Master Weaver Handbook

Table of Contents

A	dministrative Information	
1.	Master Weavers Program, Policies and Procedures	1
2.	APA Format (Formatting and Style Guide Summary)	5
3.	Master Weaver Guidelines	6
Te	echnical Information	
4.	Standards	6
5.	Calculations and Formulas	8
6.	Burn Test for Fibre Identification	9
7.	Count Systems	10
8.	Value Scale	12
9.	Colour Wheel / Colour Spectrum	13
10.	Reed Substitution Chart	14
11.	Metric/Imperial Tables	15
12.	Weaving Reed Conversion Chart	21
13.	(for photocopy purposes) Project Record Sheet	
14.	(for photocopy purposes) Draft/Drawdown Grid	

Master Weaver Certificate Program

The Olds College Master Weaver Program consists of five progressive levels of classroom and independent study involving skill development, research studies and project assignments. It provides an educational environment in which an individual can acquire the skill to become an independent weaver.

Workshops for levels 1-4 (30 hours each) are face to face delivery, level 5 is an online delivery and each course will be followed by an independent home study portion that students must complete. At all levels, student evaluation is on written assignments, practical projects, oral presentations, and skill development.

Individuals who successfully complete graduation requirements in all five levels will receive a Master Weaver Certificate from Olds College.

Master Weaver Policies and Procedures

Audit Students

Students may opt to audit a class to upgrade their skills without obtaining a grade when they register for the course. They will participate in the workshop only, and will not be required to submit assignments. These students will receive an audit (AU) designation rather than a percentage grade, and will not be eligible for the Master Weaver certificate. There is no difference in fees between audit and certificate students.

Certificate Students

Students who enroll in the Master Weaver courses will receive a grade for each class upon completion of the workshop and homework. All assignments will be marked and have a percentage grade assigned. Upon completion of the requirements of the program, students will earn the Master Weaver certificate.

Changing from Audit to Certification

Once a student has received an audit (AU) designation, if they wish to be eligible for the Master Weaver certificate, they must re-take the course and complete the homework for a grade.

Prerequisites

In order to be eligible to enroll in the next Master Weaver level, a student must have completed the preceding level classroom session.

Student Fees

Course registration and materials fees established by Olds College and will be subject to periodic review. Check the website for the most current information. Students will generally encounter costs in these areas:

- Course Registration Fee
- Marking Fee
- Materials Fee

- Personal Classroom Supplies
- Workbook Assignment Supplies
- Assignment Mailing Cost

Course Registration Fees

Classroom fees set by Olds College at the time advertising is prepared. These fees will include the course manual and marking fees.

Marking Fees

In the past, students have paid marking fees separately from their registration fees. To minimize the number of transactions a student will have to make and ensure that they are not subject to fluctuating fee costs, marking fees will now be integrated into the course tuition and payable upon registration in the course.

Materials Fees

The instructor will supply many of the fibre materials (other than those on a student supply list) that are required for successful participation during a class. The fee for these materials collected at the time of registration.

Personal Classroom Supplies

The student is to come prepared with certain equipment and supplies necessary for successful participation in the classroom activities. The supply list is provided to all registrants and will be available as an online download.

Workbook Assignment Supplies

Students are responsible for procuring fibres and other supplies needed to complete the workbook requirements. These can be purchased from vendors during Fibre Week or from other sources available to them. The classroom instructor may have a suggested list.

Student Assignments

Students who are working towards certification will complete a major homework assignment following each level of instruction according to the guidelines presented.

Unless otherwise requested or designated, the assignment will be marked by the instructor who taught that student.

Upon completion of a homework assignment, the student will mail the project to their assigned instructor. Students are responsible for return mailing costs and should include a cheque payable to the marker for an amount equal to the cost of mailing to that instructor. If the student requires additional mailing or contact information for their assigned instructor, they should contact the Operations Manager of Olds College Continuing Education.

Assignment Mailing Costs

Upon completion of a homework assignment, the student will mail the project to their assigned instructor. Students are responsible for return mailing costs and should include a cheque payable to the marker for an amount equal to the cost of mailing to that instructor. If the student requires additional mailing information for their assigned instructor, they should contact the Continuing Education department at Olds College at coned@oldscollege.ca.

