

COOKING SKILLS

Cooking Skills: Ice Cream 1

Ice cream at home without a machine: no-churn, custard, sorbet, frozen yogurt, swirls and mix-ins, serving and a sundae party.

8 Chapters

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COOKING SKILLS: ICE CREAM 1

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Cooking Skills: Ice Cream 1

Chapter 1 · How Ice Cream Works

SKILL GOAL

Understand what makes ice cream smooth or icy and make four simple ice creams without a machine.

Shopping list for this chapter

The basics

Ice cream is a mix of **fat, sugar, water and air** frozen so that the water forms **tiny ice crystals**. Big crystals feel icy and hard; tiny ones feel smooth and creamy. Everything in this chapter, from the cream to the stirring, is about keeping the crystals small.



Figure 1. Smooth ice cream has tiny ice crystals. Fat, sugar, air, speed and stirring all help.

The five things that matter

FACTOR	WHAT IT DOES	IF YOU GET IT WRONG
Fat (cream)	Coats the ice crystals and makes the texture rich	Low-fat mixes taste thin and freeze icy
Sugar	Lowers the freezing point so the ice cream stays soft	Too little: rock hard. Too much: it never sets
Air	Makes it lighter and easier to scoop	Too little air: dense and heavy

FACTOR	WHAT IT DOES	IF YOU GET IT WRONG
Speed	Fast freezing makes small crystals	A slow freeze makes big, crunchy crystals
Stirring	Breaks up crystals while it freezes	No stirring: a solid block

Equipment

- **A freezer-safe tub with a lid.** Shallow and wide freezes faster than deep and narrow.
- **A whisk and a spatula.** An electric hand whisk saves your arm when whipping cream.
- **Optional:** an ice cream machine. Freeze the bowl for 24 hours first and churn for 20 to 30 minutes. Everything here also works without one.
- **A freezer at -18°C or colder.** A thermometer in the freezer tells you.

FREEZER, ALLERGENS AND SMALL CHILDREN

Freezer storage: keep the freezer at -18°C or colder, store ice cream in a covered, labelled container, and eat it within about a month for the best taste and texture (general guidance). Don't refreeze ice cream that has melted completely, and throw it away if it has been left out for hours.

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

Small children: hard lumps, frozen fruit pieces and nuts can be a choking risk for very young children, so keep pieces small and sit with them while they eat.

Try it

LEVEL 1 · START HERE

Simple vanilla no-churn ice cream

10 minutes plus 6 hours freezing | 4 to 6 portions

freezing a whipped base so it stays smooth without a machine

Three ingredients and no machine. Whipped cream holds the air, condensed milk adds sugar and thickness, and together they freeze soft and scoopable. This one recipe teaches most of what ice cream is.

INGREDIENTS (5 PORTIONS)

300 ml	double cream, well chilled
200 g	sweetened condensed milk, chilled
1 tsp	vanilla extract or vanilla paste
1	shallow freezer-safe tub with a lid

1. Chill the bowl and whisk for 15 minutes if you can. Pour the cold cream into the bowl and whisk until it holds **soft peaks** (it makes a floppy peak when you lift the whisk).
2. In another bowl, stir the condensed milk and vanilla together.
3. Fold a large spoonful of the whipped cream into the condensed milk to loosen it, then fold in the rest gently with a spatula, keeping as much air as you can.
4. Spoon into the shallow tub, smooth the top, cover and freeze for **at least 6 hours** (overnight is best). Let it stand for 5 minutes before scooping.

FREEZER, ALLERGENS AND HYGIENE

Freezer storage: keep the freezer at -18°C or colder, store ice cream in a covered, labelled container, and eat it within about a month for the best taste and texture (general guidance). Don't refreeze ice cream that has melted completely, and throw it away if it has been left out for hours.

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

> **Whipping cream:** use clean bowls and whisks and keep the cream cold until you use it.

LEVEL 1 · BY HAND

Stir-by-hand vanilla ice cream

10 minutes plus 4 hours freezing and stirring | 4 portions

breaking up ice crystals by stirring as the ice cream freezes

No custard, no machine and no condensed milk: just milk, cream and sugar, stirred as it freezes. It is icier than the no-churn version, and that shows you why stirring matters.

INGREDIENTS (4 PORTIONS)

300 ml	whole milk, cold
150 ml	double cream
80 g	caster sugar
1 tsp	vanilla extract or vanilla paste
1	shallow freezer-safe tub with a lid and a fork or small whisk

1. Stir the sugar into the cold milk and cream for 2 to 3 minutes until it has completely dissolved (rub a drop between your fingers: there should be no grittiness). Add the vanilla.
2. Pour into the tub, cover and put in the freezer.
3. After **45 minutes**, take it out and beat the frozen edges into the middle with a fork or whisk until smooth. Return it to the freezer.
4. Repeat the beating every 30 to 45 minutes, 3 or 4 times in all, until it is thick and scoopable, about **3 to 4 hours** in total.

FREEZER AND ALLERGENS

Freezer storage: keep the freezer at -18°C or colder, store ice cream in a covered, labelled container, and eat it within about a month for the best taste and texture (general guidance). Don't refreeze ice cream that has melted completely, and throw it away if it has been left out for hours.

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and

never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

LEVEL 2 · FRUIT ONLY

Banana nice cream

10 minutes plus freezing the bananas | 2 portions | using frozen fruit as the base

Frozen ripe bananas blend into something very like soft-serve ice cream, with no cream and no added sugar. It is the quickest ice cream there is, and it must be eaten soon after it is made.

INGREDIENTS (2 PORTIONS)

3	ripe bananas, sliced, frozen for at least 4 hours
1 tbsp	milk or plant milk, if needed
1 tsp	vanilla extract (optional)

1. Slice the bananas and freeze them in a single layer on a tray for at least 4 hours, then pack into a bag.
2. Put the frozen slices in a food processor or a strong blender and blend, scraping down the sides, for 2 to 3 minutes. They crumble first, then suddenly turn smooth and creamy.
3. Add the milk only if it will not blend. Eat at once as soft-serve, or freeze for 30 minutes to firm up.

BLENDER AND KEEPING

Blender safety: don't put your hand or a spoon into the blender while it is running, and let a hot machine rest if the motor smells warm.

Keeping: nice cream is best eaten the day it is made. It freezes hard and icy if stored for long.

Small children: hard lumps, frozen fruit pieces and nuts can be a choking risk for very young children, so keep pieces small and sit with them while they eat.

LEVEL 3 · RIPPLE

A quick raspberry ripple

15 minutes plus re-freezing | 4 to 6 portions | adding a ripple without mixing it in

A ripple is a sauce folded in only a couple of times, so it stays in streaks. A thick, cold sauce is the secret: a thin sauce just turns the ice cream pink.

INGREDIENTS (5 PORTIONS)

1 batch vanilla no-churn ice cream from the first recipe (or a tub of shop-bought vanilla), softened for 10 minutes

150 g raspberries (fresh, or frozen and boiled for a minute, then cooled)

2 tbsp caster sugar

1. Crush the raspberries with the sugar in a pan and simmer for 5 minutes until thick. Rub through a sieve if you want no seeds, and cool completely, then chill.
2. Put half the softened ice cream in a clean tub, drizzle over half the sauce, then add the rest of the ice cream and the sauce.
3. Draw a knife or skewer through the mixture **twice** only, in a figure of eight. Don't stir.
4. Cover and freeze for at least 3 hours before serving.

> **FRUIT AND FREEZER**
>
> **Fruit:** wash fresh fruit before use. If you use frozen berries, heat them until boiling and simmer for a minute before using them cold, as is usual UK advice for frozen berries (general guidance: check the pack).
>
> **Hot sugar syrup and custard:** sugar syrup is much hotter than boiling water and sticks to skin, so keep the pan handle turned in and don't touch it. Don't let anything boil over, and keep children away from the hob.
>
> **Freezer storage:** keep the freezer at -18°C or colder, store ice cream in a covered, labelled container, and eat it within about a month for the best taste and texture (general guidance). Don't refreeze ice cream that has melted completely, and throw it away if it has been left out for hours.

Experiments

EXPERIMENT

Freezer set time

2, 4 and 6 hours.

1. Make the no-churn ice cream and put three small portions in three tubs. Test one after 2 hours, one after 4 and one after 6.

Look for: At 2 hours it is soft and sloppy, at 4 hours it is soft-serve, and at 6 hours it is scoopable. Write down the time that suits you.

EXPERIMENT

Stirring or not

Two tubs, one mix.

1. Make the stir-by-hand mix. Freeze half in a tub with no stirring and half with stirring as in the recipe.

Look for: The unstirred half freezes into a hard, icy block that is difficult to scoop. The stirred half is far smoother. This is why ice cream makers churn.

EXPERIMENT

Sugar amount

Less, more.

1. Make three small batches of the stir-by-hand mix with 30 g, 60 g and 90 g of sugar to 300 ml of liquid. Freeze overnight.

Look for: The least sugar freezes the hardest and tastes bland. The most sugar stays softest and can taste too sweet. Find the amount you like.

EXPERIMENT

Container shape

Wide or deep.

1. Freeze the same amount of mix in a shallow wide tub and in a deep narrow one. Check them after 3 hours.

Look for: The shallow tub is firmer and set sooner because more of the mix is near the cold. The deep tub is still soft in the middle.

Tasting notes

WHAT I TRIED	METHOD OR AMOUNT	WHAT I SAW	WHAT I THOUGHT	WILL I DO IT AGAIN?
No-churn vanilla				
Stir-by-hand vanilla				
Banana nice cream				
Raspberry ripple				
Set time				
Stirring or not				
Sugar amount				
Container shape				

Troubleshooting

PROBLEM	LIKELY CAUSE	WHAT TO DO
Icy, crunchy ice cream	Slow freeze, no stirring or not enough fat	Use a shallow tub; stir during freezing; use full-fat cream
Rock hard	Too little sugar	Add more sugar next time; stand it for 10 minutes before scooping

PROBLEM	LIKELY CAUSE	WHAT TO DO
Won't set	Too much sugar or alcohol, or the freezer isn't cold	Check the freezer is -18°C; use less sugar
Heavy and dense	Cream under-whipped or knocked flat	Whip to soft peaks and fold gently
Grainy sugar	Sugar didn't dissolve	Stir the sugar in until dissolved, or warm gently and cool
Pink all over (ripple)	Sauce too thin or mixed in	Thicken and chill the sauce; fold only twice

FREEZER AND ALLERGENS

Freezer storage: keep the freezer at -18°C or colder, store ice cream in a covered, labelled container, and eat it within about a month for the best taste and texture (general guidance). Don't refreeze ice cream that has melted completely, and throw it away if it has been left out for hours.

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

CHECKPOINT: CAN YOU DO THIS NOW?

- ☐ I can explain why ice cream goes icy.
- ☐ I can whip cream to soft peaks and fold it gently.
- ☐ I can make ice cream with no machine.
- ☐ I can swirl in a ripple without mixing it away.
- ☐ I store ice cream covered at -18°C.

NEXT CHAPTER

Cooking Skills: Ice Cream 1, chapter 2 is No-Churn Ice Cream: four flavours from one easy method.

Cooking Skills: Ice Cream 1

Chapter 2 · No-Churn Ice Cream

SKILL GOAL

Make a no-churn base and turn it into four flavours by whipping, folding and rippling.

Shopping list for this chapter

The basics

No-churn ice cream gets its smoothness from **whipped cream** (the air) and **sweetened condensed milk** (the sugar and the body). The base is always the same: cream whipped to soft peaks and folded into condensed milk. Flavours are stirred in before the cream or folded in at the end.

