
- Arthropods have segmented bodies with hard exoskeletons- main groups include: insects (six legs), arachnids (8 legs), Crustaceans (apx 10 legs), & Myriapods (many legs).

ACTIVITY: LIVING THINGS

1. Have the students explore a designated green space, writing down all the living things they can find.
2. Gather the students, get them to share what they found.
3. Using the images on this page as a guide- create two big classification posters. One with the five kingdoms and the other with the Animal classification tree.
4. Starting with the Kingdoms ask the students to classify the organisms they found. Ex. Grass- Plant Kingdom.
5. Then move on to the Animal classification tree and further organize the species found. Ex. Ladybug- Insect.
6. Discuss the common characteristics between species in the same groups.
7. Play “What am I?” (20 questions). Assign a student volunteer a living thing. Ex- Jackrabbit. Have the rest of the class ask science questions to determine what they are. Example- do you have a backbone, do you have fur, etc.

TOP TIPS

1. Students might need help answering science questions.
2. Bring a phone to google if not confident.
3. Pre-write the poster groupings to keep kids’ attention.

MATERIALS

- Poster paper (x2)
- Masking tape or sticky tack.
- Black thick tipped marker.
- Notebooks or clipboards.
- Writing implements.

HEALTH/SAFETY

- Establish boundaries for exploration & point out hazards.

ESSENTIAL QUESTIONS

1. How can living things be grouped?
2. What diversity exists in our communities?

HOME CONNECTION

- See if your family can figure out the classification of your pet or favourite animal!

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GRADE 6 SCIENCE: LIVING THINGS

EXTENSIONS

1. **MATH (P6.1)-** Have the students create a bar graph of the living things they found.
2. **ELA (CC6.4)–** Have the students classify one local animal & make a poster display.
3. **ART (CP6.12)-** Have the students collage their own classification tree using old magazines.

DID YOU KNOW?

Meewasin often researches the diversity of life in different natural spaces with Citizen Science projects called Eco-Scavenger Hunts.

TAKING IT FURTHER

1. **EXPERTS-** Invite a biologist or Meewasin interpreter to come into the class to further discuss classification.
   - Invite an elder or knowledge keeper to discuss Indigenous classification systems.
2. **FIELD TRIPS -** Do the same activity in a natural space to see if the kids come up with greater diversity.
   - Visit the Saskatoon Zoo to participate in their “Classification at the Zoo” program.

RESOURCES

1. Video on classifying the diversity of animals.
2. Webpage- Classification info & graphics..
3. Graphic of vertebrate characteristics.
4. Webpage- Invertebrate info & graphics.
5. What am I? Meewasin Game Cards.

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GRADE 7 SCIENCE/ELA: ECOSYSTEMS

GRASSLAND CHAMPIONS

OUTCOME

- IE7.4 - Analyze how ecosystems change in response to natural and human influences, and propose actions to reduce the impact of human behaviour on a specific ecosystem.
- CC7.1 - Create various visual, oral, written, and multimedia (including digital) texts that explore identity (e.g., Exploring Thoughts, Feelings, and Ideas), social responsibility (e.g., Taking Action), and efficacy (e.g., Building a Better World).

BACKGROUND KNOWLEDGE

- Grasslands are one of the most endangered ecosystems in the world.
- Saskatchewan has lost over 80% of its natural grasslands.
- Most of the Species at Risk in Sask (90%) are grasslands organisms.
- The North East Swale in Saskatoon is an ancient river channel that has grassland & high biodiversity.

ACTIVITY: PUBLIC ENGAGEMENT

1. Visit the North East Swale & gather media to use for your campaign (pics, videos, etc).
2. Research the importance of grasslands ecosystems and Saskatoon's North East Swale.
3. Brainstorm ways to educate others as to why the North East Swale is worth conserving.
4. Educational opportunities include: 1) Poster campaign 2) Leaflet distribution 3) Assembly for Earth Day 5) Short educational video to share with school. 6) Social media campaign.

TOP TIPS

1. Simple message with bold images are the most eye catching.
2. To put up posters in the city- stamp with the date, attach with packing tape & use designated stands. See bylaws- link.
3. Make sure audio is clear on videos. Keep them short.
4. To save on ink for poster/leaflet production- eliminate coloured backgrounds, instead print on bright paper.
5. Make school assembly dynamic- combo of images, videos, skits, audience participation, etc.

MATERIALS

Depends on campaign chosen.

