

# PEANUTS®

## TAKE CARE OF EACH OTHER

### LEARNING IS FUN

Did you know that the science behind getting a paper airplane to fly is the same as the science behind getting a real airplane to fly? Test out your flight skills and take learning to new heights by seeing how far different paper airplanes can soar!

#### **Supplies**

- Paper of any kind
- A tape measure, or other way to measure distance
- A way to mark your start line
- Optional: coins and tape, for added weight

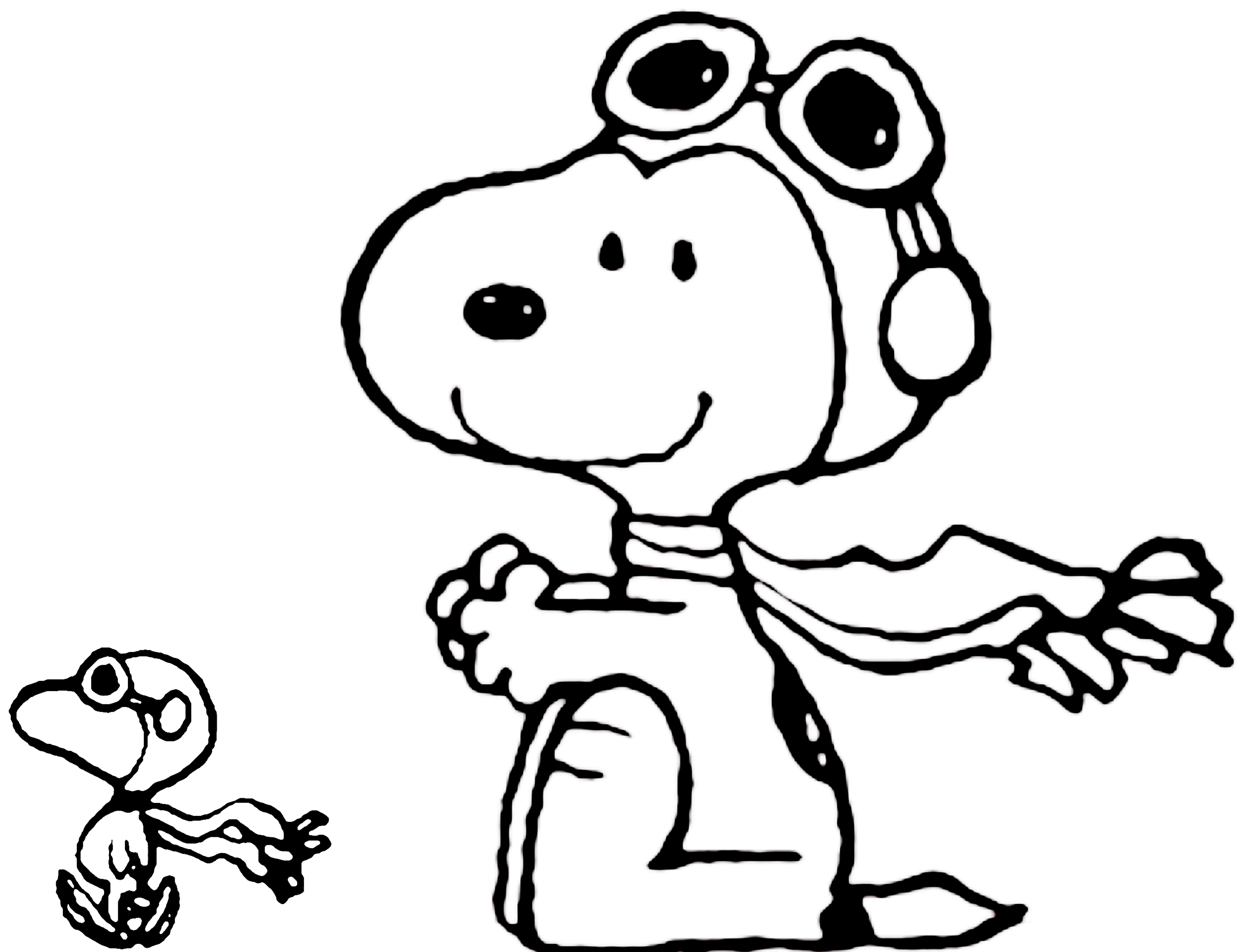


#### **Instructions**

1. Fold one piece of paper into a paper airplane. Use your choice of folding technique, or find new ones online!
2. Make it your own! Once you've folded your airplane, decorate your airplane with the Snoopy and Woodstock cutouts below. Color them to your heart's content!
3. In an open space, mark your start line (be sure not to step over it!) and fly your paper airplane as far as you can. Be aware that if you're outside, wind may affect the flight.
4. Record the distance, and repeat three times. Add those three distances together, and then divide them by three to find the average.
5. Test one is done! Next, try folding another paper airplane using a different technique (try adding an extra fold to the wings, or fold your paper horizontally instead of vertically), or tape some coins to different spots on your airplane to change the weight and see how far it can fly with added cargo. Repeat steps 2 and 3 with your new plane. Did it fly farther, or did it fall faster? Were there any other observations you had?
6. Repeat the above as many times as you want with different folding techniques and/or weight distributions. Don't forget to share what you learned with your friends and family!

#### **Key Terms**

- **Weight:** The force gravity exerts on an object, pulling it down to earth.
- **Lift:** An upward force, such as that created on an airplane's wings as it moves through the air. Lift is generated by thrust.
- **Thrust:** A force in the direction of forward motion, such as that produced by the airplane engines propelling it forward (or in this case, by you throwing your paper airplane!).
- **Drag:** The force that acts in the opposite direction of thrust, such as air resistance, slowing the plane down.





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## LEARNING IS DELICIOUS

Craving a cold treat on a hot day? Using basic household materials and some fun science, you can make ice cream in a bag in the comfort of your own home! This recipe makes one serving, but you can multiply the ingredients by however many servings you need if you want more.

**Disclaimer:** Use adult supervision in the kitchen. For those with allergies, please be advised this recipe contains dairy.

### **Ingredients**

- 1/2 cup half and half, cream, or whole milk
- 1 tablespoon sugar
- 1/4 teaspoon vanilla extract