Student Assignments

Students who are working towards certification will complete a major homework assignment following each level of instruction according to the guidelines presented.

Unless otherwise requested or designated, the assignment will be marked by the instructor who taught that student.

Assignment Timelines

Assignments must be submitted for marking within 12 months after the class has ended. If the work has not been submitted by this deadline, the student will not receive a grade for the course.

An extension to this deadline can be requested from Olds College Continuing Education by filling out the extension request form found on the website. This request must be received at least one month before the due date. A processing fee will be applied. If granted, the extension will not exceed four months beyond the original completion date. Only one extension date will be allowed per course level.

Formatting and Style Guidelines Summary

All work presented in your assignments must be properly researched and provided with correct citations. Proper references and citations give credit for other people's ideas and provide the reader with the sources of the information used in the paper.

The citation and referencing system used by Olds College is the American Psychological Association (APA) Formatting and Style Guide. Olds College has summarized the APA formatting guidelines, which can be found online at: https://libguides.oldscollege.ca/APACitation

This appendix provides a brief summary of the expected citation and referencing styles you should use in your assignments.

Citations

In-Text Citations: When direct quotes are used within the text, the citation source (which includes the author, date, and page number) must be provided. For example:

"If the project calls for knitting yarn it is best to aim at an almost balanced yarn as a very unbalanced yarn can cause the knitting to skew to one side" (Field, 1995, p. 27).

Citations of Summaries or Paraphrases: When summarizing or paraphrasing information, the source must be provided. For example: According to Field (1995), balanced yarn should be used for a knitted garment.

A complete reference must appear in the reference list at the end of the paper, for both in-text citations and summaries.

References

A reference list should be provided at the end of the paper that gives the details needed to retrieve the source of the information used in the paper. The reference list should be put in alphabetical order, using the authors' last names. The following examples show the general format used for different sources of information.

Books

Author surname, First Initial. Second Initial. (Year). Book title: Subtitle. Place of Publication: Publisher.

Fournier, N., & Fournier, J. (1995). In sheep's clothing. Loveland, CO: Interweave Press.

Journal or Magazine Article

Author Surname, First Initial. Second Initial. (Year). Article title: Subtitle. Journal Title, Volume (issue), page range.

Buchanan. R. (1999, Fall). Evaluating fibre diameter. Spin Off, pp. 23-24.

Web Sites

Author or Corporate Body. (Last update or copyright date; if not know, put n.d.). Title of specific document. Place of Publication: Name of Corporate Body or Publisher.

(Do not repeat Corporate Body name if listed above.) Retrieved date the site was accessed from URL of specific document.

US Department of Agriculture. (1968). United States standards for grades of wool.

Retrieved October 15, 2008, from: http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELDEV3062803.

University of Kentucky, College of Agriculture. (n.d.). No article name. Retrieved November 3, 2008, from: http://www.uky.edu/Ag/AnimalSciences/index.html.

Master Weaver Guidelines and Standards

Workbooks

Each student is encouraged to keep a workbook (notebook, sketchbook) which documents the in-depth research and learning the student undertakes to complete the Application Exercises. This workbook should include process notes and documentation as well as;

- References and sources of drafts, inspiration etc.
- Evaluations of learning from research and process

Record Sheets

These are to be completed so that another weaver could take your record sheet and reproduce the design as you wove it. A sample copy is at the back of this handbook, and at the end of the module for each level. Photocopy as needed.

All details (threading, treadling, drawdown, warp and weft yarns, source of notes, and so forth) must be filled in for each woven assignment. Make sure the record sheet and the assignment are attached or linked.

Presentation

Presentation is important. Weaving and notes should be arranged so as to arrive at the marker uncrushed and in good order. Assignment notes should be typed, and all samples should be clearly labeled. Record sheets should be typed or printed neatly in ink. (This does not apply to the workbook)

Marks

The pass mark for each level is 50% and to graduate from the program, students need a cumulative average of C (62-66%) or better.

Standards

Size

It is important to able to weave to size. Note the instructions for size on the assignment. Take careful measurements of your woven pieces to determine the amount of loom take-up and shrinkage. These should be recorded for future use in your workbook. The following measurements should be taken:

- with the work on the loom, still under tension;
- work off the loom, before finishing;
- after finishing, washing and/or steaming.