HEALTH/SAFETY

- For leaflets & posters, consider breaking into small groups supervised by adult volunteers.
- Assign designated routes with maps for reference.

ESSENTIAL QUESTIONS

1. What can we do to protect our endangered ecosystems?
2. How do we get society to care about all living things?

HOME CONNECTION

- Talk to your families about the importance of the Swale. Consider taking them to visit the space!

EXTENSIONS

1. MATH (P7.1)- Have the students represent key facts with charts/tables (ex. Habitat loss over time).

2. ART (CP7.6)- Have students film short videos featuring the North East Swale.

3. SOCIAL STUDIES (DR7.1)- Have students create maps that represent key issues pertaining to Grasslands..

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GRADE 7 SCIENCE/ELA: ECOSYSTEMS

TAKING IT FURTHER

1. **EXPERTS-** Book a Meewasin guide or other naturalist to help identify sounds, smells and critters you may find crawling in the grass.

2. **FIELD TRIPS-** Compare your schoolyard to a more natural space with a visit to the Grasslands, North East Swale or other wild habitat!

DID YOU KNOW?

Meewasin has held several biodiversity studies at the North East Swale and they found 200+ plant species, 100+ bird species and numerous mammals, amphibians, reptiles and insects, including several rare, endangered or culturally significant species!

RESOURCES

1. Website- Swale Watchers.
2. Document- Grasslands Info and graphics.

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GRADE 8 SCIENCE: WATER SYSTEMS

WETLAND BIO-BLITZ

OUTCOME

- WS8.3 - Analyze natural factors and human practices that affect productivity and species distribution in marine and fresh water environments.

BACKGROUND KNOWLEDGE

- Wetlands provide a host of benefits: flood & drought prevention, water filtration, valuable habitat and recreation purposes.
- In settled areas of Canada, up to 70% of our wetlands have already been destroyed or degraded.
- Agriculture, urbanization and industrial development are the main causes of wetland loss.
- Mowing, chemical run off, animal & human waste, sediment build up & algae growth are some of the causes for wetland degradation.
- Biodiversity boosts ecosystem productivity where each species has an important role to play.

ACTIVITY: WETLAND CRITTERS

1. Visit a local wetland to research the diversity of species present.
2. Use field guides, apps and ID sheets to identify the wetland plants, birds, and aquatic invertebrates.
3. To ID critters in water, wade in barefoot or reach from shore using an aquarium net.
4. Scoop critters into recycled cottage cheese containers filled with water so that animals don't dry out while trying to identify.
5. Set up as 3 stations (birds, plants, inverts) and rotate student groups through.

MATERIALS

- 8 aquarium nets (Dollarama)
- 8 recycled cottage cheese containers
- 8 binoculars (Can be borrowed from Sask Outdoors
- Field guides- bird, insect, & plants (School library)
- Tablets/phones with Merlin Bird ID & iNaturalist apps added.
- Journals or clipboards (students to document)
- Writing implements

TOP TIPS

1. A large bucket or ice cream pail left on the shore line makes it easier for students to share what they found in the water.

HOME CONNECTION

- Use Merlin Bird ID & iNaturalist free apps to Bio-blitz your yard or local green space. Submit your data online and contribute to Citizen Science!

ESSENTIAL QUESTIONS

1. What do biodiversity studies tell us about the health of water systems?

HEALTH/SAFETY

- Ensure adequate supervision around bodies of water.
- Students should not go past their knees in the water.

EXTENSIONS

1. **ELA (CC8.5)-** Have students film newscasts at a wetland,explaining the significance of the habitat and threats it faces.
2. **ART (CP8.10)–** Have students create a large wetland mural.

DID YOU KNOW?

Meewasin often researches the diversity of life in different natural spaces with Citizen Science projects called Eco-Scavenger Hunts.

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GRADE 8 SCIENCE: WATER SYSTEMS

TAKING IT FURTHER

1. EXPERTS - Book a Meewasin field guide to join you on your Bio Blitz to help identify.

- Book the Meewasin Wonderous Wetlands in Class Program.

2. FIELD TRIPS - Local wetlands include: Chappell Marsh & North East Swale.
- Otherwise man-made lakes also work (Lakeview, Lakewood, Arbor Creek, etc)

RESOURCES

1. Invertebrate ID sheet.
2. Powerpoint- Ducks Unlimited Wetland-.
3. Website- Hinterland Who's Who- Wetlands.
4. App- Merlin Bird ID.
5. App- iNaturalist.

