






















Ice Castle











WEEK 1 ICE & SNOW

STEAM STATION	YOUR SUPPLIES	BIG QUESTION AND INSPIRATION PHOTOS	TEACHER TIPS
LESSON 1 Designing Snowflakes <small>CA 3 Visual Arts</small>	Construction paper Scissors Tape	 	Encourage children to bend and fold paper strips into circles, triangles and squares. Connect them to make 3D snowflakes. Watch this video: https://www.youtube.com/watch?v=d18Mxxvk6kjU .
LESSON 2 Snow Cloud Dough <small>SED 4 Social Relationships</small>	Sticks Buttons Snow Dough Recipe: https://ourfamilycode.com/toddler-snow-cloud-dough/	 	Encourage children to work together to build a tall snowman or other designs.
LESSON 3 Salt & Ice Experiment <small>SCI 2 Natural & Earth Science</small>	Ice Salt Yarn	 	Experiment with putting yarn on ice. Does it stick? What happens if you shake salt on the ice? Why do you think salt melts ice? Watch this video: https://www.youtube.com/watch?v=6V_AVe3zWu8 .
LESSON 4 Igloo Building <small>MR 2 Spatial Awareness</small>	Egg cartons Toy animals	 	Set out recycled egg cartons cut to different sizes. Encourage children to stack and build with the egg cartons. Watch this video: https://youtu.be/ky57HCQPSNk .
LESSON 5 Melting Ice Experiment <small>SCI 4 Technology</small>	Bowls (3) Ice Slotted spoons Tongs	 	Set out two bowls of water: one with warm water and another with cold water. Place ice in another bowl. Encourage children to use tongs and spoons to explore what happens when the ice is in water or other ways to melt it.








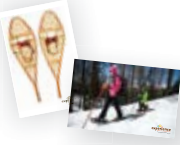


WEEK 2 ALPINE TUNDRA

LESSON 6 Exploring Avalanches <small>SCI 3 Physical Science</small>	Cardboard tubes Tape Marbles or pompoms	 	Set out a variety of cardboard tubes, tape and marbles. Encourage children to work together to connect the tubes. Suggest taping the tubes to a wall, then dropping the marbles “down the mountain.”
LESSON 7 Pine Brushes <small>SCI 4 Technology</small>	Sticks Rubber bands Yarn Pipecleaners Pine needles Paint Paper		Set out sticks (real or craft), rubber bands, pine needles and other collage materials. Encourage children to construct and design their own paintbrushes. Explore painting with their nature items or DIY brushes.
LESSON 8 Lines & Strings <small>PD 2 Fine Motor</small>	Laptop or mobile device String or yarn (40 inches)	 	Tie the string to create a circular loop. Show children the “Cat’s Cradle” string tutorial. Encourage them to watch the step-by-step video and practice with a partner: https://www.youtube.com/watch?v=HTSxcN9Ih5M .
LESSON 9 Assembling Packs <small>CA 3 Visual Arts</small>	Paper plates Thick paper Hole punch Yarn Markers/crayons	 	Set out paper plates, thick paper, a hole punch, yarn and coloring utensils. Encourage children to assemble and design a hiking pack, then draw or create supplies to put in the pack.
LESSON 10 Ski Ramp <small>SCI 3 Physical Science</small>	Cardboard Foil Tape Marbles Cotton balls or batting	 	Set out materials for children to create a “ski mountain” (ramp). Encourage them to use the foil, cotton balls or cotton batting as a bumpers to keep the marbles (or pompoms) on track while going down the ramp on certain “runs.”