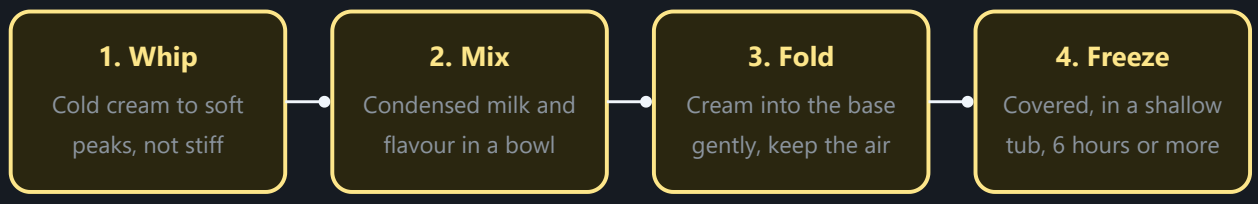


Figure 2. The no-churn method. The air in the whipped cream does the work a machine would do.

The method

- **Chill everything:** cold cream whips faster and holds more air.
- **Whip to soft peaks, not stiff:** over-whipped cream turns grainy and buttery when folded.
- **Fold gently:** use a big spatula and slow strokes. Stirring knocks the air out and makes a heavy ice cream.
- **Add flavour to the condensed milk,** not to the whipped cream, so that it mixes in smoothly.
- **Freeze in a shallow tub** for 6 hours or more, covered.

Flavours that work and ones that need care

ADD	HOW	WATCH OUT FOR
Cocoa or chocolate	Dissolve cocoa in hot water, cool; or melt chocolate and cool	Hot mix melts the cream
Fruit	Cook down to a thick sauce and cool	Raw fruit freezes to ice
Biscuits and cookies	Crush and fold in last	They soften: add late
Coffee	Dissolve instant coffee in 1 tsp hot water and cool	Decaf for the evening
Alcohol	Not used in this course	Too much stops it freezing

ALLERGENS AND FREEZER

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

Freezer storage: keep the freezer at -18°C or colder, store ice cream in a covered, labelled container, and eat it within about a month for the best taste and texture (general guidance). Don't refreeze ice cream that has melted completely, and throw it away if it has been left out for hours.

Eggs: use eggs with the British Lion mark and wash your hands after handling raw egg. This course never serves raw egg: custards are cooked, and the no-churn and sorbet recipes have none. Pregnant women, babies, older people and anyone unwell should check current FSA advice before eating egg dishes, even cooked custard.

Try it

LEVEL 1 · START HERE

Vanilla no-churn ice cream (the base recipe)

10 minutes plus 6 hours freezing | 4 to 6 portions | whipping and folding to keep the air in

Every no-churn flavour is this base plus something extra. Make it carefully once and the rest are easy. A pinch of salt makes the vanilla taste stronger.

INGREDIENTS (5 PORTIONS)

300 ml	double cream, well chilled
200 g	sweetened condensed milk
1 tsp	vanilla extract or paste (or the seeds of half a vanilla pod)
1 pinch	salt

1. Whip the cold cream to **soft peaks**.
2. Stir the condensed milk, vanilla and salt in a large bowl.
3. Fold in the cream in two or three additions with a large spatula, cutting down the middle and lifting up, until just combined.
4. Pour into a shallow tub, cover and freeze for **at least 6 hours**.

> **FREEZER AND ALLERGENS**
>
> **Freezer storage:** keep the freezer at -18°C or colder, store ice cream in a covered, labelled container, and eat it within about a month for the best taste and texture (general guidance). Don't refreeze ice cream that has melted completely, and throw it away if it has been left out for hours.
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LEVEL 1 · FLAVOUR

Chocolate no-churn ice cream

15 minutes plus 6 hours freezing | 4 to 6 portions | adding a flavour to the base without losing the air

Cocoa powder needs dissolving in a little hot water first, or it makes grainy specks. Cool the paste fully before mixing into the base, or it will melt the whipped cream.

INGREDIENTS (5 PORTIONS)

1 batch	base recipe
3 tbsp	cocoa powder, sifted
3 tbsp	hot water
50 g	dark chocolate chips or chopped dark chocolate (optional)

1. Whisk the cocoa with the hot water in a small bowl to a smooth paste. Let it cool completely.
2. Stir the cocoa paste into the condensed milk mixture from the base recipe until smooth.
3. Whip the cream and fold it in as before. Fold in the chocolate chips for the last few strokes.
4. Freeze in a shallow tub for at least 6 hours.

FREEZER, ALLERGENS AND SMALL CHILDREN

Freezer storage: keep the freezer at -18°C or colder, store ice cream in a covered, labelled container, and eat it within about a month for the best taste and texture (general guidance). Don't refreeze ice cream that has melted completely, and throw it away if it has been left out for hours.

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

Small children: hard lumps, frozen fruit pieces and nuts can be a choking risk for very young children, so keep pieces small and sit with them while they eat.

LEVEL 2 · RIPPLE

Strawberry ripple

25 minutes plus 6 hours freezing | 4 to 6 portions | cooking fruit to a thick ripple that streaks cleanly

Raw strawberries are full of water and freeze to ice, so the fruit is cooked down first into a thick, jammy sauce. Cool it completely and chill it before you ripple.

INGREDIENTS (5 PORTIONS)

1 batch	base recipe
250 g	strawberries, hulled and chopped
2 tbsp	caster sugar
1 tsp	lemon juice

1. Simmer the strawberries with the sugar and lemon juice for 8 to 10 minutes, mashing, until thick and jammy. Cool, then chill for at least 1 hour.
2. Make the base recipe and spoon half into a tub.
3. Drizzle over half the sauce, add the rest of the base, then the rest of the sauce.
4. Draw a knife through **twice** to ripple. Cover and freeze for at least 6 hours.

> **HOT SUGAR, FRUIT AND FREEZER**
>
> **Hot sugar syrup and custard:** sugar syrup is much hotter than boiling water and sticks to skin, so keep the pan handle turned in and don't touch it. Don't let anything boil over, and keep children away from the hob.
>
> **Fruit:** wash fresh fruit before use. If you use frozen berries, heat them until boiling and simmer for a minute before using them cold, as is usual UK advice for frozen berries (general guidance: check the pack).
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> **Freezer storage:** keep the freezer at -18°C or colder, store ice cream in a covered, labelled container, and eat it within about a month for the best taste and texture (general guidance). Don't refreeze ice cream that has melted completely, and throw it away if it has been left out for hours.

LEVEL 2 · MIX-IN

Cookies and cream

15 minutes plus 6 hours freezing | 4 to 6 portions | folding in crunchy pieces without making them soggy

Cookie pieces soften in the ice cream, so keep some in big chunks for texture and let some crumble to colour the base. Don't fold them in until the last moment.

INGREDIENTS (5 PORTIONS)

1 batch	base recipe
8	chocolate sandwich cookies, roughly crushed (check the label for allergens)
1 tbsp	milk, if needed

1. Make the base recipe up to the end of folding in the cream.
2. Crush the cookies in a bag with a rolling pin into a mix of crumbs and chunks.
3. Fold three quarters of the cookies into the base with 3 or 4 strokes. Spoon into the tub and scatter the rest on top and press in lightly.
4. Cover and freeze for at least 6 hours.

> ALLERGENS AND SMALL CHILDREN
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Experiments

EXPERIMENT

Soft or stiff peaks

Whipping stage.

1. Make two small batches of the base, one with cream whipped to soft peaks and one to stiff peaks. Freeze overnight.

Look for: Soft peaks give a smooth, creamy ice cream. Stiff peaks give a heavier, slightly buttery, less smooth one. Stop whipping sooner than you think.

EXPERIMENT

Condensed milk amount

More or less sweet.

1. Make three small batches with 150 g, 200 g and 250 g of condensed milk per 300 ml of cream.

Look for: Less condensed milk gives a firmer, less sweet ice cream that freezes harder. More gives a sweeter, softer one. Choose your balance.

EXPERIMENT

Folding or stirring

Technique.

1. Fold one batch gently and stir another vigorously with a whisk.

Look for: The folded batch is light and airy; the stirred batch is denser and heavier. This is why folding matters.

EXPERIMENT

Freezing time

6 or 12 hours.

1. Test a spoonful of the base after 6 hours and after 12 hours.

Look for: At 6 hours it is soft and scoopable; at 12 it is firmer. Overnight is the safest. Stand it for 5 to 10 minutes before scooping.

Tasting notes

WHAT I TRIED	METHOD OR AMOUNT	WHAT I SAW	WHAT I THOUGHT	WILL I DO IT AGAIN?
Vanilla				
Chocolate				
Strawberry ripple				
Cookies and cream				
Soft or stiff peaks				
Condensed milk amount				
Fold or stir				
Freezing time				

Troubleshooting

PROBLEM	LIKELY CAUSE	WHAT TO DO
Heavy, dense	Over-stirred or under-whipped cream	Whip to soft peaks; fold gently
Grainy or buttery	Cream over-whipped	Stop at soft peaks

PROBLEM	LIKELY CAUSE	WHAT TO DO
Specks of cocoa	Cocoa not dissolved	Make a paste with hot water first and sift
Icy ripple	Sauce too thin or watery	Cook the fruit until thick; chill before rippling
Soggy cookies	Mixed in too early	Fold in at the last moment; scatter some on top
Too sweet	Too much condensed milk	Cut back; add a pinch of salt or a squeeze of lemon

FREEZER AND ALLERGENS

Freezer storage: keep the freezer at -18°C or colder, store ice cream in a covered, labelled container, and eat it within about a month for the best taste and texture (general guidance). Don't refreeze ice cream that has melted completely, and throw it away if it has been left out for hours.

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

CHECKPOINT: CAN YOU DO THIS NOW?

- ☐ I can whip cream to soft peaks and stop.
- ☐ I can fold a base gently so it stays airy.
- ☐ I can add a flavour without making it grainy or icy.
- ☐ I can cook fruit down to a thick ripple.
- ☐ I stand ice cream before scooping.

NEXT CHAPTER

Cooking Skills: Ice Cream 1, chapter 3 is Custard-Base Ice Cream: cooking a custard safely for a richer, smoother result.

Cooking Skills: Ice Cream 1

Chapter 3 · Custard-Base Ice Cream

SKILL GOAL

Cook a custard safely, chill it and freeze it into four rich custard-based ice creams.

Shopping list for this chapter

The basics

Custard ice cream starts with a **cooked custard**: milk, cream, egg yolks and sugar heated gently until they thicken. The yolks act as an emulsifier, holding the fat and water together, which is why custard ice cream is richer and smoother than no-churn. Cooking the eggs also makes it safe: there is no raw egg.

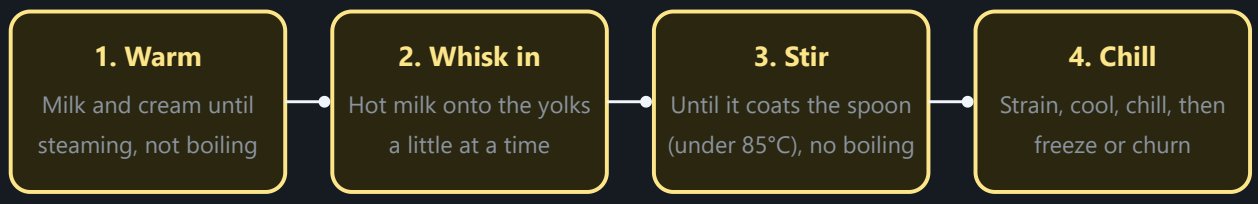


Figure 3. The custard method. Stop before it reaches 85°C and it will not scramble.

The method

- **Warm the milk first,** and add it to the yolks slowly so they warm gradually rather than curdling.
- **Cook low and stir constantly,** in a clean pan, until it coats the back of a spoon. A finger drawn across the spoon should leave a clear line.
- **Never boil:** above about 85°C the egg scrambles. If it starts to lump, take it off the heat at once and whisk or blend it, then strain.

- **Strain and cool fast,** then chill for at least 4 hours: a very cold base freezes with smaller crystals.
- **Spare whites:** freeze them or use them for meringues (Cooking Skills: Eggs 2).