### **Supplies**

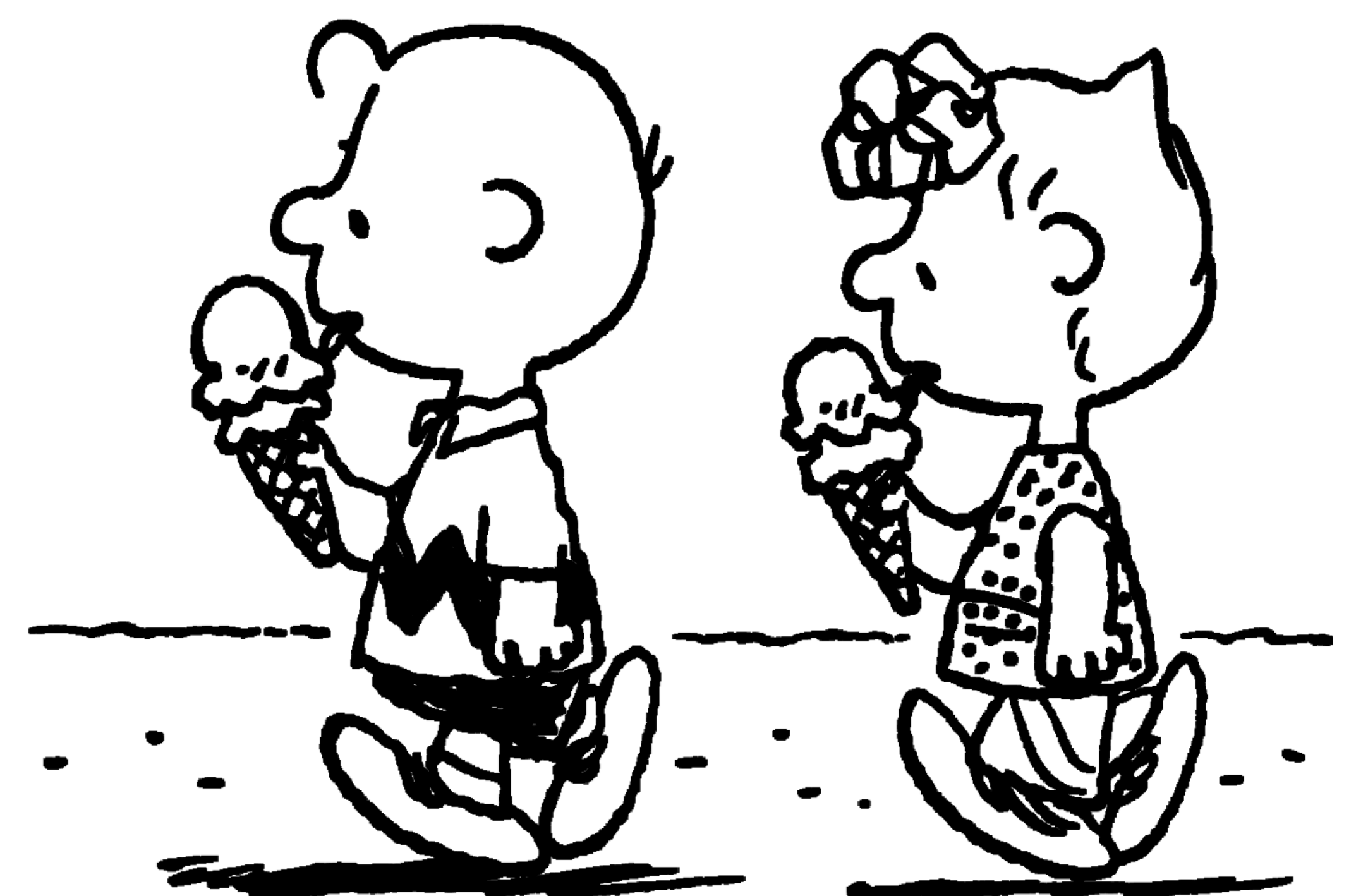
- 1/2 cup salt (larger salt, like rock salt, is best)
- Approx. 5 cups ice
- 2 plastic bags (sandwich-sized)
- 2 plastic bags (gallon-sized)
- Optional: winter gloves/a towel, to keep your hands comfy!

### **Instructions**

1. Pour your 1/2 cup of dairy product into one of the sandwich sized bags
2. Add 1 tablespoon of sugar and 1/4 teaspoon of vanilla extract to the same bag
3. Squeeze out any excess air and seal the bag
4. Smoosh the bag around to mix the ingredients
5. Place this filled bag into your other sandwich-sized bag and seal it to prevent spillage
6. Pour the ice and salt into one of the gallon-sized bags and place the double sandwich bagged ingredients inside
7. Put this gallon bag into the other gallon bag to prevent spillage and to make the cold a little more bearable
8. Optionally, put on some winter gloves or cover the bag with a towel to help with the cold
9. Get shaking! It will take about 5-10 minutes, or more depending on how hard and fast you shake it and how solid you want your ice cream, for the ice cream to form. Feel free to pass the bag to other family members and take turns shaking it if you get tired!
10. Once the ice cream is fairly solid, you're done and ready to serve. Congratulations, you've successfully used science to make your own ice cream! Feel free to add any toppings you'd like, and enjoy.

### **How the Science Works**

Salt lowers the temperature at which ice melts – which is why you put salt on the roads when they're icy, to make it melt quicker in colder weather. As ice melts, it absorbs heat from its surroundings, so in this case the ice and salt mixture absorbs the heat from the ice cream ingredients causing them to cool rapidly and turn into the frozen treat you know and love! The shaking allows this process to happen faster, while also making the ice cream more creamy due to air entering the mixture.