SCIENCE 9: REPRODUCTION

SEASONAL OPTIONS: PHASES OF REPRODUCTION IN PLANTS

OUTCOME

- RE9.3 Describe the processes and implications of sexual and asexual reproduction in plants and animals

BACKGROUND KNOWLEDGE

- Review the mechanisms of sexual and asexual reproduction in plants.

ACTIVITY: SEASONAL ACTIVITIES

Fall: Observing Seed Structure and Function

1. Visit a green space that has some diversity of species. Most Meewasin sites are excellent sources of biodiversity.
2. Choose one plant to observe closely. Based on your knowledge of reproductive cycles, find the reproductive structures on your plant.
3. Sketch the plant and the seed structure in detail. Use lables where you can.
4. Take a look at the Saskatchewan Native Plant Societies' guide for sustainable seed collection. If possible, you can seek permission to gather a small amount of seed from the location you visit.

Extensions:

1. Examine seeds under a microscope and make inferences about seed dispersal mechanisms. 2. Research seed storage/stratification and store your seed to be planted in late winter.

MATERIALS

Materials vary depending on the season

- Clipboards (or something hard to write on)
- Writing utensils
- Paper or Journal for recoding observations
- Seeds
- Soil
- Plant trays
- Popsicle sticks (for lables)
- Spray bottle
- Garden spades
- Watering cans

Winter: Start a Native Plant Nursery

1. Contact Meewasin to inquire about working with their greenhouse staff. Seeds can also be collected from private property (with permission), or purchased from a native seed supplier.
2. In early March, seed your plants. Native plants prefer tall, narrow containers to grow in. You can purchase these or issue a challenge to come up with an up-cycled seed tray (there are lots of ideas online).
3. Fill your tray with soil and water thoroughly. In each pot, place 3-4 seeds on the soil surface and gently pat them down.
4. Place the pots in a sunny window.
5. In the coming weeks, keep the soil moist by misting every day. Be careful not to overwater and cause the seeds to be disturbed.
6. Seeds should germinate within a couple of weeks.
7. As the weather warms you can take the plants outside to harden them off. When the risk of frost has passed. When the risk of frost has passed, plants can be transplanted outdoors.

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SCIENCE 9: REPRODUCTION

Spring: Observing Emerging Reproductive Structures

1. After researching reproductive cycles in plants, visit a Meewasin site to observe various reproductive strategies in plants.
2. Each student should choose one plant to observe closely. Sketch and take notes, paying particular attention to reproductive structures. Contact Meewasin staff to inquire about which plants are in bloom.

(Early bloomers: crocus, moss phlox, pygmy flower, thorny buffalo berry, violet, three-flowered avens, early yellow locoweed, buffalo bean, dandelion, hascap, aspen, wolf willow, hoary puccoon)
thorny buffalo berry, violet, three-flowered avens, early yellow locoweed, buffalo bean, dandelion, hascap, aspen, wolf willow, hoary puccoon)

Summer: Planting

Planting native species is a great way to wrap up your reproduction studies.

Contact Meewasin to inquire about participating in their revegetation efforts.

If you planted seedlings in the winter, look for spots in your school yard, or neighborhood to plant them.

Students can take their plants home and continue to observe them throughout the summer.

EXTENSIONS

1. **RE9.1: Examine the process of and influences on the transfer of genetic information and the impact of that understanding on society past and present.**

   How has our society benefitted from the selective breeding practices of societies on Turtle Island when it comes to food, tools, and other resources? Contact Wanuskewin to inquire about programs that investigate plants, tools, and resources on the Northern Plains. The book, “Turtle Island: The Story of North America’s First People’s” is a good resource to support this line of inquiry.

ESSENTIAL QUESTIONS

1. How do native plants in Saskatchewan reproduce? What are the factors that influence reproduction here?
2. Which parts of plant reproductive cycles can we observe in each season?
3. How can we use our knowledge of plant reproduction to support more biodiversity in our schoolyards, neighborhoods, and public spaces?

HOME CONNECTION

- Even in urban settings, most students have access to plants in their backyards or nearby greenspaces. Encourage students to explore these spaces to find flowers, seeds, shoots, and spores.

DID YOU KNOW?

Planting native seeds for the first time can be intimidating, but it doesn’t have to be! Don’t be scared to reach out for advice from local organizations like Meewasin or the Native Plant Society of Saskatchewan

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SOCIAL STUDIES 9: DYNAMIC RELATIONSHIPS

CASE STUDY: THE SASKATOON SANATORIUM

OUTCOMES

- DR9.1: Examine the challenges involved in obtaining information about societies of the past.
- DR9.3: Assess the relationship of the natural environment in the development of a society.