Threading

Warp threads must be entered correctly in heddles and dents, and follow the threading draft exactly. Error will result in marks being deducted.

Treadling

Errors in treadling will result in marks being deducted.

Warp

Sett: Thread, reed, and sleying must all harmonize to produce a fabric suited for the purpose intended, as stated in the assignment, or by the weaver.

Tension: To produce good weaving, the weaver must start with a good warp. Poor weaving can be done on a good warp, but good weaving cannot be done on a poorly wound warp. Warp tension should be even across the entire width of the warp. Evidence of uneven tension will result in marks being deducted.

Edges

Selvedges should be even, without weft loops, or with the weft drawn in too tightly so that breakage occurs. Closer set edges and double threaded edges are not acceptable (except where instructed to do so in the assignment.)

Knots - Knots in either the warp or weft are not acceptable.

Weft Joinings, Turn-ins

All weft joinings should be neatly lapped or turned in to lie just inside the selvedge, long enough to be secured and clipped off close to the fabric. Weft splicing should be done at, or near, the selvedge.

Beat

Aim for a consistent beat. Diagonals should be at the correct angle required for the technique or article. Squares should be square and 50/50 fabrics should have the same number of warp and weft ends in one inch.

Finishing

All samples should be carefully finished in keeping with the use of the finished article, for which the sample was made. Notes on the research needed to achieve this may be included on the record sheet, and notations made for future reference in the notebook.

Note: Poorly woven fabric, lack of labelling, unedited essays, missing or limited notes and untidy presentation may result in a fail, or the work being returned, unmarked.

Calculations and Formulas

Warp Calculations

Note: all measurements are in inches. Divide by 36 to get the total amount of warp in yards. warp length:

project length + fringe + take-up + shrinkage + loom waste = warp length

number of warp ends:

(project width + draw-in + shrinkage) x ends per inch = number of warp ends

total amount of warp:

warp length x number of warp ends = total warp in inches

Weft Calculations

Note: all measurements are in inches. Divide by 36 to get the total amount of warp in yards.

length of one pick x number of picks per inch x length of project = amount of weft in inches

Percent Shrinkage Calculation of Finished Cloth

Size before finishing – size after finishing = n $(n \div \text{ size before finishing}) \times 100 = \% \text{ shrinkage}$

Burn Test for Fibre Identification

- always test several strands;
- wait for the smell—wool smells like burning hair;
- this test does not work well on blends, for obvious reasons.

Performing a Burn Test

Watch what happens to the yarn sample as it approaches the flame (of a candle, match, or lighter) and while it is in the flame. Also note the odour and ash that it produces. Do the test twice to confirm the results and then compare the results to the burn chart below.

Fibre	Approaching Flame In	Flame		After
Cotton	does not pull away	burns	and chars	afterglow
Linen	does not pull away	burns	and chars	afterglow
Rayon (Viscose)	shrinks away	burns		continues to burn
Wool, Mohair	shrinks away	burns	briefly and chars	self extinguishes
Silk	shrinks away	burns	slowly	self extinguishes
Nylon	shrinks away, fuses	burns	slowly and melts	usually self extinguishes
Polyester	shrinks away	burns	slowly and melts	usually self extinguishes
Acrylic, Orlon	shrinks away, fuses	burns	and melts	continues to burn
Rayon (Acetate)	shrinks away	burns	and melts	continues to burn

Count Systems

Three systems of yarn count are currently in use: the fixed weight, the fixed length, and the Tex systems. The fixed weight can be used with British and American weights and systems. The fixed length system and the Tex system are based on metric weights and measures.

Count System for Wool

The count system is different for woollen spun and worsted spun yarns, but both are a fixed weight system.

Woollen Spun

There are several woollen count systems. The one used in North America is the Philadelphia (or American cut) count. The standard unit is called a cut and is 300 yds/lb. #2 cut would contain 600 yards per pound.

Worsted Spun

The standard unit is expressed as the number of 560-yard lengths in a pound of wool. The finer the wool, the more yarn per pound and the higher the count.

For example, Size #12 has 560 yds/lb x 12 = 6720 yds/lb.