STAGE	WHAT YOU SEE	WHAT TO DO
Warm	Steaming, small bubbles at the edge	Turn off before it boils
Thickening	Slightly thicker, glossy; coats the spoon	Take it off the heat; strain
Too far	Small lumps or a curdled look	Whisk or blend hard; strain; use the ice cream anyway

CUSTARD, EGGS, HOT MILK AND ALLERGENS

Cooking the custard: stir constantly over a low heat until it coats the back of a spoon and leaves a clear line when you draw a finger across it. With a thermometer this is about **75 to 80°C**, and it must never go above about 85°C or the eggs scramble (general guidance). Never boil it. Strain it and cool it quickly: stand the bowl in iced water, and refrigerate within about 1 hour. Cooked custard ice cream is best eaten within about **1 week** (general guidance). Check current FSA advice if serving to pregnant women or other vulnerable people.

Eggs: use eggs with the British Lion mark and wash your hands after handling raw egg. This course never serves raw egg: custards are cooked, and the no-churn and sorbet recipes have none. Pregnant women, babies, older people and anyone unwell should check current FSA advice before eating egg dishes, even cooked custard.

Hot sugar syrup and custard: sugar syrup is much hotter than boiling water and sticks to skin, so keep the pan handle turned in and don't touch it. Don't let anything boil over, and keep children away from the hob.

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

Try it

LEVEL 1 · START HERE

Vanilla custard ice cream

45 minutes plus chilling and freezing | 5 portions | making a custard that thickens but does not scramble

The classic: milk and cream, egg yolks and sugar, cooked gently into a custard, chilled and frozen. The yolks make it richer and smoother, and they hold the air and the water together so the crystals stay tiny.

INGREDIENTS (5 PORTIONS)

300 ml	whole milk
200 ml	double cream
4	Lion-marked egg yolks
75 g	caster sugar
1 tsp	vanilla extract or paste (or half a vanilla pod, split and scraped)
1 pinch	salt

1. Heat the milk and cream (with the vanilla pod, if using) in a pan until just steaming. Don't boil.
2. In a bowl whisk the yolks, sugar and salt together for 1 to 2 minutes until pale. Pour the hot milk onto the yolks **a little at a time**, whisking, so the yolks warm gently.
3. Pour it all back into the clean pan and stir over a low heat for **5 to 8 minutes** until it coats the back of the spoon (75 to 80°C). Don't let it boil.
4. Strain through a sieve into a bowl, add the vanilla extract, and stand the bowl in iced water, stirring, until cool. Cover and chill for at least 4 hours or overnight.
5. Freeze in a shallow tub, beating it every 30 to 45 minutes 3 or 4 times (about 4 hours), or churn in a machine for 20 to 30 minutes and freeze to firm up.

CUSTARD, HOT MILK, EGGS AND ALLERGENS

Cooking the custard: stir constantly over a low heat until it coats the back of a spoon and leaves a clear line when you draw a finger across it. With a thermometer this is about **75 to 80°C**, and it must never go above about 85°C or the eggs scramble (general guidance). Never boil it. Strain it and cool it quickly: stand the bowl in iced water, and refrigerate within about 1 hour. Cooked custard ice cream is best eaten within about **1 week** (general guidance). Check current FSA advice if serving to pregnant women or other vulnerable people.

Eggs: use eggs with the British Lion mark and wash your hands after handling raw egg. This course never serves raw egg: custards are cooked, and the no-churn and sorbet recipes have none. Pregnant women, babies, older people and anyone unwell should check current FSA advice before eating egg dishes, even cooked custard.

Hot sugar syrup and custard: sugar syrup is much hotter than boiling water and sticks to skin, so keep the pan handle turned in and don't touch it. Don't let anything boil over, and keep children away from the hob.

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

LEVEL 2 · FLAVOUR

Chocolate custard ice cream

50 minutes plus chilling and freezing | 5 portions | melting chocolate into a hot custard

Chocolate goes into the hot, strained custard and melts smoothly. The cocoa adds depth. This is a rich, dark ice cream that does not need many extras.

INGREDIENTS (5 PORTIONS)

1 batch	vanilla custard base (without the vanilla)
100 g	dark chocolate (about 70%), finely chopped
2 tbsp	cocoa powder, sifted
1 tsp	vanilla extract

1. Make the custard as above, but add the cocoa powder to the milk while heating and whisk smooth.
2. Strain the cooked custard over the chopped chocolate and stir until completely melted and smooth. Add the vanilla.
3. Cool in iced water, cover and chill for at least 4 hours.
4. Freeze with beating or churning, as before.

CUSTARD, EGGS AND ALLERGENS

Cooking the custard: stir constantly over a low heat until it coats the back of a spoon and leaves a clear line when you draw a finger across it. With a thermometer this is about **75 to 80°C**, and it must never go above about 85°C or the eggs scramble (general guidance). Never boil it. Strain it and cool it quickly: stand the bowl in iced water, and refrigerate within about 1 hour. Cooked custard ice cream is best eaten within about **1 week** (general guidance). Check current FSA advice if serving to pregnant women or other vulnerable people.

Chocolate: chop it small so it melts fast in the hot custard, and check labels, as many dark chocolates contain soy and milk.

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and

> never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

LEVEL 2 · FLAVOUR

Coffee custard ice cream

50 minutes plus chilling and freezing | 5 portions | infusing a strong flavour into a custard

Dissolve the coffee in a spoonful of hot water, then stir it into the hot custard so it blends fully. Keep the sugar the same: coffee tastes bitter if it is under-sweetened.

INGREDIENTS (5 PORTIONS)

1 batch	vanilla custard base
2 tbsp	instant coffee granules (decaf if you like)
1 tbsp	hot water
1	pinch of salt

1. Make the custard as in the vanilla recipe, leaving out the vanilla.
2. Dissolve the coffee in the hot water and stir it into the strained, hot custard. Taste: it should be pleasantly bitter, not harsh.
3. Cool in iced water and chill for at least 4 hours.
4. Freeze with beating or churning.

CUSTARD, EGGS AND CAFFEINE

Cooking the custard: stir constantly over a low heat until it coats the back of a spoon and leaves a clear line when you draw a finger across it. With a thermometer this is about **75 to 80°C**, and it must never go above about 85°C or the eggs scramble (general guidance). Never boil it. Strain it and cool it quickly: stand the bowl in iced water, and refrigerate within about 1 hour. Cooked custard ice cream is best eaten within about **1 week** (general guidance). Check current FSA advice if serving to pregnant women or other vulnerable people.

Coffee: coffee contains caffeine, so use decaffeinated instant coffee for an evening dessert or for children.

Eggs: use eggs with the British Lion mark and wash your hands after handling raw egg. This course never serves raw egg: custards are cooked, and the no-churn and sorbet recipes have none. Pregnant women, babies, older people and anyone unwell should check current FSA advice before eating egg dishes, even cooked custard.

LEVEL 3 · INFUSION

Honey and ginger custard ice cream

1 hour plus chilling and freezing | 5 portions | infusing the milk with a flavour and sweetening with honey

Warm the milk with sliced ginger and let it infuse for 15 minutes before making the custard: the flavour is gentle and warm. Honey replaces some sugar and adds floral sweetness, and it also keeps the ice cream a bit softer.

INGREDIENTS (5 PORTIONS)

300 ml	whole milk
200 ml	double cream
2 cm	fresh ginger, thinly sliced
½ tsp	ground ginger
4	Lion-marked egg yolks
40 g	caster sugar
4 tbsp	runny honey
1 pinch	salt

1. Heat the milk, cream, sliced ginger and ground ginger until steaming. Turn off the heat, cover and leave for **15 minutes** to infuse. Reheat gently until steaming.
2. Whisk the yolks, sugar and salt, then add the hot, strained milk a little at a time, whisking.
3. Cook over a low heat as before until it coats the spoon (75 to 80°C). Strain and stir in the honey while hot.
4. Cool in iced water, chill for at least 4 hours and freeze with beating or churning.

CUSTARD, EGGS, HONEY AND ALLERGENS

Cooking the custard: stir constantly over a low heat until it coats the back of a spoon and leaves a clear line when you draw a finger across it. With a thermometer this is about **75 to 80°C**, and it must never go above about 85°C or the eggs scramble (general guidance). Never boil it. Strain it and cool it quickly: stand the bowl in iced water, and refrigerate within about 1 hour. Cooked custard ice cream is best eaten within about **1 week** (general guidance). Check current FSA advice if serving to pregnant women or other vulnerable people.

Honey: don't give honey to babies under 12 months.

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

Experiments

EXPERIMENT

Custard thickness

Just thickened or a little further.

1. Cook a vanilla custard and take a small spoonful off at the moment it first coats the spoon (about 75°C). Cook the rest for another minute and take another. Cool and freeze both.

Look for: The first is thinner and creamy. The second is thicker and richer, but too much more and it starts to curdle. Note the sweet spot.

EXPERIMENT

Yolk amount

3, 4 or 5 yolks.

1. Make small batches of the custard with 3, 4 and 5 yolks per 500 ml of milk and cream.

Look for: More yolks make a richer, denser, more custardy ice cream, while fewer give a lighter, cleaner one. Four is a good middle.

EXPERIMENT

Chill time

1 hour or overnight.

1. Freeze one portion of the custard after 1 hour of chilling and another after chilling overnight.

Look for: The overnight-chilled custard freezes smoother with fewer ice crystals. A warm base freezes slowly and goes icy.

EXPERIMENT

Stir during freezing

Beating or churning.

1. Freeze the custard with 3 or 4 beatings and, in another tub, with none.

Look for: The beaten tub is far smoother. The unstirred one is hard, with a layer of ice. If you have a machine, compare it with a hand-beaten batch.

Tasting notes

WHAT I TRIED	METHOD OR AMOUNT	WHAT I SAW	WHAT I THOUGHT	WILL I DO IT AGAIN?
Vanilla custard				
Chocolate custard				
Coffee custard				
Honey and ginger				
Custard thickness				
Yolk amount				
Chill time				

WHAT I TRIED	METHOD OR AMOUNT	WHAT I SAW	WHAT I THOUGHT	WILL I DO IT AGAIN?
Stirring while freezing				

Troubleshooting

PROBLEM	LIKELY CAUSE	WHAT TO DO
Scrambled custard	Too hot or not stirred	Take off the heat, whisk or blend, strain; cook lower next time
Thin custard	Not cooked enough	Cook a little longer over a low heat, stirring
Icy ice cream	Base not cold enough, or no stirring	Chill overnight; beat or churn
Eggy taste	Over-cooked, or too many yolks	Cook just to coat the spoon; use 4 yolks
Grainy chocolate	Chocolate not fully melted	Chop it small and stir until smooth in the hot custard
Won't freeze hard	Too much sugar or honey	Cut back a little; chill the tub in the freezer first

CUSTARD, EGGS AND ALLERGENS

Cooking the custard: stir constantly over a low heat until it coats the back of a spoon and leaves a clear line when you draw a finger across it. With a thermometer this is about **75 to 80°C**, and it must never go above about 85°C or the eggs scramble (general guidance). Never boil it. Strain it and cool it quickly: stand the bowl in iced water, and refrigerate within about 1 hour. Cooked custard ice cream is best eaten within about **1 week** (general guidance). Check current FSA advice if serving to pregnant women or other vulnerable people.

Eggs: use eggs with the British Lion mark and wash your hands after handling raw egg. This course never serves raw egg: custards are cooked, and the no-churn and sorbet recipes have none. Pregnant women, babies, older people and anyone unwell should check current FSA advice before eating egg dishes, even cooked custard.

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-

containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

CHECKPOINT: CAN YOU DO THIS NOW?

- ☐ I can cook a custard to coat the spoon without scrambling it.
- ☐ I can strain, cool and chill a custard base properly.
- ☐ I can infuse a flavour into the milk.
- ☐ I can freeze custard ice cream with or without a machine.
- ☐ I know why there is no raw egg in my ice cream.

NEXT CHAPTER

Cooking Skills: Ice Cream 1, chapter 4 is Fruit Sorbets: balancing sugar and fruit for a light, dairy-free freeze.