BACKGROUND KNOWLEDGE

- View Saskatoon Stories; The Sanatorium from CTV
- Examine historical photos of the Sanitorium site prior to demolition

ACTIVITY: SANATORIUM SITE SURVEY

1. With your classmates, develop a method to systematically survey the Sanitorium Site. Explore the grounds and look for evidence of past site use.
2. If you find a clue or artifact, mark it on your site map with a number, and record information in the grid below.
3. Based on the information you gather, as well as research from photographs, draw an outline of the location of the former Sanitorium on your map.
4. When you and your classmates agree on a location, gather where the front doors to the building were located and share your observations. What was difficult about this process? What clues were most helpful? What questions do you still have?

MATERIALS

- Clipboards (or something hard to write on)
- Writing utensils
- Sanitorium Site Survey sheets (next page)

EXTENSIONS

1. **DR9.4: Determine the influence of societies of the past on contemporary life in Canada.** Create a TB timeline including important events like first cases, developments in treatment, etc. up to the present day. Who is still vulnerable to this disease? Are there parallels between the TB pandemic and the Covid pandemic? Are there lessons we can carry forward?

2. **DR9.3: Assess the relationship of the natural environment in the development of a society.** Examine health practices that are connected to the land/nature of past and/or present societies. Connect with and elder or knowledge keeper about their knowledge of the relationship between health and the land. Why is access to land critical to a holistic understanding of health? How does this relate to the impact of colonialism on the health of indigenous peoples across Turtle Island?

ESSENTIAL QUESTIONS

1. What does the story of the Sanatorium site tell us about our evolving relationship with the land?
2. What unique information can we learn from various sources? What are the limitations of each?
    - Print/digital resources
    - First-hand accounts
    - Site visits (think about geography, ecosystems, and artifacts)
3. What role do organizations (like Meewasin) play in understanding societies of the past?

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SOCIAL STUDIES 9: DYNAMIC RELATIONSHIPS

HOME CONNECTION

- Ask an older adult in your life if they remember the Sanitorium in Saskatoon, (Remember, the building was demolished in 1989) or if they know of any health practices that rely on the land as part of the treatment. Ask for permission to share their stories with the class.

DID YOU KNOW?

The Sanitorium site is easy to access from the Meewasin Trail. This makes safe, active transportation on bike or foot possible for most students. Consider collaborating with your Phys. Ed. department to make this trip a cross-curricular experience!

SANATORIUM SITE SURVEY SHEET

Item Number	Grid Location	Item Description

SCIENCE 10: SUSTAINABLE ECOSYSTEMS

POPULATION INQUIRY

OUTCOME

- SCI10-CD3: Examine biodiversity through the analysis of interactions among populations within communities.

BACKGROUND KNOWLEDGE

- Review terms relevant to population sampling such as quadrat, transect, counting, sampling, % ground cover. Here is a helpful overview of sampling.

ACTIVITY: SAMPLING PROCESS

1. Design a sampling process that would allow you to track changes in plant populations and community composition over time. The area you are sampling should be too large to count individuals.
2. If you are working in the school yard, a soccer field/football field can provide an unit of area that students can accurately conceptualize, rather than starting with a less familiar unit like 100m2. Ex. How many dandelions are on the soccer field?
3. Provide students with loose parts to use as field sampling equipment. They will likely need tools to set up transects or quadrants (rope, string, flags, stakes, tent pegs, etc), tools to create standard quadrats (rope, picture frames, hula hoops, cardboard, etc), and tools for measuring (meter sticks, tape measure, standard length of rope, compass (most smart phones have a compass app), or GPS). If you think students need more guidance to create their tools, this video provides a helpful overview.
4. Have students work in groups to design a sampling technique, and then try in in an outdoor space. Once the have determined a successful sampling technique, have them develop a question that they could investigate; for example, “How often do we see Plant A and Plant B growing in X proximity?”