Worsted yarn is rarely sold as single units and the calculation needs to consider the ply. For example, 2/12 worsted has $(560 \text{ yds/lb } \text{ x } 12) \div 2 = 3360 \text{ yds/lb}$.

Count System for Cotton and Spun Silk

The count system for cotton and spun silk is a fixed weight system. The standard unit for cotton and spun silk is 840 yards per pound for a size 1 cotton or spun silk yarn. The count is traditionally given as the first number in the descriptor for the yard. The second number is the ply. (For example, 8/2 cotton is 2 plies of size 8 yarn).

Calculation of the yardage per pound involves consideration of both the count and the ply: $840 \times \text{count}$ $\div \text{ ply} = \text{length in yards in 1 lb.}$

NOTE: For cotton yarns, confusion arises because manufacturers and suppliers have not agreed on a convention for labelling the count. For example, 8/4 cotton is often referred to as 4/8. It means the same thing. There are four plies of #8 count cotton in the yarn. A rule of thumb is that the smaller number refers to the number of strands that are plied together to form the yarn, and the higher number refers to the thickness or count of the strands that are plied.

Α

Count System for Linen

The count system for linen is a fixed weight system. One lea linen contains 300 yards per pound. Six lea linen would contain 1800 yards per pound. If the linen is a plied yarn, the calculation of yardage also needs to consider the ply. For example, 10/2 linen has $(10 \times 300) \div 2 = 1500$ yards per pound.

Count System for Reeled Silk

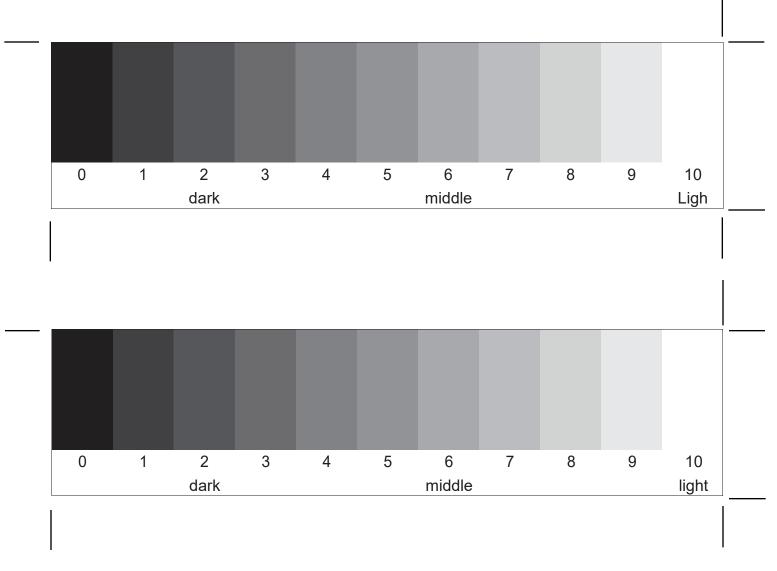
The count system for reeled silk is a fixed length system. The length of the silk yarn stays the same at 450 meters, but the weight varies and is expressed in denier, a measurement used to describe the diameter of a strand of reeled silk. The coarser the yarn, the higher the denier count number becomes.

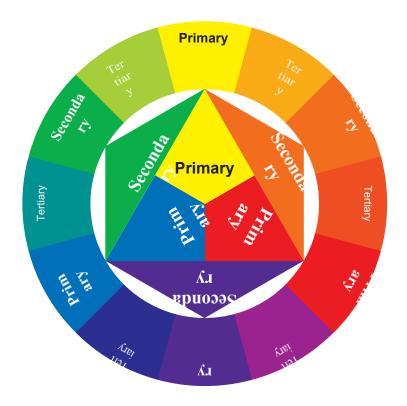
Tex System

Tex is an international system of yarn numbering that applies to all types of yarns, regardless of the method of production. Tex is defined as the mass in grams per 1000 m (1 km) of yarn. For example, if 1000 m (1 km) of yarn weighs 20 grams, the Tex number is 20.