Cooking Skills: Ice Cream 1

Chapter 4 · Fruit Sorbets

SKILL GOAL

Balance fruit, sugar and acid and freeze four dairy-free sorbets by hand.

Shopping list for this chapter

The basics

Sorbet is a **sweetened, frozen fruit purée**, with no milk, cream or eggs. It is light, refreshing and naturally dairy-free. Because it has no fat, the balance of sugar matters even more: too little and it freezes into a solid, icy block; too much and it will not set.

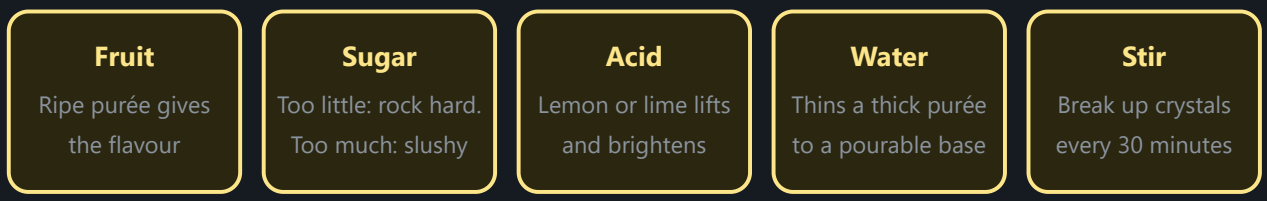


Figure 4. Sorbet is a balance of fruit, sugar, acid and water, then stirred as it freezes.

The method

- **Dissolve the sugar first** in a syrup, so the texture is smooth, not gritty.
- **Taste the base before freezing,** and make it a little sweeter than you want: freezing dulls sweetness.
- **Use ripe fruit.** Freezing mutes flavour, so strong-tasting fruit makes the best sorbet.
- **Add acid** (lemon or lime juice) to brighten the flavour.
- **Chill the base well,** freeze in a shallow tub and beat it with a fork every 30 minutes.
- **Eat it within about a week:** sorbet gets hard and icy as it ages.

FRUIT	SUGAR PER 400 G PURÉE (ROUGH GUIDE)	ACID
Lemon (juice)	150 g with 300 ml water	Already acid
Raspberry	100 g with 100 ml water	1 tbsp lemon juice
Mango	60 g with 100 ml water	2 tbsp lime juice
Strawberry	80 g with 100 ml water	1 tbsp lemon juice

FRUIT, HOT SYRUP AND KEEPING

Fruit: use ripe, flavourful fruit, because freezing dulls flavour and so sorbet needs strong-tasting fruit. Wash fresh fruit and, if using frozen berries, heat them until boiling and simmer for a minute, as is usual UK advice for frozen berries (general guidance: check the pack).

Sugar syrup: to make a simple syrup, stir equal weights of sugar and water in a pan over a low heat until the sugar dissolves, simmer for 1 minute and cool completely. Keep the pan handle turned in: hot syrup scalds badly.

Keeping sorbet: sorbet is best eaten within about a week (it turns hard and icy as it ages). Let it stand for 5 to 10 minutes before scooping, and break it up in a blender or food processor for 20 seconds if it has frozen solid.

Try it

LEVEL 1 · START HERE

Lemon sorbet

20 minutes plus chilling and about 4 hours freezing | 4 portions

making a syrup and balancing sugar and acid

The simplest sorbet: sweet-sour lemon, light and sharp. Dissolving the sugar into a syrup keeps the texture smooth. Taste before freezing: it should taste a little too sweet, because freezing dulls sweetness.

INGREDIENTS (4 PORTIONS)

150 ml	lemon juice (about 4 lemons)
150 g	caster sugar
300 ml	water, divided
1	strip of lemon zest (optional)

1. Heat the sugar with 150 ml of the water (and the zest) over a low heat until the sugar dissolves, then simmer for 1 minute. Cool completely and take out the zest.
2. Stir in the lemon juice and the remaining 150 ml of cold water. Taste: it should be sweet and sharp. Add a little sugar or juice to adjust. Chill for 1 hour.
3. Pour into a shallow tub and freeze, beating with a fork every 30 minutes for about **3 to 4 hours**, until it is a fine, scoopable ice.
4. Let it stand for 5 minutes before scooping.

HOT SYRUP AND KEEPING

Sugar syrup: to make a simple syrup, stir equal weights of sugar and water in a pan over a low heat until the sugar dissolves, simmer for 1 minute and cool completely. Keep the pan handle turned in: hot syrup scalds badly.

Keeping sorbet: sorbet is best eaten within about a week (it turns hard and icy as it ages). Let it stand for 5 to 10 minutes before scooping, and break it up in a blender or food processor for 20 seconds if it has frozen solid.

> **Knife safety:** cut on a stable board (a damp cloth underneath) and tuck your guiding fingertips back (the claw). Cut a banana or mango in a way that gives a flat side to rest on.

LEVEL 1 · PURÉE

Raspberry sorbet

25 minutes plus chilling and freezing | 4 portions | turning a fruit purée into a smooth sorbet

Raspberries make a vivid, intense sorbet. Sieve out the seeds for a smooth texture. The sugar syrup and the lemon juice balance their natural tartness.

INGREDIENTS (4 PORTIONS)

400 g	raspberries (fresh, or frozen and boiled for a minute, then cooled)
100 g	caster sugar
100 ml	water
1 tbsp	lemon juice

1. Make a syrup with the sugar and water, simmer for 1 minute and cool.
2. Blend the raspberries and press through a sieve into a bowl, scraping the pulp and discarding the seeds. Stir in the syrup and lemon juice and taste.
3. Chill for at least 1 hour. Freeze in a shallow tub, beating every 30 minutes, for **3 to 4 hours**.

FRUIT, HOT SYRUP AND KEEPING

Fruit: use ripe, flavourful fruit, because freezing dulls flavour and so sorbet needs strong-tasting fruit. Wash fresh fruit and, if using frozen berries, heat them until boiling and simmer for a minute, as is usual UK advice for frozen berries (general guidance: check the pack).

Sugar syrup: to make a simple syrup, stir equal weights of sugar and water in a pan over a low heat until the sugar dissolves, simmer for 1 minute and cool completely. Keep the pan handle turned in: hot syrup scalds badly.

Keeping sorbet: sorbet is best eaten within about a week (it turns hard and icy as it ages). Let it stand for 5 to 10 minutes before scooping, and break it up in a blender or food processor for 20 seconds if it has frozen solid.

LEVEL 2 · THICK PURÉE

Mango sorbet

25 minutes plus chilling and freezing | 4 portions | using a thick, sweet purée and thinning it with water

Mango is naturally thick and sweet, so it needs less sugar and some water and lime juice to lift it. Use very ripe mango: unripe fruit tastes starchy.

INGREDIENTS (4 PORTIONS)

2	ripe mangoes (about 500 g flesh)
60 g	caster sugar
100 ml	water
2 tbsp	lime juice

1. Peel the mangoes and cut the flesh off the stones. Make a syrup with the sugar and water, simmer for 1 minute and cool.
2. Blend the mango flesh until completely smooth with the syrup and lime juice. Taste and add more lime if it is flat.
3. Chill for 1 hour, then freeze in a shallow tub, beating every 30 minutes for **3 to 4 hours**.

KNIFE, HOT SYRUP AND KEEPING

Knife safety: cut on a stable board (a damp cloth underneath) and tuck your guiding fingertips back (the claw). Cut a banana or mango in a way that gives a flat side to rest on.

Sugar syrup: to make a simple syrup, stir equal weights of sugar and water in a pan over a low heat until the sugar dissolves, simmer for 1 minute and cool completely. Keep the pan handle turned in: hot syrup scalds badly.

Keeping sorbet: sorbet is best eaten within about a week (it turns hard and icy as it ages). Let it stand for 5 to 10 minutes before scooping, and break it up in a blender or food processor for 20 seconds if it has frozen solid.

LEVEL 3 · INFUSION

Strawberry and basil sorbet

35 minutes plus chilling and freezing | 4 portions | infusing a herb into the syrup

Basil and strawberry are a classic pairing. Steep the basil in the hot syrup for just 5 minutes: longer makes it bitter. Strain it out before blending.

INGREDIENTS (4 PORTIONS)

400 g	strawberries, hulled
80 g	caster sugar
100 ml	water
6	basil leaves
1 tbsp	lemon juice

1. Heat the sugar and water until the sugar dissolves and simmer for 1 minute. Take off the heat, add the basil leaves, press them under and leave to infuse for **5 minutes**. Strain and cool.
2. Blend the strawberries to a smooth purée and stir in the cooled syrup and lemon juice. Taste: it should be fruity, with a hint of basil.
3. Chill for 1 hour, then freeze in a shallow tub, beating every 30 minutes for **3 to 4 hours**.

FRUIT, HOT SYRUP AND KEEPING

Fruit: use ripe, flavourful fruit, because freezing dulls flavour and so sorbet needs strong-tasting fruit. Wash fresh fruit and, if using frozen berries, heat them until boiling and simmer for a minute, as is usual UK advice for frozen berries (general guidance: check the pack).

Sugar syrup: to make a simple syrup, stir equal weights of sugar and water in a pan over a low heat until the sugar dissolves, simmer for 1 minute and cool completely. Keep the pan handle turned in: hot syrup scalds badly.

Keeping sorbet: sorbet is best eaten within about a week (it turns hard and icy as it ages). Let it stand for 5 to 10 minutes before scooping, and break it up in a blender or food processor for 20 seconds if it has frozen solid.

Experiments

EXPERIMENT

Sugar amount

Too little, right, too much.

1. Make three small batches of raspberry sorbet with 40 g, 70 g and 100 g of sugar to 400 g of fruit. Freeze them overnight.

Look for: The low-sugar batch is rock hard and tastes sharp. The high-sugar batch is soft, almost slushy, and sweet. The middle batch scoops. Notice the differences.

EXPERIMENT

Stirring or not

Beaten or left.

1. Freeze a lemon sorbet with beating every 30 minutes and another with none.

Look for: The beaten one is fine and scoopable. The unbeaten one is a solid block of coarse ice. Beating (or a machine) is what makes sorbet.

EXPERIMENT

Fruit ripeness

Ripe or under-ripe.

1. Make small batches of mango or strawberry sorbet with a very ripe fruit and a firm one.

Look for: The ripe fruit makes a sweet, fragrant sorbet. The firm one tastes thin and starchy, and no sugar will fix it.

EXPERIMENT

A splash of lemon

With and without.

1. Make the mango sorbet with the lime juice and with none. Taste each.

Look for: Without acid the sorbet is sweet and flat; with it the mango flavour tastes brighter. A little acid lifts nearly every sorbet.

Tasting notes

WHAT I TRIED	METHOD OR AMOUNT	WHAT I SAW	WHAT I THOUGHT	WILL I DO IT AGAIN?
Lemon sorbet				
Raspberry sorbet				
Mango sorbet				
Strawberry and basil				
Sugar amount				
Stirring or not				
Ripe or under-ripe				
With and without lemon				

Troubleshooting

PROBLEM	LIKELY CAUSE	WHAT TO DO
Rock hard	Too little sugar	Add more sugar next time; stand it 10 minutes; blend it briefly
Slushy, won't set	Too much sugar	Add more purée or lemon juice; refreeze
Icy and coarse	No stirring, or slow freeze	Use a shallow tub and beat every 30 minutes

PROBLEM	LIKELY CAUSE	WHAT TO DO
Bland flavour	Under-ripe fruit, no acid	Use ripe fruit and add lemon or lime juice
Seedy	Seeds not sieved out	Press the purée through a sieve
Bitter basil	Infused too long	Infuse for 5 minutes then strain

FRUIT, HOT SYRUP AND KEEPING

Fruit: use ripe, flavourful fruit, because freezing dulls flavour and so sorbet needs strong-tasting fruit. Wash fresh fruit and, if using frozen berries, heat them until boiling and simmer for a minute, as is usual UK advice for frozen berries (general guidance: check the pack).

