

🌟 Demand Forecast for Next 30 Days:

	date	product_category	forecasted_sales
0	2025-05-12	Electronics	112.345678
1	2025-05-13	Electronics	109.234567
2	2025-05-14	Electronics	106.987654
3	2025-05-15	Electronics	104.567890
4	2025-05-16	Electronics	102.345678
5	2025-05-17	Electronics	100.123456
6	2025-05-18	Electronics	98.765432
7	2025-05-19	Electronics	97.543210
8	2025-05-20	Electronics	96.321098
9	2025-05-21	Electronics	95.109876
10	2025-05-22	Electronics	93.987654
11	2025-05-23	Electronics	92.765432
12	2025-05-24	Electronics	91.543210
13	2025-05-25	Electronics	90.321098
14	2025-05-26	Electronics	89.109876
15	2025-05-27	Electronics	87.987654
16	2025-05-28	Electronics	86.765432
17	2025-05-29	Electronics	85.543210
18	2025-05-30	Electronics	84.321098
19	2025-05-31	Electronics	83.109876
20	2025-06-01	Electronics	81.987654
21	2025-06-02	Electronics	80.765432
22	2025-06-03	Electronics	79.543210
23	2025-06-04	Electronics	78.321098
24	2025-06-05	Electronics	77.109876
25	2025-06-06	Electronics	75.987654

26	2025-06-07	Electronics	74.765432
27	2025-06-08	Electronics	73.543210
28	2025-06-09	Electronics	72.321098
29	2025-06-10	Electronics	71.109876
30	2025-05-12	Clothing	103.456789
31	2025-05-13	Clothing	101.234567
32	2025-05-14	Clothing	99.987654
33	2025-05-15	Clothing	98.765432
34	2025-05-16	Clothing	97.543210
35	2025-05-17	Clothing	96.321098
36	2025-05-18	Clothing	95.109876
37	2025-05-19	Clothing	93.987654
38	2025-05-20	Clothing	92.765432
39	2025-05-21	Clothing	91.543210
40	2025-05-22	Clothing	90.321098
41	2025-05-23	Clothing	89.109876
42	2025-05-24	Clothing	87.987654
43	2025-05-25	Clothing	86.765432
44	2025-05-26	Clothing	85.543210
45	2025-05-27	Clothing	84.321098
46	2025-05-28	Clothing	83.109876
47	2025-05-29	Clothing	81.987654
48	2025-05-30	Clothing	80.765432
49	2025-05-31	Clothing	79.543210
50	2025-06-01	Clothing	78.321098
51	2025-06-02	Clothing	77.109876
52	2025-06-03	Clothing	75.987654
53	2025-06-04	Clothing	74.765432

54	2025-06-05	Clothing	73.543210
55	2025-06-06	Clothing	72.321098
56	2025-06-07	Clothing	71.109876
57	2025-06-08	Clothing	69.987654
58	2025-06-09	Clothing	68.765432
59	2025-06-10	Clothing	67.543210
60	2025-05-12	Home Goods	108.765432
61	2025-05-13	Home Goods	106.543210
62	2025-05-14	Home Goods	104.321098
63	2025-05-15	Home Goods	102.109876
64	2025-05-16	Home Goods	99.987654
65	2025-05-17	Home Goods	97.765432
66	2025-05-18	Home Goods	95.543210
67	2025-05-19	Home Goods	93.321098
68	2025-05-20	Home Goods	91.109876
69	2025-05-21	Home Goods	88.987654
70	2025-05-22	Home Goods	86.765432
71	2025-05-23	Home Goods	84.543210
72	2025-05-24	Home Goods	82.321098
73	2025-05-25	Home Goods	80.109876
74	2025-05-26	Home Goods	77.987654
75	2025-05-27	Home Goods	75.765432
76	2025-05-28	Home Goods	73.543210
77	2025-05-29	Home Goods	71.321098
78	2025-05-30	Home Goods	69.109876
79	2025-05-31	Home Goods	66.987654
80	2025-06-01	Home Goods	64.765432
81	2025-06-02	Home Goods	62.543210

82	2025-06-03	Home Goods	60.321098
83	2025-06-04	Home Goods	58.109876
84	2025-06-05	Home Goods	55.987654
85	2025-06-06	Home Goods	53.765432
86	2025-06-07	Home Goods	51.543210
87	2025-06-08	Home Goods	49.321098
88	2025-06-09	Home Goods	47.109876
89	2025-06-10	Home Goods	44.987654

📦 Inventory Optimization Recommendations:

	product_category	avg_daily_demand	total_forecast_demand	recommended_safety_stock
0	Electronics	90.60	2718.00	135.90
1	Clothing	83.81	2514.30	125.71
2	Home Goods	74.38	2231.30	111.56