References:

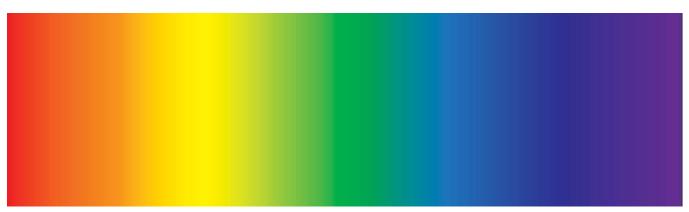
Black, M.E. (1980, 1994). The Key to Weaving. U.S.A.: Macmillan Publishing. Roth, B.G., & Schulz, C. (1983). The New Handbook of Timesaving Tables for Weavers, Spinners, and Dyers. U.S.A.: Authors.





A 12-step colour wheel.

Source: Courtesy of Olds College.



A colour spectrum in its natural order: red, orange, yellow, green, blue, indigo, and purple.

Source: Courtesy of Olds College

Reed Substitution Chart

Courtesy of: Lignon, L., & Murphy, M. (2001). The weaver's companion. Loveland, CO: Interweave Press.

Note: reed sizes are in ends per inch

Sley in Reed	5	6	8	10	12	15	16	18
0-0-1	2	2	3	3	4	5	5	6
0-1	2.5	3	4	5	.6	7.5	8	9
0-1-1	3	4	5	7	8	10	11	12
0-1-1-1	4	4.5	6	7.5	9	11.5	12	13.5
1	5	6	8	10	12	15	16	18
1-1-1-2	6	7.5	10	12.5	15	19	20	22.5
1-1-2	7	8	11	13	16	20	21	24
1-2	7.5	9	12	15	18	22.5	24	27
1-2-2	8	10	13	17	20	25	27	30
1-2-2-2	9	10.5	14	17.5	21	26	28	31.5
2	10	12	16	20	24	30	32	36
2-2-2-3	11	13.5	18	22.5	27	34	36	40.5
2-2-3	12	14	19	23	28	35	37	42
2-3	12.5	15	20	25	30	37.5	40	45
2-3-3	13	16	21	27	32	40	43	48
2-3-3-3	14	16.5	22	27.5	33	41	44	49.5
3	15	18	24	30	36	45	48	54
3-3-3-4	16	19.5	26	32.5	39	49	52	58.5
3-3-4	17	20	27	33	40	50	53	60
3-4	17.5	21	28	35	42	52.5	56	63
3-4-4	18	22	29	37	44	55	59	66
4	20	24	32	40	48	60	64	72
4-4-5	22	26	35	43	52	65	69	78
4-5-5	23	28	37	47	56	70	75	84
5	25	30	40	50	60	75	80	90

Metric/Imperial Conversion Charts

Length

Metric Units: millimetre (mm)

centimeter (cm) = 10 mm

metre (m) = 100 cm

kilometre (km) = 1000 m

Imperial Units: inch (in)

foot (ft) = 12 in

yard(yd) = 3 ft

mile (mi) = 1.609 km, 1609.3 m

Common Conversions

Metric		Imperial
1 mm	=	.03937 in
1 cm (10 mm)	=	0.3937 in
1 m (100 cm)	=	1.0936 yd
1 km (1000 m)	=	.6214 mi
Imperial		Metric
1 in	=	2.54 cm
1 ft (12 in)		0. 048 n (3 0.48 cm)
1 yd (3 ft)		0. 144 ı (9 1.44 cm)
1 mi (1760 yd)		1. 93 k

Converting Inches (in) to Millimeters (mm)

For cm equivalent, multiply mm by 10

Imperial (in)		Metric (mm)
1/16	=	1.58
1/8	=	3.17
3/16	=	4.76
1/4	=	6.35
3/8	=	9.52

1/2	=	12.70
3/4	=	1.905
1	=	25.4
12	=	304.8

Diameter

Imperial (in)		Metric (mm)
1/25	=	1.0
1/30	=	0.848
1/35	=	0.725
1/40	=	0.635

Area

Metric Units: square millimetres (mm²)

square centimetres (cm2) = 100 mm^2

square metres $(m^2) = 10,000 \text{ cm}^2$

Imperial Units: square inch (in²)

square foot (ft²)

square yard (yd²)