Sugar syrup: to make a simple syrup, stir equal weights of sugar and water in a pan over a low heat until the sugar dissolves, simmer for 1 minute and cool completely. Keep the pan handle turned in: hot syrup scalds badly.

Keeping sorbet: sorbet is best eaten within about a week (it turns hard and icy as it ages). Let it stand for 5 to 10 minutes before scooping, and break it up in a blender or food processor for 20 seconds if it has frozen solid.

CHECKPOINT: CAN YOU DO THIS NOW?

- ☐ I can make a sugar syrup safely.
- ☐ I can balance fruit, sugar and acid.
- ☐ I can taste a base and adjust it before freezing.
- ☐ I can freeze a sorbet with beating.
- ☐ I eat sorbet within about a week.

NEXT CHAPTER

Cooking Skills: Ice Cream 1, chapter 5 is Frozen Yogurt, Lollies and Quick Frozen Treats: lighter desserts that need no machine.

Cooking Skills: Ice Cream 1

Chapter 5 · Frozen Yogurt, Lollies and Quick Frozen Treats

SKILL GOAL

Make four lighter frozen treats without a machine and understand why they freeze harder than ice cream.

Shopping list for this chapter

The basics

Not every frozen treat needs cream and eggs. **Frozen yogurt, nice cream, bark and lollies** are lighter and quicker, and need no machine. They have less fat, so they freeze harder and are best eaten fresh.



Figure 5. Lighter frozen treats. With little fat, they freeze hard and are best eaten fresh.

What to know

- **Less fat means harder freezing:** beat frozen yogurt as it freezes, and stand it for 10 minutes before scooping.
- **Use thick yogurt:** Greek-style gives creamier results than thin, watery yogurt.
- **Sweeten a little more than you think:** freezing dulls sweetness.
- **Freeze fruit first** for nice cream, in a single layer so it doesn't clump.
- **Eat them soon:** light treats get icy if stored for long.

TREAT	BASE	TIME	KEEPS
Frozen yogurt	Greek yogurt, honey	4 hours	About 1 week
Nice cream	Frozen banana	10 minutes	The same day
Yogurt bark	Yogurt on a tray	2 hours	About 2 weeks
Lollies	Juice and yogurt in moulds	Overnight	About 1 month

FREEZER, HONEY AND SMALL CHILDREN

Freezer storage: keep the freezer at -18°C or colder, store ice cream in a covered, labelled container, and eat it within about a month for the best taste and texture (general guidance). Don't refreeze ice cream that has melted completely, and throw it away if it has been left out for hours.

Honey: don't give honey to babies under 12 months. Use sugar or maple syrup instead for them.

Lollies and sticks: frozen lollies can stick to the tongue and lips, and the sticks can be a hazard to very young children. Supervise small children, and let a lolly soften for a minute first.

Small children: hard lumps, frozen fruit pieces and nuts can be a choking risk for very young children, so keep pieces small and sit with them while they eat.

Try it

LEVEL 1 · START HERE

Vanilla frozen yogurt

10 minutes plus 4 hours freezing and beating | 4 portions | freezing a lower-fat base so it stays scoopable

Tangy, light and easy: just yogurt, honey and vanilla, beaten as it freezes. With less fat than ice cream it sets harder, so beat it well and let it stand before scooping.

INGREDIENTS (4 PORTIONS)

500 g	thick Greek-style yogurt
3 tbsp	runny honey (or sugar or maple syrup)
1 tsp	vanilla extract
1 pinch	salt
1	shallow freezer-safe tub with a lid

1. Whisk the yogurt, honey, vanilla and salt together until smooth. Taste: freezing dulls sweetness, so make it slightly sweeter than you want.
2. Pour into the tub, cover and freeze for **1 hour**, then beat the frozen edges into the middle with a fork.
3. Beat every 30 to 45 minutes, 3 or 4 times in all, until thick and scoopable, about **3 to 4 hours**.
4. Let it stand for 10 minutes before scooping.

FREEZER, HONEY AND ALLERGENS

Freezer storage: keep the freezer at -18°C or colder, store ice cream in a covered, labelled container, and eat it within about a month for the best taste and texture (general guidance). Don't refreeze ice cream that has melted completely, and throw it away if it has been left out for hours.

Honey: don't give honey to babies under 12 months. Use sugar or maple syrup instead for them.

Yogurt: check the label for added sugar, sweeteners and allergens. Thick Greek-style yogurt gives the creamiest result. Dairy-free yogurts work but freeze harder.

Keeping light treats: frozen yogurt, nice cream and lollies have little fat and freeze hard. Eat

> nice cream the day it is made, frozen yogurt within about 1 week and lollies within about a month (general guidance). Stand frozen yogurt for 10 minutes before scooping.

LEVEL 1 · FRUIT ONLY

Berry nice cream

10 minutes plus freezing the fruit | 2 to 3 portions | blending frozen fruit into a soft-serve texture

Frozen banana gives the creamy body and the berries give flavour and colour. Wash fresh berries, dry them and freeze them in a single layer first.

INGREDIENTS (3 PORTIONS)

3	ripe bananas, sliced and frozen
150 g	strawberries or raspberries, washed and frozen
1 tbsp	milk or plant milk, if needed
1 tsp	lemon juice (optional)

1. Freeze the banana slices and the berries separately on a tray for at least 4 hours.
2. Blend the banana slices first, scraping down, until creamy. Add the berries and blend again for 1 to 2 minutes until smooth.
3. Add a spoonful of milk only if the blender stalls. Taste and add lemon juice if it is flat.
4. Eat at once as soft-serve, or freeze for 30 minutes to firm up.

FRUIT, BLENDER AND KEEPING

Fruit: wash fresh fruit before use. If you use frozen berries, heat them until boiling and simmer for a minute before using them cold, as is usual UK advice for frozen berries (general guidance: check the pack).

Blender safety: don't put your hand or a spoon into the blender while it is running.

Keeping light treats: frozen yogurt, nice cream and lollies have little fat and freeze hard. Eat nice cream the day it is made, frozen yogurt within about 1 week and lollies within about a month (general guidance). Stand frozen yogurt for 10 minutes before scooping.

LEVEL 2 · TRAY

Frozen yogurt bark

15 minutes plus 2 hours freezing | 4 to 6 portions | freezing a thin layer on a tray

A thin layer of sweetened yogurt with berries, frozen flat and snapped into pieces. It is the easiest no-machine frozen snack and ideal for a hot day.

INGREDIENTS (5 PORTIONS)

300 g	thick Greek-style yogurt
2 tbsp	runny honey
1 tsp	vanilla extract
100 g	blueberries or raspberries, washed and dried
2 tbsp	toasted chopped nuts or seeds (optional)
1	baking tray lined with baking parchment

1. Mix the yogurt, honey and vanilla. Spread in an even layer about 1 cm thick on the lined tray.
2. Scatter over the berries (press them in lightly) and the nuts.
3. Freeze for **2 hours**, until solid. Snap into pieces and eat straight away, or store in a covered box in the freezer for up to 2 weeks.

FREEZER, HONEY, NUTS AND SMALL CHILDREN

Freezer storage: keep the freezer at -18°C or colder, store ice cream in a covered, labelled container, and eat it within about a month for the best taste and texture (general guidance). Don't refreeze ice cream that has melted completely, and throw it away if it has been left out for hours.

Honey: don't give honey to babies under 12 months. Use sugar or maple syrup instead for them.

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

> **Small children:** hard lumps, frozen fruit pieces and nuts can be a choking risk for very young children, so keep pieces small and sit with them while they eat.

LEVEL 3 · LAYERS

Yogurt and fruit juice lollies

20 minutes plus overnight freezing | 6 lollies | layering two mixtures and freezing them in moulds

Layers of creamy yogurt and bright juice: chill each layer in the freezer for 30 to 40 minutes before adding the next, or the layers run together.

INGREDIENTS (6 PORTIONS)

200 ml	fruit juice (apple, orange or pineapple)
150 g	thick yogurt
100 g	soft fruit (strawberries or mango), puréed
1 tbsp	honey (optional)
6	lolly moulds and sticks (or small paper cups and lolly sticks)

1. Mix the yogurt, puréed fruit and honey. Fill the moulds one third full with the yogurt mixture. Freeze for 30 to 40 minutes.
2. Pour in the juice to two thirds. Freeze for another 30 to 40 minutes, then push in the sticks.
3. Top up with the rest of the yogurt mixture and freeze for at least **6 hours**, preferably overnight.
4. To release, dip the mould in warm water for a few seconds and pull gently.

LOLLIES, HONEY AND SMALL CHILDREN

Lollies and sticks: frozen lollies can stick to the tongue and lips, and the sticks can be a hazard to very young children. Supervise small children, and let a lolly soften for a minute first.

Honey: don't give honey to babies under 12 months. Use sugar or maple syrup instead for them.

Small children: hard lumps, frozen fruit pieces and nuts can be a choking risk for very young children, so keep pieces small and sit with them while they eat.

Freezer storage: keep the freezer at -18°C or colder, store ice cream in a covered, labelled container, and eat it within about a month for the best taste and texture (general guidance).

> Don't refreeze ice cream that has melted completely, and throw it away if it has been left out for hours.

Experiments

EXPERIMENT

Full-fat or low-fat yogurt

Fat makes the difference.

1. Make two small tubs of frozen yogurt, one with Greek yogurt and one with low-fat yogurt. Beat each the same way.

Look for: The Greek yogurt is thicker and creamier. The low-fat one is icier and harder. Fat keeps the crystals small, as in chapter 1.

EXPERIMENT

Honey or sugar

Sweetener type.

1. Make frozen yogurt with honey in one tub and caster sugar in another, using the same weight.

Look for: Honey tastes floral and makes it a little softer. Sugar is cleaner and neutral. Neither is better, but they are different.

EXPERIMENT

Fruit chunk size

Fine or big.

1. Make yogurt bark with finely chopped berries and with whole ones.

Look for: Whole berries freeze rock hard and are unpleasant to bite. Small pieces are easier and spread their flavour. Cut fruit small for frozen treats.

EXPERIMENT

Moulds or a tray

Lolly or bark.

1. Freeze the same yogurt and juice in lolly moulds and spread on a tray. Compare the textures.

Look for: The tray freezes in 2 hours into a thin crisp; the moulds take much longer and set as a solid lolly. Thickness controls freezing time.

Tasting notes

WHAT I TRIED	METHOD OR AMOUNT	WHAT I SAW	WHAT I THOUGHT	WILL I DO IT AGAIN?
Frozen yogurt				
Berry nice cream				
Yogurt bark				
Yogurt and juice lollies				
Full-fat or low-fat				
Honey or sugar				
Fruit chunks				
Moulds or tray				

Troubleshooting

PROBLEM	LIKELY CAUSE	WHAT TO DO
Frozen yogurt rock hard	Low-fat yogurt or no beating	Use Greek yogurt; beat while it freezes; stand 10 minutes

PROBLEM	LIKELY CAUSE	WHAT TO DO
Icy nice cream	Bananas not ripe, or stored too long	Use ripe fruit; eat the same day
Layers mixed in lollies	Layer not frozen first	Freeze each layer for 30 to 40 minutes
Lolly stuck in the mould	Not loosened	Dip the mould in warm water for a few seconds
Bland taste	Not sweet enough	Add a little more honey or lemon juice before freezing
Hard fruit lumps	Pieces too big	Chop berries small, or purée

FREEZER AND SMALL CHILDREN

Freezer storage: keep the freezer at -18°C or colder, store ice cream in a covered, labelled container, and eat it within about a month for the best taste and texture (general guidance). Don't refreeze ice cream that has melted completely, and throw it away if it has been left out for hours.

Lollies and sticks: frozen lollies can stick to the tongue and lips, and the sticks can be a hazard to very young children. Supervise small children, and let a lolly soften for a minute first.

Small children: hard lumps, frozen fruit pieces and nuts can be a choking risk for very young children, so keep pieces small and sit with them while they eat.

CHECKPOINT: CAN YOU DO THIS NOW?