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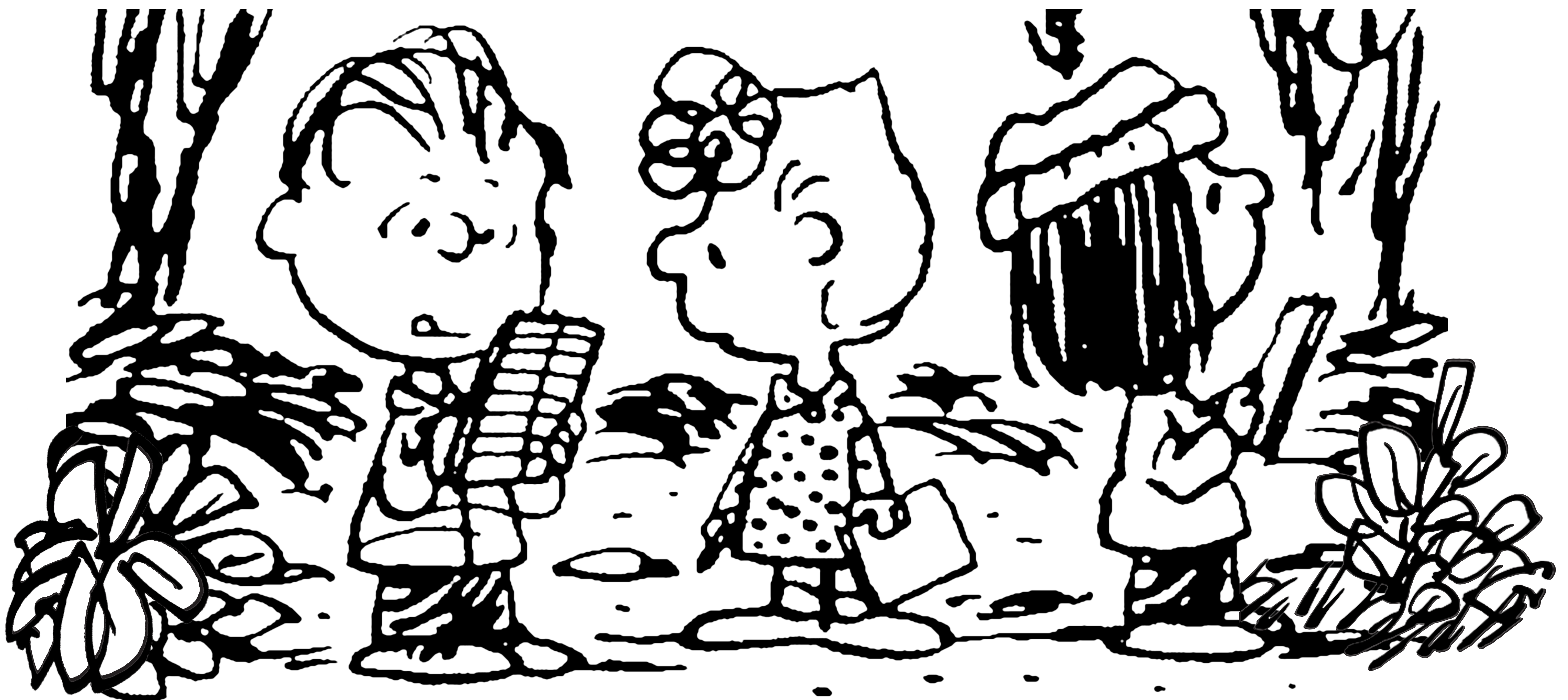
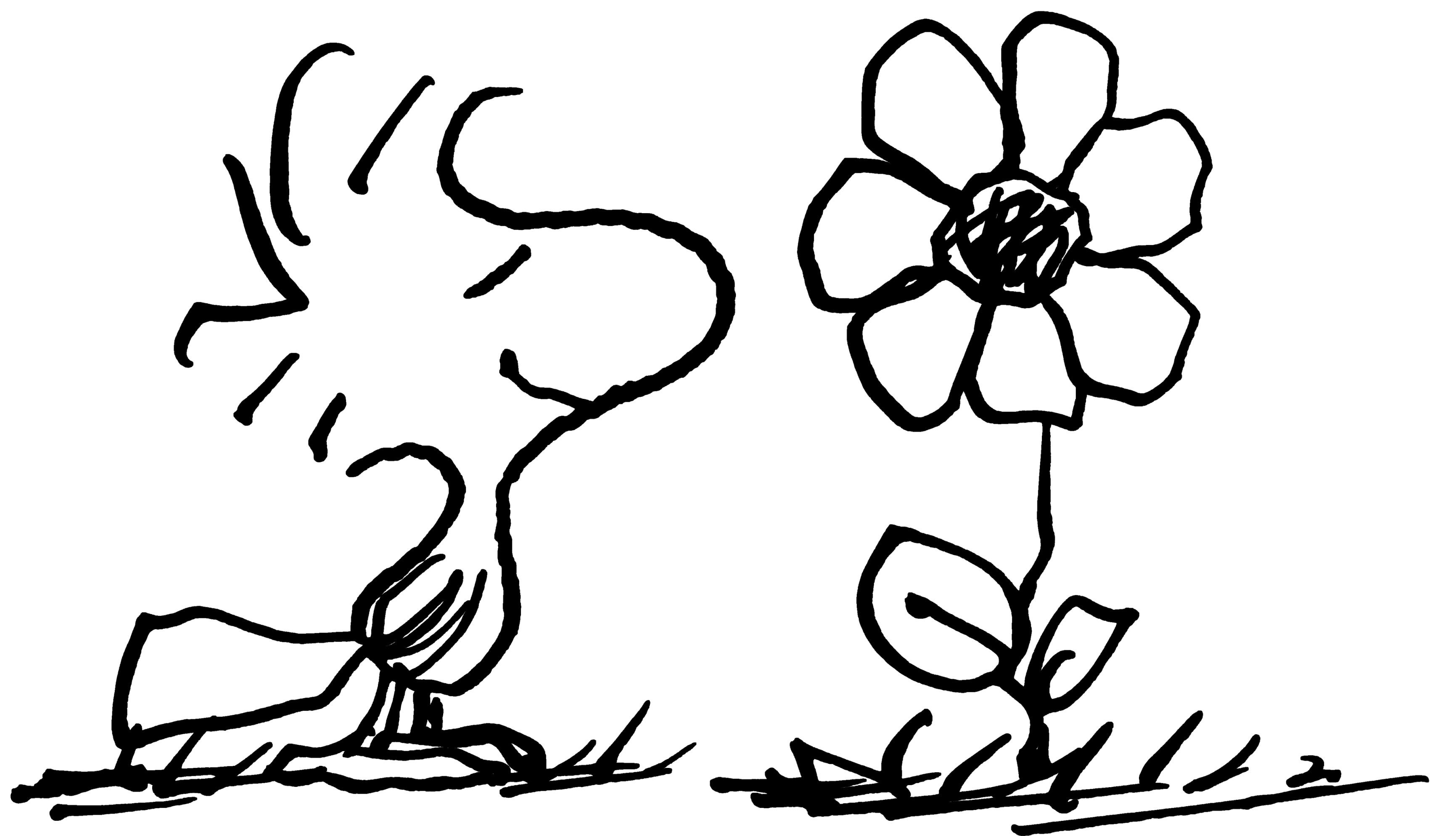
## TAKE CARE OF EACH OTHER

### LEARNING IS EVERYWHERE

No matter where you are, you can always learn something new through nature. Step outside to play or enjoy the fresh air, and find something fun while you're at it with this scavenger hunt! Don't forget to use parental supervision, and never wander off alone.

#### **Find...**

- One set of animal tracks
- Two different types of birds
- Three different types of dirt
- Four different types of bugs
- Five different types of plants
- Six different colored, shaped, or textured rocks
- Seven things you find beautiful
- Eight different looking fallen leaves
- Nine clouds that are shaped like something
- Ten things you've never noticed before





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## DISCOVERY DOODLES

Use this page to draw your favorite finds, and turn your creations into a nature book!