MATERIALS

- Loose parts for sampling: rope, string, flags, stakes, tent pegs, rope, picture frames, hula hoops, cardboard, meter sticks, tape measure, standard length of rope, compass (most smart phones have a compass app).
- Clip Clipboards (something hard to write on)
- Writing utensils

EXTENSIONS

1. SCI10-CD3: Examine biodiversity through the analysis of interactions among populations within communities. How could Traditional Ecological Knowledge and western science work together to support the collection of accurate population data? Think about seasonality, long term fluctuations, the impact of human relationship to populations. Two case studies that demonstrate the importance of recognizing traditional ecological knowledge are the Huna Tlingit gull-egg harvest, and the Sayisi Dene caribou hunt.
2. SCI10-CD3: Examine biodiversity through the analysis of interactions among populations within communities. Investigate available sources of TEK and western science connected to plains bison. What was the impact of slaughtering plains bison populations on prairie communities? How do prairie conservation efforts try to mimic the relationships that bison facilitated? What do we know about re-introducing bison to the landscape? Examples of reintroduction include Grasslands National Park, The Sturgeon River Herd, and Wanuskewin.

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SCIENCE 10: SUSTAINABLE ECOSYSTEMS

HOME CONNECTION

- You can explore populations, communities, and other ecosystem dynamics from the comfort of your own home with EcoXPT. This virtual field trip will guide you through thinking routines that help sharpen skills for observation and interpretation in the real world

ESSENTIAL QUESTIONS

1. How can we collect information about the populations and communities that inhabit a place?

2. How can our biases impact population/community observation?

DID YOU KNOW?

Meewasin's conservation zone encompasses 6,700 hectares; that's 9,384 soccer fields. Many of the sites found along the Meewasin valley have populations that could benefit from citizen scientist monitoring. Contact a Meewasin representative to inquire about sites that could use your help!

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SCIENCE 10: SUSTAINABLE ECOSYSTEMS

SUBNIVEAN WORLDS

OUTCOME

- SCI10-CD1 Assess the implications of human actions on the local and global climate and the sustainability of ecosystems.

BACKGROUND KNOWLEDGE

- Watch this video of a red fox hunting mice in the subnivean ecosystem.
- Read this short article on the subnivean ecosystem from Ecology for the Masses

ACTIVITY: OUTLINE

1. Brainstorm signs of subnivean life that you might observe, and visit a natural or naturalized space to look for them (tracks, holes, trails, green plants beneath the snow).
2. Dig a snow pit and examine the characteristics of the snow. You can pick and choose procedures from this snow pit guide based on the equipment that you have access to.
3. Try to determine which characteristics of the snow would be better for the organisms that live in the subnivean zone (think about snow depth, density, compression, ice crust).
4. Back in the classroom, visit the Climate Atlas of Canada and determine how climate change is likely to impact our subnivean ecosystems (you can view the Saskatoon report by clicking on our city, and viewing the “Climate Report” PDF which lists seasonal precipitation predictions). Compare this to other regions of Canada.
5. Hypothesize about the relationship between urban development and subnivean ecosystems. Look at a satellite map of Saskatoon (try google maps) and determine where intact subnivean ecosystems are likely to exist (remember that subnivean creatures need shelter, as well as food). What role do conservation organizations like Meewasin play in maintaining sustainable ecosystems (map of Meewasin conservation zone)?

EXTENSIONS

1. **SCI10-CD3:** Examine biodiversity through the analysis of interactions among populations within communities. If you have a lot of subnivean activity in the region you are studying, use the sampling method from our Grade 10 Science: Sustainable Ecosystems lesson to map the frequency of sings of subnivean life. Can you see a relationship between activity and types of vegetation? Open spaces? Water bodies?

MATERIALS

- Snow shovels
- Metric tape measure (30 m) or meter stick
- Compass (could be a phone app)
- Clinometer (could be a phone app)
- Thermometers
- Soft paintbrush
- Golf tees, popsicle sticks, etc.
- Pencil with eraser
- Plastic knife
- Spatula
- Hand lens (5X or 10X)
- Snow crystal card or playing card to hold snow grains
- Small plastic centimeter/millimeter ruler
- Balance – an inexpensive, but accurate, gram/kilogram kitchen scale
- Snow sampling tube (This is a small, open-ended aluminum or plastic tube of known volume and mass. You can use an aluminum soup can and remove both ends.

DID YOU KNOW?

The snow pack in our ecoregion is typically quite shallow compared to mountainous or forested areas. Wind-blown hilltops will have the shallowest profiles, so look for prairie potholes or valleys where drifted snow accumulates.

HOME CONNECTION

You can explore populations, communities, and other ecosystem dynamics from the comfort of your own home with EcoXPT. This virtual field trip will guide you through thinking routines that help sharpen skills for observation and interpretation in the real world.

