



Traveling Science Workshops

Liquids & Solids: Ice Cube Adventure Game

Most everything on earth is a solid, a liquid, or a gas. A solid holds its shape unless we do something to it. Solids can be hard like a rock, rigid like a crayon, or flexible like a rubber band. Solids can change shape, but only if something acts on it to make a change.

A liquid is different from a solid. A liquid flows and pours and takes the shape of whatever container it is placed in. A liquid can become a solid when it is frozen. Have you ever made ice by putting water in a container and placing the container in the freezer overnight? Have you ever played with ice cubes and tried to make them melt? Below are directions for a game where the playing pieces are ice cubes! Ask your parents if you can play this game together and make some discoveries about how a solid can become a liquid!

Object of game: Whose ice cube will be the first to melt?

Number of players: 1 to 100 players

Ages: 3 years (with supervision) and up

Supplies

Be sure to ask an adult for help as you gather your supplies.

- Ice cubes (1 per player plus additional 5-8 for “Ice Bath”)
- 3 Bowls (for “Let’s take a Bath,” “Snow Day,” and “Hot Head”)
- A cup, small bowl, or sandwich bag for holding each ice cube in between activities
- A single game die
- Salt shaker
- 1 coin per player
- Warm tap water
- Plastic cover for table top
- A sunny window or lamp
- Printout of Activity Stations Directions Card (below)





Game Set-up

On a plastic-covered table, set up all of the game activity stations:

- “Let’s Take a Bath” = Bowl of warm tap water
- “Salt Shower” = the saltshaker
- “Hot Head” = Bowl of warm tap water with coins placed in it
- “Snow Day” = Bowl of 5-8 ice cubes

Identify a:

- Sunny window or lamp to use for “Sunny Day” activity.
- A shady spot to use for “Rest in the Shade”

How To Play

1. Each player receives an ice cube as a playing piece (placed in a small open container or a plastic sandwich or other bag).
2. The youngest person playing goes first.
3. Depending on the number rolled, players must follow the directions on the activity card. For example, if you roll a 1, you will place your ice cube in the “Snow Day” ice bowl.
4. After each activity, players should mention one thing they noticed about what happened to their ice cube. Each player should try to mention something different than what had already been mentioned. Adults can make helpful prompts such as:

Did the ice cube change in size?

What shape was it before the activity and what shape is it after the activity?

Did this activity make the ice cube bigger? Smaller? No change?

Did the ice cube melt?

How fast or slow did the ice cube melt?

5. The game is played until all of the players ice cubes have melted.
6. At the end of the game together the players must answer the following questions:

Did all the activities make the ice cubes melt?

Did they melt faster during some activities compared with other activities?

Which activity made it melt the fastest? Why do you think that was?

Bonus question: Why would ice melt when you sprinkle salt on top of it?



Share your discoveries with us!

We want to know about your Ice Cube Adventure Game. Share your experience with us in any of the following ways:

- Draw a picture
- Take photos of your game
- Write down what happened in the game, what surprised you, what didn't surprise you, or anything else that was fun or interesting about your game.

Then email us at myhomediscoveries@discoveryacton.org, we can't wait to hear from you!

Want even more fun? Check out these resources:

Solids, Liquids and Gas Video

<https://www.youtube.com/watch?v=W8CTuj78RbY>

Melting Crayons Activity <https://www.notimeforflashcards.com/2009/07/melting-crayons.html>

Activity Stations Directions Card

Activity	Rules/Guidelines
(1) "Let's Take a Bath"	Place ice cube in the bowl of warm tap water and leave it undisturbed until your next turn
(2) "Salt Shower"	Shake the salt shaker three times over the top of your ice cube
(3) "Hot Head"	Place 1 hot coin on top of ice cube for 30 seconds or sing "Row Row Row Your Boat" two times.
(4) "Snow Day"	Place ice cube in bowl of ice cubes and leave it undisturbed until your next turn
(5) "Summer's Heat"	Place ice cube in the sun or under the lamp and leave it undisturbed until your next turn
(6) "Rest in the shade"	Place ice cube in a shady spot and leave it undisturbed until your next turn