- ☐ I can make frozen yogurt without a machine.
- ☐ I can blend frozen fruit into nice cream.
- ☐ I can layer lollies by freezing each layer first.
- ☐ I know why low-fat treats freeze harder.
- ☐ I keep fruit pieces small for children.

NEXT CHAPTER

Cooking Skills: Ice Cream 1, chapter 6 is Flavours, Swirls and Mix-ins: caramel, peanut butter and cookie dough.

Cooking Skills: Ice Cream 1

Chapter 6 · Flavours, Swirls and Mix-ins

SKILL GOAL

Add swirls and mix-ins at the right time and size, and make a safe cookie dough.

Shopping list for this chapter

The basics

Plain vanilla becomes something special with **swirls and mix-ins**. The skill is in the timing, the temperature and the size: cold sauces ripple into streaks, cold mix-ins stay crisp, and small pieces are easy to eat when frozen.

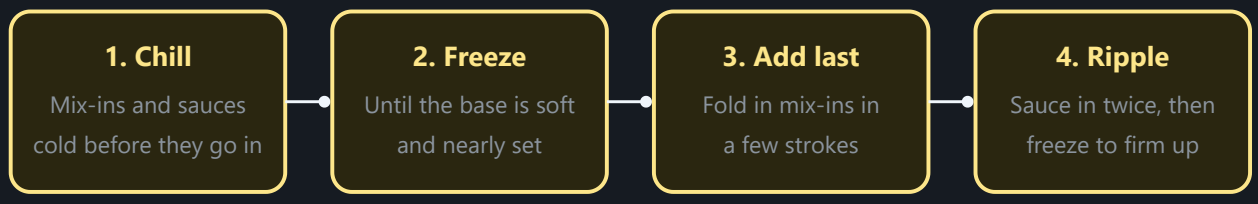


Figure 6. Cold mix-ins, added last, give clear swirls and crisp pieces.

The rules

- **Chill everything first:** warm sauces melt the ice cream and warm mix-ins go soggy.
- **Add mix-ins last,** folded in with a few strokes, so they stay whole.
- **Ripple, don't stir:** one or two passes of a knife leave streaks. More makes it muddy.
- **Keep pieces small,** about the size of a lentil or a hazelnut: frozen large pieces are hard to bite.
- **Freeze sticky mix-ins** (cookie dough, brownie, fudge) first, so they hold their shape.

MIX-IN	PREPARE BY	WHY
Chocolate	Chop small and chill	Large pieces freeze hard
Biscuits and cookies	Crush; add last	They soften with time
Nuts	Toast and chop; check allergens	Toasting keeps them crunchy
Caramel and sauces	Thicken and chill	Thin sauce melts the base
Cookie dough	Heat-treat flour, no egg; freeze pieces	Raw flour and egg are unsafe

ALLERGENS, HOT SUGAR AND RAW FLOUR

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

Peanuts: peanut butter is a common and serious allergen. Never serve peanut ice cream to a guest without asking about allergies, and keep spoons and tubs separate. Check the label for other nuts.

Making caramel: melted sugar reaches well over 160°C and causes serious burns. Keep the pan handle turned in, never touch or taste it, stand back when adding the cream because it spits and steams violently, and keep children and pets away. Don't stir while the sugar melts (swirl the pan instead). If it burns, let it cool in the pan before washing it.

Raw flour: raw flour can carry harmful bacteria. Don't eat dough or batter containing raw flour: heat-treat flour first, as in the cookie dough recipe, or leave it out.

Try it

LEVEL 1 · START HERE

Chocolate chip ice cream

15 minutes plus freezing | 4 to 6 portions | adding crunchy pieces that are the right size

Chopped chocolate scattered through vanilla: simple, and a good test of mix-in size. Large chunks freeze rock hard, so chop them small, and chill them first.

INGREDIENTS (5 PORTIONS)

1 batch	vanilla no-churn base (Cooking Skills: Ice Cream 1, chapter 2)
80 g	dark chocolate, chopped very small (or mini chocolate chips)
1	pinch of salt

1. Chop the chocolate into pieces no bigger than a lentil and chill them for 15 minutes.
2. Make the vanilla no-churn base. Fold the chocolate in for the last 3 or 4 strokes.
3. Pour into a tub, cover and freeze for at least 6 hours.

ALLERGENS AND SMALL CHILDREN

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

Small children: hard lumps, frozen fruit pieces and nuts can be a choking risk for very young children, so keep pieces small and sit with them while they eat.

Freezer storage: keep the freezer at -18°C or colder, store ice cream in a covered, labelled container, and eat it within about a month for the best taste and texture (general guidance). Don't refreeze ice cream that has melted completely, and throw it away if it has been left out for hours.

LEVEL 2 · SAUCE

Salted caramel swirl

30 minutes plus cooling and freezing | 4 to 6 portions | making a caramel safely and rippling it in

A dark, buttery, slightly bitter caramel through plain vanilla. Cook it to a deep amber, not pale, or it will taste only sweet. Cool and chill it before use, or it melts the ice cream.

INGREDIENTS (5 PORTIONS)

100 g	caster sugar
3 tbsp	water
100 ml	double cream
½ tsp	sea salt flakes
1 batch	vanilla no-churn base

1. Heat the sugar and water in a heavy pan over a medium heat, without stirring, until the sugar dissolves, then bubble until it turns a deep amber, about **6 to 8 minutes**.
2. Take off the heat and stand back. Pour in the cream (it will bubble up), and stir until smooth. Stir in the salt, pour into a bowl, cool, and chill for at least 1 hour.
3. Pour half the vanilla base into a tub, drizzle over half the caramel, add the rest of the base and the rest of the caramel.
4. Ripple with a knife **twice**. Cover and freeze for at least 6 hours.

HOT SUGAR, ALLERGENS AND FREEZER

Making caramel: melted sugar reaches well over 160°C and causes serious burns. Keep the pan handle turned in, never touch or taste it, stand back when adding the cream because it spits and steams violently, and keep children and pets away. Don't stir while the sugar melts (swirl the pan instead). If it burns, let it cool in the pan before washing it.

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

Freezer storage: keep the freezer at -18°C or colder, store ice cream in a covered, labelled container, and eat it within about a month for the best taste and texture (general guidance).

> Don't refreeze ice cream that has melted completely, and throw it away if it has been left out for hours.

LEVEL 2 · RIPPLE

Peanut butter ripple

15 minutes plus freezing | 4 to 6 portions | loosening a thick spread so it ripples rather than clumps

Peanut butter is thick and sticky: loosen it with a little warm water and icing sugar, or it freezes into lumps. Ripple, don't stir.

INGREDIENTS (5 PORTIONS)

1 batch	vanilla no-churn base
4 tbsp	smooth peanut butter
2 tbsp	icing sugar
1 tbsp	warm water

1. Stir the peanut butter, icing sugar and warm water until smooth and pourable. Chill for 20 minutes.
2. Make the vanilla base. Spoon half into a tub, drizzle half the peanut butter on top, add the rest of the base and the rest of the sauce.
3. Ripple with a knife twice. Cover and freeze for at least 6 hours.

> **PEANUT ALLERGY**
>
> **Peanuts:** peanut butter is a common and serious allergen. Never serve peanut ice cream to a guest without asking about allergies, and keep spoons and tubs separate. Check the label for other nuts.
>
> **Allergens:** ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.
>
> **Freezer storage:** keep the freezer at -18°C or colder, store ice cream in a covered, labelled container, and eat it within about a month for the best taste and texture (general guidance). Don't refreeze ice cream that has melted completely, and throw it away if it has been left out for hours.

LEVEL 3 · DOUGH

Cookie dough ice cream

35 minutes plus freezing | 4 to 6 portions | making a safe, egg-free cookie dough to fold in

Cookie dough pieces are one of the most popular mix-ins, but raw flour and raw egg are not safe to eat. This dough uses heat-treated flour and no egg, and the pieces are frozen first so they stay in lumps.

INGREDIENTS (5 PORTIONS)

100 g	plain flour (to be heat-treated)
60 g	butter, softened
60 g	soft light brown sugar
2 tbsp	milk
1 tsp	vanilla extract
60 g	chocolate chips
1 batch	vanilla no-churn base

1. Heat-treat the flour (see the box), cool and sift. Beat the butter and sugar until creamy, then mix in the milk, vanilla, flour and chocolate chips to a dough.
2. Roll the dough into small pieces the size of a hazelnut, spread on a tray and freeze for 30 minutes.
3. Make the vanilla base. Fold in the frozen dough pieces for the last 4 strokes.
4. Pour into a tub, cover and freeze for at least 6 hours.

RAW FLOUR, ALLERGENS AND SMALL CHILDREN

Heat-treating flour: spread the flour on a baking tray and bake at about 160°C fan (180°C conventional) for **5 to 6 minutes**, stirring once, until it is hot all through (about 75 to 80°C if you have a thermometer; general guidance). Cool completely and sift before using. Never eat raw dough or batter made with untreated flour, and there is no raw egg in this dough.

Raw flour: raw flour can carry harmful bacteria. Don't eat dough or batter containing raw flour: heat-treat flour first, as in the cookie dough recipe, or leave it out.

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts,

peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

Small children: hard lumps, frozen fruit pieces and nuts can be a choking risk for very young children, so keep pieces small and sit with them while they eat.

Experiments

EXPERIMENT

Mix-in size

Small or large.

1. Make two small batches of chocolate chip ice cream with finely chopped chocolate and with big chunks. Freeze overnight.

Look for: The big chunks are very hard to bite and can even hurt your teeth. The small pieces melt in the mouth. Cut mix-ins small.

EXPERIMENT

When to add

Early or late.

1. Fold cookie pieces into one batch of base early, and add them to another just before freezing.

Look for: The early cookies go soft and the ice cream turns grey and sandy. The late ones stay crunchy. Add them last.

EXPERIMENT

Ripple thickness

Thin or thick sauce.

1. Ripple a thick, chilled caramel through one batch and a thin, warm one through another.

Look for: The thick sauce stays in clear streaks. The thin warm one melts into the base and disappears. Chill and thicken your sauce.

EXPERIMENT

Frozen or not

Cold mix-ins.

1. Add frozen cookie dough pieces to one batch and room-temperature ones to another.

Look for: The frozen pieces hold their shape; the room-temperature ones smear and make the ice cream soft and sticky. Freeze sticky mix-ins first.

Tasting notes

WHAT I TRIED	METHOD OR AMOUNT	WHAT I SAW	WHAT I THOUGHT	WILL I DO IT AGAIN?
Chocolate chip				
Salted caramel swirl				
Peanut butter ripple				
Cookie dough				
Mix-in size				
When to add				
Ripple thickness				
Frozen or not				

Troubleshooting

PROBLEM	LIKELY CAUSE	WHAT TO DO
Ripple disappeared	Sauce too thin or warm, or stirred too much	Thicken and chill; ripple only twice
Soggy mix-ins	Added too early	Fold in last
Rock hard lumps	Pieces too big	Chop small
Burnt caramel	Cooked too long or too high	Remove at deep amber; start again with a lower heat
Grey, muddy ice cream	Over-mixed	Fold in a few strokes
Peanut butter clumps	Too thick	Loosen with warm water and icing sugar

ALLERGENS, HOT SUGAR AND RAW FLOUR

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

Peanuts: peanut butter is a common and serious allergen. Never serve peanut ice cream to a guest without asking about allergies, and keep spoons and tubs separate. Check the label for other nuts.

Making caramel: melted sugar reaches well over 160°C and causes serious burns. Keep the pan handle turned in, never touch or taste it, stand back when adding the cream because it spits and steams violently, and keep children and pets away. Don't stir while the sugar melts (swirl the pan instead). If it burns, let it cool in the pan before washing it.

Raw flour: raw flour can carry harmful bacteria. Don't eat dough or batter containing raw flour: heat-treat flour first, as in the cookie dough recipe, or leave it out.

Keeping: ice creams with cookie dough, caramel or nuts keep for about 2 to 3 weeks in a covered tub at -18°C (general guidance). Check the label of anything shop-bought for allergens.