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ENVIRONMENTAL SCIENCE 20: WATER

CASE STUDY: SOUTH SASKATCHEWAN WATERSHED STEWARDSHIP

OUTCOMES

- ES20-HP1: Investigate technologies and processes used for mitigating and managing resource use, waste generation and pollution associated with a growing human population.
- ES20-AS1: Analyze the function and condition of freshwater aquatic systems such as rivers, streams, lakes, wetlands and watersheds.
- ES20-AS2: Assess the importance of maintaining healthy water for humans and the environment.

BACKGROUND KNOWLEDGE

- Research the I=PxAxT equation, as well as critiques of this formula.
- Review basic river terminology from Canadian Geographic.

ACTIVITY: RIVER LANDING SPRAY PARK

1. Visit the spray park at River Landing and complete the S. Sask. River Watershed sheet. If you have time, explore the riverbank and look for points where water is being drawn out of the river, or where water is entering the river.

2. Generate questions for further inquiry: As population increases, what is the impact on our water resources? What role does Meewasin play in protecting waterways as our population increases? How do other urban centers protect the water? Do other urban centers have organizations like Meewasin

MATERIALS

- Clipboards (or something hard to write on)
- Writing utensils
- S. Sask River Watershed sheet (see next page)

EXTENSIONS

1. **ES20-AS1:** Analyze the function and condition of freshwater aquatic systems such as rivers, streams, lakes, wetlands and watersheds. How are First Nations in Saskatchewan uniquely impacted by water quality issues? Research examples of water protectors in our province and across Canada.
2. **ES20-AS2:** Assess the importance of maintaining healthy water for humans and the environment. Engage in an act of love for the water; riverbank clean-up, water conservation at school, water walk (in consultation with an Elder).

DID YOU KNOW?

Founded in 1993 by Meewasin, Partners FOR the Saskatchewan River Basin (PFSRB) promotes stewardship and sustainability of the Saskatchewan River Basin, an international watershed stretching over the three Prairie Provinces and a portion of Montana.

ESSENTIAL QUESTIONS

1. Where is our river coming from? Where is it going to?
2. What are the impacts of human populations on a watershed?
3. What role does Meewasin play in the health of aquatic ecosystems?

HOME CONNECTION

- Conserve water at home by using these resources from the Saskatchewan Environmental Society: Home water audit and advice for water conservation.

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ENVIRONMENTAL SCIENCE 20: WATER

SOUTH SASKATCHEWAN RIVER WATERSHED

1. Sketch the path of the South Saskatchewan River in the space above.

2. Label all the urban centers and significant features found along the way.

3. List the three main tributaries to the South Saskatchewan River.

   a. _____

   b. _____

   c. _____

4. Where is the mouth of the Saskatchewan River?

   a. _____

5. Based on the path of the river, list some possible sources of pollution. Can you think of technologies or practices that can mitigate that pollution?

Pollution Source	Mitigating Technologies/Practices

6. Considering the ideas you brainstormed about, generate a hypothesis about the health of Lake Winnipeg (use the back of the sheet if you need more space)

ENVIRONMENTAL SCIENCE 20: SOIL

THE LIVING BODY OF SOIL

OUTCOME

- ES20-TE1: Analyze the importance of soils as an integral component of terrestrial ecosystems.

BACKGROUND KNOWLEDGE

- U of S backgrounders on soil structure, consistence, horizons, texture, color
- Importance of healthy soils: a TED talk and Comic Strip from biogeochemist, Dr. Asmeret Asefaw Berhe

ACTIVITY: SANATORIUM SITE SURVEY

1. Find a location to conduct a soil investigation into the physical properties and living body of the soil. You can design your own investigation based on the resources found in the "background knowledge" section, or use one of these soil lab guides to design a procedure:
    a. Soil lab from "Teach the Earth" with a focus on ecological relationships
    b. A comprehensive soil activity guide, developed in Canada with a variety of labs and activities
2. Based on your investigations, can you determine if the soil you studied is "healthy"? Use criteria from Dr. Berhe's Ted talk/comic, information from the U of S video series, as well as your own personal/cultural knowledge to justify your determination. What other information do you need in order to judge soil health?

MATERIALS

Material lists can be found in soil lab guides.

EXTENSIONS

1. **ES20-TE1: Analyze the importance of soils as an integral component of terrestrial ecosystems.** Investigate the impacts of urbanization on soil ecosystems. What role does Meewasin play in protecting soil ecosystems in our city? What impact does this have on the terrestrial ecosystems in and around our city?