WEEK 3 TUNDRA ANIMALS

STEAM STATION	YOUR SUPPLIES	BIG QUESTION AND INSPIRATION PHOTOS	TEACHER TIPS
LESSON 11 Save the Egg <small>SCI 3 Physical Science</small>	Cardboard Tape Bowl of rocks Bowl or cup	 	Create a ramp and attach one end to the edge of a table. Place a bowl or cup where children think an “egg” (rock) will land after rolling it down the ramp. Watch this video: https://www.youtube.com/watch?v=k0u67Wk_hJ0 .
LESSON 12 Floating Icebergs <small>SCI 3 Physical Science</small>	Connecting cubes Bins of water Plastic lids	 	Set out bins of water and place plastic lids on the water to float. Invite children to explore how many “polar bears” (connecting cubes) can fit on a lid before falling off.
LESSON 13 Measuring Mountains <small>MR 4 Measurement</small>	Building materials Rulers	 	Encourage children to draw a mountain, then use the materials to build the design. (Make separate piles, e.g., rocks, blocks, cups.) Use rulers to measure the height of the mountains.
LESSON 14 Sewing Fur <small>PD 2 Fine Motor</small>	Paper plates Hole punch Scissors Yarn Bin	 	Set out materials and invite children to punch holes in the plates. Encourage them to explore threading yarn pieces through the holes and tying them off to create “fur.” Watch this video: https://www.youtube.com/watch?v=JTlveCrymV8 .
LESSON 15 Hidden Fox <small>LLD 7 Writing</small>	Paper: white Crayons: white Watercolors Brushes	 	Set out the paper, crayons and watercolors. Invite children to draw a fox on white paper or write a secret message with white crayons. Then paint over it with watercolors to reveal the message.

WEEK 4 LIFE IN THE ARCTIC

LESSON 16 Knot-Making <small>PD 2 Fine Motor</small>	Ropes Sticks	 	Set out ropes and sticks for children to follow along with this knot-making tutorial on YouTube: https://www.youtube.com/watch?v=5c5xI-3SnUU&feature=youtu.be . Loop the video so that it repeats automatically.
LESSON 17 Blubber Glove <small>SCI 4 Technology</small>	Bowl of icy water Clear zip bags (2) Shortening or lard Duct tape Spoon	 	Invite children to put their hand in a zip bag, then immerse it into icy water. Encourage them to wear a “blubber glove” and immerse it again. Explain that blubber keeps polar animals warm. Watch this video: https://bit.ly/2ZEEK8J .
LESSON 18 Ice House <small>SED 3 Attention & Persistence</small>	Sugar cubes or marshmallows	 	Set out sugar cubes or large marshmallows. Build tall towers or try to make an igloo.
LESSON 19 Snowshoe Design <small>CA 3 Visual Arts</small>	Paper plates Hole punch Markers Yarn	 	Set out materials and invite children to design and assemble a pair of snowshoes. Encourage them to find ways to thread the yarn to secure their feet on the shoes. Watch this video: https://youtu.be/fTeSlpGegZE .
LESSON 20 Melting Icebergs <small>SCI 2 Natural & Earth Science</small>	Various containers Water Squirt bottle Craft sticks	 	Prior to the lesson, freeze water in containers of various sizes and shapes. Set out the “icebergs” with squirt bottles and craft sticks. Try to melt the icebergs. Watch this video: https://youtu.be/BxT9TUyH_zk .

Set-Up Directions

These open-ended STEAM stations invite children to investigate, problem-solve and create.

- Hang the Big Question and Inspiration Photos on the wall next to the place you set up the investigation.
- If desired, use labels to identify and organize materials children will use (and clean up) as they explore STEAM stations.

ROTATING YOUR STATIONS

- Introduce one new STEAM station daily. Leave that station set up all week. By the end of the week, children will have five stations to explore.



A master set of supply labels for STEAM and your environment, including blank labels for you to use with miscellaneous supplies, can now be found on Member Resources.

STEAM
STATIONS

STEAM stations integrate perfectly with the monthly Experience Preschool Curriculum kits for a comprehensive research-based early learning system. Learn more and start your research-based curriculum today.

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**What shapes can
you use to make
a snowflake?**



**Can you build
a snowman?**



**What happens
when salt
touches ice?**



**Can you build
an igloo?**



**What can you
use to melt ice?**



**What happens
if rocks fall
down mountains?**



**How can you
make your
own paintbrush?**



**How can you
make lines
with string?**



**What would
you take
up a mountain?**



**Would you
rather ski down
a steep mountain
or small hill?**



**How would
you protect
a penguin egg?**



**What animals
might you find
on an iceberg?**



**How tall can you
build a mountain?**



**What patterns
do you see in fur?**



**How might
animals hide in
the snow? Why?**



**How do you
tie a knot?**



**How do animals
use blubber
to stay warm?**



**What can you
build with cubes?**



**Can you
make snowshoes?**



**What happens
when an
iceberg melts?**








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