CHECKPOINT: CAN YOU DO THIS NOW?

☐ I can chop and chill mix-ins to the right size.

☐ I can ripple a sauce twice without mixing it in.

☐ I can make caramel safely.

☐ I know why raw dough isn't safe to eat.

☐ I check allergens before serving mix-ins.

NEXT CHAPTER

Cooking Skills: Ice Cream 1, chapter 7 is Scooping, Serving and Storing: sundaes, affogato and keeping ice cream at its best.

Cooking Skills: Ice Cream 1

Chapter 7 · Scooping, Serving and Storing

SKILL GOAL

Serve and store ice cream at its best and build four classic desserts.

Shopping list for this chapter

The basics

You can make a perfect ice cream and still spoil it at the table. **Serving temperature, scooping and storing** decide whether it tastes smooth and creamy or hard and icy. This chapter is about the last steps: taking ice cream out of the freezer, scooping it, building a dessert and putting it back.

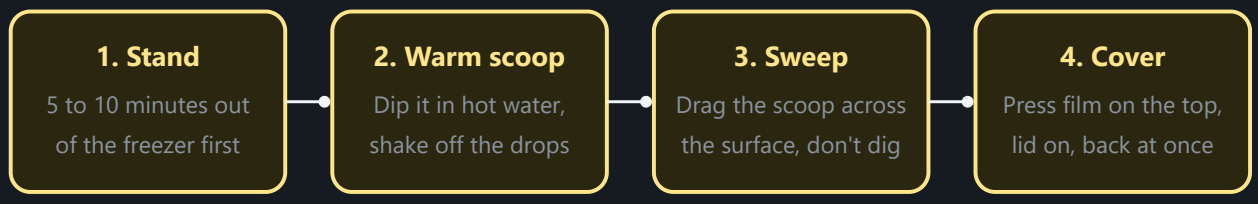


Figure 7. Serving well keeps the ice cream smooth for the next bowl.

The rules

- **Stand ice cream for 5 to 10 minutes** before scooping, so it is soft enough to scoop and the flavour comes through. Cold dulls taste.
- **Warm the scoop** in a jug of hot water and shake off the drops. Dip again between scoops.
- **Sweep, don't dig:** drag the scoop across the surface in a curl.
- **Cover the surface:** press cling film or baking parchment on the ice cream before the lid goes on, to stop ice crystals forming.
- **Put it straight back:** don't leave the tub out for more than about 20 to 30 minutes.

- **Never refreeze melted ice cream** (general guidance). If it has gone soft but is still very cold, it can go back, but the texture suffers.

DESSERT	CONTRAST	BEST ICE CREAM
Sundae	Hot sauce and cold ice cream	Vanilla or chocolate
Affogato	Hot coffee on cold cream	Vanilla
Ice cream sandwich	Soft cookie and cold filling	Any firm, scoopable flavour
Knickerbocker glory	Fruit, cream and crunch in layers	Vanilla, strawberry

HOT SAUCES, SERVING AND ALLERGENS

Hot sauces: warm chocolate sauce and hot coffee scald. Warm the sauce gently, test a drop on your wrist before serving, and keep it away from small children. Never reheat a sauce in a sealed container in the microwave.

Serving and storing: don't leave ice cream out for more than about 20 to 30 minutes, put the tub back as soon as you have scooped, and don't refreeze ice cream that has melted completely (general guidance). Scoop with a clean, dry or hot-water-dipped scoop, not a used spoon, to keep bacteria out.

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

Try it

LEVEL 1 · START HERE

Sundae with warm chocolate sauce

15 minutes | 4 portions | making a quick sauce and serving a hot and cold contrast

A glossy chocolate sauce takes 5 minutes: melt chocolate in hot cream. Pour it over cold ice cream and add sliced banana and nuts. Warm, not hot, so it doesn't melt the ice cream at once.

INGREDIENTS (4 PORTIONS)

1 batch	vanilla ice cream (any from this course)
100 g	dark chocolate, chopped
100 ml	double cream
1 tbsp	golden syrup
1 handful	toasted chopped nuts (optional)
1	banana, sliced

1. Heat the cream and golden syrup in a small pan until just steaming (don't boil). Take off the heat, add the chocolate and stir until smooth and glossy.
2. Leave the sauce for 2 or 3 minutes to cool a little. Test a drop on your wrist: it should be warm, not hot.
3. Scoop the ice cream into glasses, add the banana, pour over the sauce and scatter with nuts.

HOT SAUCE, ALLERGENS AND SERVING

Hot sauces: warm chocolate sauce and hot coffee scald. Warm the sauce gently, test a drop on your wrist before serving, and keep it away from small children. Never reheat a sauce in a sealed container in the microwave.

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

Serving and storing: don't leave ice cream out for more than about 20 to 30 minutes, put the tub back as soon as you have scooped, and don't refreeze ice cream that has melted completely

(general guidance). Scoop with a clean, dry or hot-water-dipped scoop, not a used spoon, to keep bacteria out.

LEVEL 1 · HOT AND COLD

Affogato

10 minutes | 4 portions | serving hot coffee over cold ice cream

'Drowned' ice cream: a scoop of vanilla with hot espresso poured over it. The ice cream melts into a creamy sauce. Make the coffee last, and eat at once.

INGREDIENTS (4 PORTIONS)

4	scoops vanilla ice cream
100 ml	strong hot coffee or espresso (decaf if you like)
4	small glass or cup per person

1. Chill the glasses in the freezer for 10 minutes. Put a scoop of ice cream in each.
2. Make the coffee and pour a quarter over each scoop at the table. Eat at once with a spoon.

HOT COFFEE AND CAFFEINE

Hot sauces: warm chocolate sauce and hot coffee scald. Warm the sauce gently, test a drop on your wrist before serving, and keep it away from small children. Never reheat a sauce in a sealed container in the microwave.

Coffee: use decaffeinated coffee for children and for evening dessert.

Serving and storing: don't leave ice cream out for more than about 20 to 30 minutes, put the tub back as soon as you have scooped, and don't refreeze ice cream that has melted completely (general guidance). Scoop with a clean, dry or hot-water-dipped scoop, not a used spoon, to keep bacteria out.

LEVEL 2 · ASSEMBLY

Ice cream sandwiches

20 minutes plus 1 hour freezing | 4 sandwiches | assembling a frozen treat that holds its shape

Soft ice cream between two cookies, pressed together and refrozen until firm. Use a cookie that is not too hard, and wrap each sandwich tightly once frozen.

INGREDIENTS (4 PORTIONS)

8	chocolate chip or oat cookies, shop-bought or home-baked, cooled
1 batch	ice cream, slightly softened (10 minutes out of the freezer)
1	baking parchment and a tray

1. Line a tray with parchment. Put 4 cookies upside down on it.
2. Put a thick scoop of softened ice cream on each, flatten slightly and top with a second cookie, pressing gently until the ice cream just reaches the edge.
3. Freeze for **1 hour** until firm. Wrap each in parchment or cling film and store in a covered box in the freezer for up to a week.
4. Let each stand for 2 minutes before eating.

ALLERGENS, SMALL CHILDREN AND FREEZER

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

Small children: hard lumps, frozen fruit pieces and nuts can be a choking risk for very young children, so keep pieces small and sit with them while they eat.

Freezer storage: keep the freezer at -18°C or colder, store ice cream in a covered, labelled container, and eat it within about a month for the best taste and texture (general guidance). Don't refreeze ice cream that has melted completely, and throw it away if it has been left out for hours.

LEVEL 3 · LAYERS

Knickerbocker glory

25 minutes | 4 portions | building layers of ice cream, fruit, cream and crunch

A tall glass built in layers: fruit, ice cream, cream, sauce and crunch. Build it just before serving, with a long spoon, and keep the ice cream in the freezer until the last moment.

INGREDIENTS (4 PORTIONS)

4	scoops ice cream (vanilla or strawberry)
200 g	strawberries or raspberries, washed and cut small
1 tbsp	caster sugar
100 ml	double cream, whipped
4	wafers or crushed biscuit
1 tbsp	chocolate sauce (from the first recipe)
4	tall glasses

1. Toss the fruit with the sugar and leave for 10 minutes until juicy. Whip the cream until it just holds soft peaks.
2. In each glass put a layer of fruit, then a scoop of ice cream, then a spoonful of cream, then a drizzle of sauce. Repeat the layers if the glass is tall.
3. Top with whipped cream, a few pieces of fruit and a wafer. Serve at once with a long spoon.

WHIPPED CREAM, HOT SAUCE AND ALLERGENS

Whipped cream: whip it just before serving, keep it cold, and throw away any that has been out for more than about 2 hours.

Hot sauces: warm chocolate sauce and hot coffee scald. Warm the sauce gently, test a drop on your wrist before serving, and keep it away from small children. Never reheat a sauce in a sealed container in the microwave.

Fruit: wash fresh fruit before use. If you use frozen berries, heat them until boiling and simmer for a minute before using them cold, as is usual UK advice for frozen berries (general guidance: check the pack).

> **Allergens:** ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

Experiments

EXPERIMENT

Serving temperature

Straight from the freezer or standing.

1. Scoop and taste the same ice cream straight from the freezer and after standing for 10 minutes.

Look for: The cold one is hard to scoop and tastes of little. The one that has stood tastes sweeter and creamier. Cold hides flavour.

EXPERIMENT

Warm scoop

Dry or hot.

1. Scoop with a dry scoop, then with a scoop dipped in hot water.

Look for: The warm scoop slides through in a smooth ball. The dry scoop drags and tears. Dip it between scoops.

EXPERIMENT

Cover the surface

Film or no film.

1. Store two tubs of the same ice cream for a week, one with film pressed on the surface and one with just a lid.

Look for: The one without film has a layer of ice crystals on the top. The film keeps air off and the ice cream smooth.

EXPERIMENT

Sauce temperature

Hot or warm.

1. Pour hot chocolate sauce over one scoop and warm sauce (test on your wrist) over another.

Look for: The hot sauce melts the ice cream in seconds into a puddle. The warm sauce makes a pleasant contrast and the scoop stays whole.

Tasting notes

WHAT I TRIED	METHOD OR AMOUNT	WHAT I SAW	WHAT I THOUGHT	WILL I DO IT AGAIN?
Chocolate sundae				
Affogato				
Ice cream sandwich				
Knickerbocker glory				
Serving temperature				
Warm scoop				
Surface cover				
Sauce temperature				

Troubleshooting

PROBLEM	LIKELY CAUSE	WHAT TO DO
Hard to scoop	Too cold	Stand for 5 to 10 minutes; warm the scoop
Icy top layer	Air on the surface	Press film or parchment on top
Melted sundae	Sauce too hot	Cool the sauce until warm
Soggy sandwich cookies	Left too long	Eat or wrap within a few hours
Ice cream gone grainy	Melted and refrozen	Eat what has melted; don't refreeze
Messy scoops	Dry scoop	Dip it in hot water between scoops

HOT SAUCES, SERVING AND ALLERGENS

Hot sauces: warm chocolate sauce and hot coffee scald. Warm the sauce gently, test a drop on your wrist before serving, and keep it away from small children. Never reheat a sauce in a sealed container in the microwave.

Serving and storing: don't leave ice cream out for more than about 20 to 30 minutes, put the tub back as soon as you have scooped, and don't refreeze ice cream that has melted completely (general guidance). Scoop with a clean, dry or hot-water-dipped scoop, not a used spoon, to keep bacteria out.

Whipped cream: whip it just before serving, keep it cold, and throw away any that has been out for more than about 2 hours.

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

CHECKPOINT: CAN YOU DO THIS NOW?

☐ I stand ice cream before scooping.

☐ I scoop with a warm scoop.

☐ I cover the surface before storing.

☐ I serve hot sauces warm, not hot.

☐ I don't refreeze melted ice cream.

NEXT CHAPTER

Cooking Skills: Ice Cream 1, chapter 8 is An Ice Cream Party: planning a sundae bar.