ESSENTIAL QUESTIONS

1. How does soil support terrestrial life (micro and macro)?
2. How can we understand soil as a living entity?

HOME CONNECTION

Although urbanization creates significant challenges for maintaining soil health, city dwellers can contribute to healthy soils by composting food waste. The Saskatchewan Waste Reduction Council has detailed instructions for various types of composting that you can try at home. If you already have a composting system at home, investigate the impact of adding compost to very sandy soil. How does organic matter change water drainage? Texture? Color? Tendency to aggregate?

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ENVIRONMENTAL SCIENCE 20: PLANTS

OUR COMPLICATED RELATIONSHIP WITH WEEDS

OUTCOME

- ES20-TE2: Examine the role plants play in an ecosystem, including the ways in which humans use plants.

BACKGROUND KNOWLEDGE

- Develop a thorough understanding of the roles that plants play in local terrestrial ecosystems. This is not an exhaustive list, but you can investigate their role in succession, mitigating climate change, symbiosis with fungi, or ethnobotany.
- Develop definitions for native species, exotic species, and invasive species.

ACTIVITY: WEED WALK

1. Ask students to define the term “weed” as it relates to undesirable plants. Brainstorm the characteristics that make a species “weedy”.
2. Listen to this episode of CBC’s Unreserved and consider the perspectives presented by Nicholas Reo (Professor of Environmental Studies, Dartmouth College). Revisit the thinking from your initial brainstorm and decide if you want to edit or refine your ideas.
3. Take a walk around your neighborhood and look for spaces that appear to have “weeds” present.
4. Challenge each student to focus on one species and see how many individuals they can find on your walk. Encourage them to sketch and label it, and record observations about how and where it grows. Here is a list of local common urban weeds.
5. After observing weeds in the city, discuss your findings. From an ecological perspective, what role do “weeds” play in urban ecosystems? Think about soil health (erosion, compaction, nutrient depletion), biodiversity (habitat and food for pollinators among grass monocultures), biogeochemical cycling, and food/medicine.
6. Revisit the species you found in your neighborhood and investigate their known uses as food/medicine. Examples include: dandelion, plantain, pineapple weed, chickweed, clover, lamb’s quarters/pigweed, and sweet clover

MATERIALS

- Clipboards (or something hard to write on)
- Writing utensils

HEALTH/SAFETY

- Ensure that students are aware of the risks of harvesting plants in the city (pesticide/fertilizers, vehicle exhaust, etc) and caution them against harvesting, processing, and/or ingesting urban plants without proper mentorship.

DID YOU KNOW?

The Meewasin team creates long-term, integrated management plans to maintain biodiversity in their conservation zone. Some of their strategies involve mimicking natural processes like fire and grazing, which have always been a critical part of prairie ecology. Contact Meewasin to see if you can bring your class to see a grazing or burning demonstration event.

EXTENSIONS

1. **ES20-TE3: Recognize the need for intact habitat to support animal populations and biodiversity.** Contact Meewasin to learn more about invasive species in prairie, riparian, and/or wetland ecosystems. Investigate the differences between “weeds” in urban environments, and invasive/noxious species in intact ecosystems. Engage in an act of stewardship by volunteering to participate in invasive species control in Meewasin’s conservation zone.

ESSENTIAL QUESTIONS

1. What role do all plants play in an ecosystem, regardless of if they are native/introduced/invasive?
2. What makes a plant “invasive”?
3. What impacts do invasive species have on biodiversity?

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BIOLOGY 30: ANATOMY & PHYSIOLOGY

ACCLIMATION TO WINTER

OUTCOME

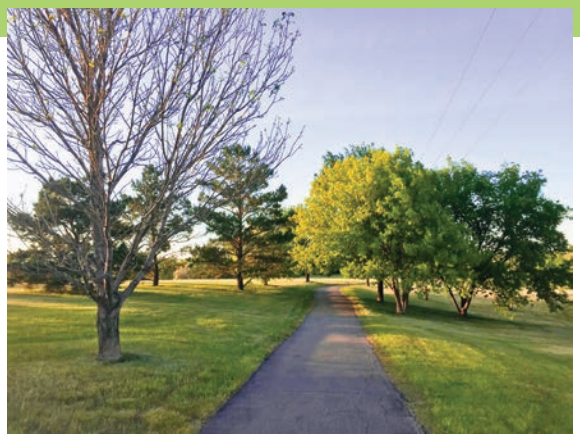
- BI30-OL2 Compare the anatomies, physiologies and behaviors of multicellular organisms including protists, fungi, plants and animals.