Cooking Skills: Ice Cream 1

Chapter 8 · An Ice Cream Party

SKILL GOAL

Plan a build-your-own ice cream bar, work backwards to make everything in time and design a flavour of your own.

Shopping list for this chapter

The basics

You can now make ice cream with no machine, custard ice cream, sorbet, frozen yogurt and lollies, and finish them with swirls, sauces and good serving. The last chapter is about **putting it all together**: a party, a plan and a flavour of your own.

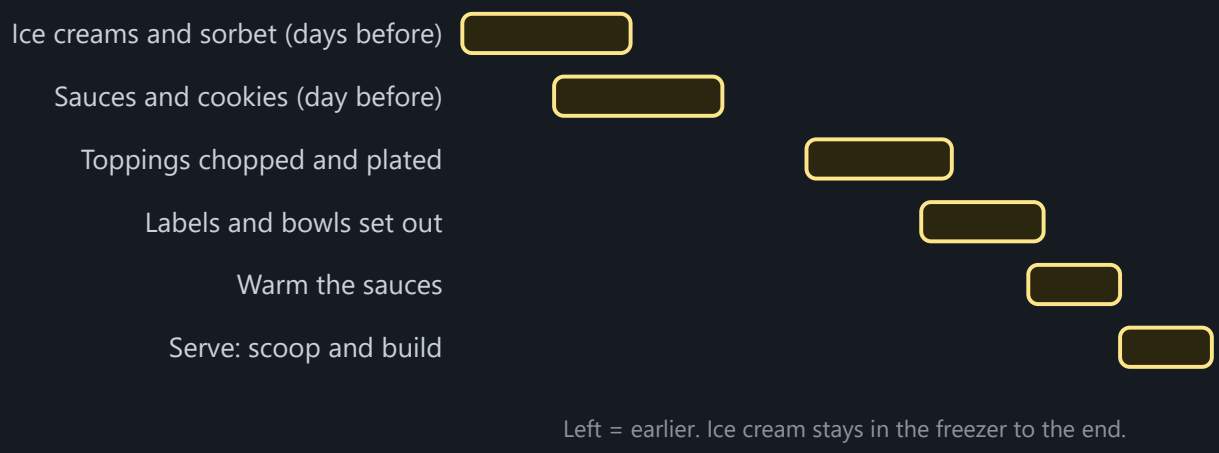


Figure 8. A running order for an ice cream party. The ice cream stays in the freezer until the end.

Planning a sundae bar

- **Offer contrast:** one plain and creamy, one rich, one fruity or dairy-free.
- **Do the slow things first:** custard ice cream needs overnight chilling and hours of freezing.
- **Make sauces ahead,** and warm them just before serving.

- **Keep the ice cream in the freezer until the last moment,** and bring out one tub at a time.
- **Label everything:** nuts, egg, dairy and gluten.

Your skills table

SKILL	CHAPTER	BEST FOR	MY TOP TIP
How ice cream works	Ice Cream 1, chapter 1	Understanding every recipe	Small crystals: fat, sugar, air, speed, stirring
No-churn	Ice Cream 1, chapter 2	Quick, no machine	Soft peaks; fold gently
Custard base	Ice Cream 1, chapter 3	Rich and smooth	Coat the spoon, never boil; chill overnight
Sorbet	Ice Cream 1, chapter 4	Light and dairy-free	Taste sweet; stir every 30 minutes
Frozen yogurt and lollies	Ice Cream 1, chapter 5	Lighter treats	Greek yogurt; eat soon
Swirls and mix-ins	Ice Cream 1, chapter 6	Making flavours	Chill; add last; small pieces
Serving and storing	Ice Cream 1, chapter 7	The last step	Stand, warm scoop, cover the surface

Fill in your own tips below.

WHAT I TRIED	METHOD OR AMOUNT	WHAT I SAW	WHAT I THOUGHT	WILL I DO IT AGAIN?
My favourite ice cream				
My best sorbet				
My best swirl				
My best sauce				
My sundae bar menu				
My own flavour				

Try it

LEVEL 1 · START HERE

An ice cream sundae bar for 6

Make ahead over several days; 1 hour on the day | 6 guests | setting up a build-your-own dessert table

Three ice creams, two sauces and a row of toppings, and everyone builds their own. It is relaxed for the host because everything is made ahead and you only warm the sauces and scoop.

INGREDIENTS (6 PORTIONS)

3	ice creams or sorbets made earlier in the course (for example vanilla no-churn, chocolate custard and raspberry sorbet)
1 batch	warm chocolate sauce and a caramel sauce (Cooking Skills: Ice Cream 1, chapters 6 and 7)
1 batch	fruit topping: 300 g strawberries or raspberries with 1 tbsp sugar
5 bowls	bowls of toppings: sprinkles, crushed cookies, toasted nuts, chocolate chips, wafers (labelled)
1 batch	cones or bowls and a scoop for each tub
1	cards and a pen for the labels

1. **Days before:** make three ice creams or sorbets with different looks and tastes: one creamy and plain, one rich and dark, one fruity and dairy-free. Freeze and label.
2. **The day before:** make the chocolate and caramel sauces and chill them. Bake or buy the cookies. Wash and prepare the fruit.
3. **On the day:** set out the bowls of toppings with spoons and labels. Take the ice cream out of the freezer 10 minutes before serving, one tub at a time.
4. Warm the sauces gently until just warm. Scoop with a hot scoop, and serve the guests with allergies first.

> FEEDING A CROWD
>
> **Serving a crowd:** keep the ice cream in the freezer until you scoop it, and bring out one tub at a time. Don't leave ice cream, whipped cream or cut fruit out for more than about 2 hours (a cautious rule of thumb), and don't refreeze what has melted. Keep hot sauces warm, not hot.
>
> **Label for guests:** put a card by each ice cream, sauce and topping saying what it is and whether

it contains nuts, peanuts, egg, milk, soy, wheat or gluten. Mark which are dairy-free (the sorbets) and which contain egg (the custards). If anyone has a nut allergy, keep the nut toppings in a separate bowl with a separate spoon, and serve their dessert first.

Serving: use a clean scoop for each tub, don't double-dip spoons, and clear the table promptly.

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

LEVEL 2 · PLAN

A make-ahead plan

30 minutes of planning, then batches over a week | 1 freezer plan | spreading the work over several days

Count back from the party. Custard ice creams need chilling overnight and freezing, so make them first. Sauces and toppings are done the day before.

INGREDIENTS (6 PORTIONS)

1	pen, paper and the running order from this chapter
1	freezer space and labelled containers
1	calendar to count back from the party day

1. **5 to 7 days before:** make the custard-based ice cream (it needs a night's chilling and several hours' freezing).
2. **3 to 4 days before:** make the no-churn and the sorbet. Sorbet is best made late, because it ices up as it ages.
3. **The day before:** make the sauces, bake or buy the cookies, chop the toppings and wash the fruit.
4. **On the day:** set up, label, warm the sauces and scoop. Note what worked.

> **FREEZER SPACE**
>
> Ice cream tubs take up room. Clear the freezer a few days before, use rectangular tubs, and stack them. Keep the freezer at -18°C and don't open it more often than you need to.

LEVEL 3 · CREATE

Your own flavour and house recipes

1 hour plus freezing | 4 to 6 portions | designing an ice cream from what you have learned

Now invent an ice cream. Choose a base, a flavour and one swirl or mix-in. Write it down, make it, taste it and change one thing. This is your first house flavour.

INGREDIENTS (4 PORTIONS)

1	notebook and pen
1	base: choose one (no-churn, custard, sorbet or frozen yogurt)
1	flavour: choose one
1	swirl or mix-in: choose one
2	topping and sauce: choose one of each

1. **Choose:** a base (no-churn is quickest), a flavour and one swirl or mix-in. Think about contrast: smooth and crunchy, sweet and tart.
2. **Plan:** write the ingredients and the order of work, and when each part must be cold.
3. **Make and taste:** taste the base before freezing and adjust the sugar and acid.
4. **Write it up:** ingredients by weight, steps, times and what you would change. Make it again with one change.

> YOUR HOUSE RECIPES
>
> Write down the first version exactly as you made it, then the changes. After a few tries you have a flavour that is yours. Keep your best three in one place.

Experiments

EXPERIMENT

A timed ice cream party

Plan it, then run it.

1. Write a plan for a sundae bar for 4 to 6 using the running order in this chapter. Note when each part is ready and what you forgot.

Look for: Compare the plan with what happened. Usual mistakes are leaving the custard until the last day and forgetting the labels. Fix the plan and keep it.

EXPERIMENT

Swap one base

One change.

1. Make the same flavour (for example chocolate) in a no-churn base and in a custard base. Taste them side by side.

Look for: The custard version is richer and silkier; the no-churn is lighter and sweeter. Write down which you prefer for which occasion.

EXPERIMENT

Your own flavour

Write it, make it, improve it.

1. Make your own flavour. Change one thing the second time (less sugar, a different mix-in, a pinch of salt).

Look for: Write down both versions and what changed. This is how recipes grow.

Tasting notes

WHAT I TRIED	METHOD OR AMOUNT	WHAT I SAW	WHAT I THOUGHT	WILL I DO IT AGAIN?
Sundae bar				

WHAT I TRIED	METHOD OR AMOUNT	WHAT I SAW	WHAT I THOUGHT	WILL I DO IT AGAIN?
Make-ahead plan				
My own flavour				
Timed party				
Swapped base				
Second version of my flavour				

Troubleshooting

PROBLEM	LIKELY CAUSE	WHAT TO DO
Not enough freezer space	Tubs too large or too many	Use rectangular tubs; stack them; clear the freezer early
Ice cream melted before serving	Taken out too early	Bring out one tub at a time; keep the rest frozen
A guest can't eat anything	Didn't ask	Ask beforehand; make a sorbet; label everything
Sauce too hot	Not cooled	Cool until warm; test on your wrist
Everything tastes similar	Too many sweet flavours	Choose contrast: creamy, rich and fruity
Leftovers unsafe	Melted and left out	Throw away what melted; don't refreeze

PARTY SAFETY

Serving a crowd: keep the ice cream in the freezer until you scoop it, and bring out one tub at a time. Don't leave ice cream, whipped cream or cut fruit out for more than about 2 hours (a cautious rule of thumb), and don't refreeze what has melted. Keep hot sauces warm, not hot.

Label for guests: put a card by each ice cream, sauce and topping saying what it is and whether it contains nuts, peanuts, egg, milk, soy, wheat or gluten. Mark which are dairy-free (the sorbets) and which contain egg (the custards). If anyone has a nut allergy, keep the nut toppings in a separate bowl with a separate spoon, and serve their dessert first.

Making ahead: ice creams, sorbets and sauces can be made days ahead. Keep ice cream covered at -18°C and eat custard-based ice cream within about 1 week, sorbet within about 1 week and no-churn within about a month (general guidance). Sauces keep in the fridge for 3 to 4 days.

Allergens: ice cream usually contains milk (cream, condensed milk), and often egg, nuts, peanuts, soy (in some chocolate and cookies) and wheat (cookies and cones). Check labels, and never serve a nut-containing ice cream to someone with a nut allergy without telling them. Coconut cream or oat cream can replace dairy cream in some recipes, but the texture changes.

Eggs: use eggs with the British Lion mark and wash your hands after handling raw egg. This course never serves raw egg: custards are cooked, and the no-churn and sorbet recipes have none. Pregnant women, babies, older people and anyone unwell should check current FSA advice before eating egg dishes, even cooked custard.

CHECKPOINT: CAN YOU DO THIS NOW?

- ☐ I can plan and run a build-your-own ice cream bar.
- ☐ I can count back to make things in the right order.
- ☐ I label dishes for nuts, egg, dairy and gluten.
- ☐ I keep ice cream frozen until I scoop.
- ☐ I can design and write down my own flavour.

NEXT CHAPTER

Cooking Skills: Ice Cream 1 is complete. Cooking Skills: Pastry 1 and Cooking Skills: Eggs 2 are good companions.