BACKGROUND KNOWLEDGE

- Students can begin to think about the evolutionary pressures that are exerted by wintery climates by investigating “SCREW” vectors. Here is a brief explanation from the Saskatchewan Environmental Society.
- This document contains a very thorough outline of physiological adaptations of plants to winter conditions. This resource from Let’s Talk Science is more student-friendly and concise.
- This document details the chemistry of various biological adaptations (in both plants and animals) to freezing conditions.

ACTIVITY: TREE OBSERVATIONS

1. Visit a nearby park and choose one deciduous tree and one coniferous tree to observe.
2. Through journaling, photography, sketching, or other means, begin to document possible adaptations to the SCREW vectors (snow, cold, radiation, energy, and wind). In addition to observations, record questions and wonders related to plant adaptations to winter.
3. Once students have had adequate time to record observations, take the class on a walking tour of all of the trees that they observed, and ask them to share their observations and wonders.
4. Choose one feature of a tree that you observed, and research the physiological or anatomical features that allow it to survive through the winter. The documents in the “background knowledge” section might be a good starting point for research.



MATERIALS

- Clip Clipboards
- Writing utensils
- Optional; magnifying lenses

DID YOU KNOW?

Researching cold-weather adaptations in prairie organisms on the internet can be challenging! Don’t be shy to reach out to elders, U of S researchers, and Meewasin staff as primary resources.

EXTENSIONS

1. **BI30-OL2 Compare the anatomies, physiologies and behaviors of multicellular organisms including protists, fungi, plants and animals.** Design an experiment that helps you understand the relationship between environmental conditions and dormancy. Use weather data from Environment Canada regarding moisture, daylight, and temperatures, and observe changes in nearby trees that give us clues about this relationship (leaf abscission, bud flushing, running sap, etc).

ESSENTIAL QUESTIONS

1. How does a cold climate impact the anatomy, physiology, and behavior of various organisms?
2. What is the advantage of leaf drop/leaf retention?

HOME CONNECTION

- Interview the people in your household about the “signs of winter” or “signs of spring” that they recognize. If students are new to winter climates, investigate the signs of seasonal changes that they are familiar with (for example rainy season/dry season). Investigate the physiological processes that these phenomena are connected to.

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BIOLOGY 30: CLASSIFICATION OF LIFE

CLASSIFICATION OF PRAIRIE ORGANISMS

OUTCOME

- BI30-OL3: Explore how the dynamic nature of biological classification reflects advances in scientific understanding of relationships among organiss

BACKGROUND KNOWLEDGE

- Compare and contrast Linnean classification with phylogenetic classification. Here is a concise summary.
- Review this critical comparison of scientific knowledge and indigenous knowledges: http://www.nativescience.org/issues/tk.htm

ACTIVITY: ELDER VISIT

1. Invite an Elder into your classroom and ask them to share knowledge about relationships between living beings. You can share the story of the Cascadia Field Guide provide context for your inquiry.

2. Given our context of climate change and biodiversity loss, brainstorm the benefits of classifying organisms based on ecological relationships.

3. Visit a nearby ecosystem and observe the relationships that exist between living things. Biodiverse ecosystems can be found along throughout Meewasin's conservation zone. Create a page in a field guide that includes three organisms living in relationship; include line drawings, as well as descriptions.

EXTENSIONS

BI30-OL3: ***Explore how the dynamic nature of biological classification reflects advances in scientific understanding of relationships among organisms.*** Can Phenology be used as a system of classification? Imagine a field guide that is organized based on seasonal patterns. Compare and contrast this with a field guide based on binomial nomenclature or physical appearances. How does phenology relate to climate change? Participate in "Plantwatch" to improve your knowledge of the seasonal rhythm of prairie plants.

ESSENTIAL QUESTIONS

1. How do western science systems of classification reflect relationships in the real world? How have these systems evolved over time?
2. How do indigenous systems of classification reflect relationships in the real world? How have these systems evolved over time?
3. What is the relationship between language and sustainability

HOME CONNECTION

- Try this activity in a space within walking distance of your house. How difficult is it to observe organisms in relationship in the city? If it is challenging, how can we improve this? See our Science 9 lesson for tips on increasing biodiversity in your community

DID YOU KNOW?

Meewasin works to protect a variety of ecosystems including grasslands, aspen bluffs, wetlands, riparian areas, and our river. Understanding the relationships that exist in these spaces is critical to a sustainable future for our city!

Meewasin