Conversions

Metric		Imperial
$1 \text{ cm}^2 (100 \text{ mm}^2)$	=	0.1550 in^2
$1 \text{ m}^2 (10,000 \text{ cm}^2)$	=	1.1960 yd^2
		(10.764 ft², 1,550 in²)
Imperial		Metric
1 in ²	=	6.4515 cm ² (64.515 mm ²)
1 ft ² (144 in ²)	=	0.0929 m^2
		(92.9 cm ² , 929.0 mm ²)
1 yd^2	=	0.8361m^2
(9 ft², 1296 in²)		(8361 cm ² , 83610 mm ²)

Volume

M	etric	Units:	cubic centimetre	(cm3) ((solid)	millilitre	(ml) (l	iquic	1)
---	-------	--------	------------------	------	-----	--------	---	------------	-----	------	-------	----

pint (pt) (liquid) quart (qt) (liquid)

gallon (gal) (liquid)

millilitra (ml) (liquid)

litre (l) (liquid)

hectolitre (hl) (liquid)

teaspoon (tsp)

tablespoon (tbsp)

cup

ounce (oz)

Common Conversions

Metric		Imperial
1 cm3	=	0.0610 in3
1 dm3 (1,000 cm3)	=	0.0353 ft3
1 m3 (1,000 dm3)	=	1.3080 yd3
1 1 (1,000 ml)	=	1.76 pt
1 hl (100 l)	=	21.997 gal
Imperial		Metric
1 in3	=	16.3867 cm3
1 ft3 (1,728 in3)	=	0.0283 m3
1 fl oz	=	28.413 ml
1 pt (20 fl oz)	=	0.56831 1
1 qt (2 pt)	=	1.136 1
1 gal	=	4.5461 1
USA Measure		Metric
1 fl oz		
(1.0408 Imp. fl oz) =	29.574 ml	
1 pt (16 fl oz)		
(0.8327 Imp. fl oz) =	=	0.4731 1

1 gal

(0.8327 Imp. gal) = 3.7854 1

Common Liquid Volume Equivalents

(Metric unless otherwise noted)

Metric		Metric
1/4 cup	=	60 ml
1/3 cup	=	75 ml
1/2 cup	=	125 ml
2/3 cup	=	150 ml
1 cup	=	250 ml
1 pt (Imp)	=	568.26 ml
1 qt (Imp)	=	1136.5 ml
1 US qt	=	0.946 litre

From Your Kitchen

Metric		Metric
1 tsp	=	5 ml
3 tsp	=	1 tbsp
1 tbsp	=	15 ml
16 tbsp	=	1 cup
1 cup	=	250 ml
2.5 cups	=	1 pt

Mass (weight)

Metric Units: milligram (mg) = 0.001 grams

gram (g) = 1,000,000 mg kilogram (kg) = 1,000 g Imperial Units: grain

ounce (oz) = 437.5 grains

pound (lb) = 16 oz

stone = 14 lb

hundredweight (cwt) = 112 lb

Common Conversions

Metric	Imperial		
1 mg	=	0.0154 grain	
1 g	=	0.0353 oz	
1 kg	=	2.2046 lb	
Imperial		Metric	
1 oz =	28.35 g		
1 1b =	0.4536	kg (453.6 g)	
1 stone	=	6.3503 kg	
1 cwt =	50.802 kg		

Converting Ounces to Grams and Grams to Ounces

Imperial (oz)		Metric (g)	
1/4	=	7.09	
1/2	=	14.17	
3/4	=	21.26	
1	=	28.35	
Metric (g)		Imperial (oz)	
Metric (g)	=	Imperial (oz) 1/28	
	=	•	
1		1/28	
1 2	=	1/28 1/14	

Temperature

Metric Units: Celcius degrees (°C)

Imperial Unit: Fahrenheit degrees (°F)

Conversion Formulas

- Celsius degrees to Fahrenheit degrees, multiply Celsius temperature by 1.8 or 9/5, then add 32
- Fahrenheit degrees to Celsius degrees, subtract 32 from the Fahrenheit temperature, then multiply by 0.5556 or 5/9

Common Temperature Conversions

Metric		Imperial
100°C	=	212°F Boiling Point
80°C	=	176°F
40°C	=	104°F
21°C	=	70°F Average Room
10°C	=	33.8°F
0°C	=	32°F Freezing

Websites: see: http://www.metric-conversions.org/ and http://www.almanac.com

Weaving Reed Conversion Chart

Metric	Imperial (dents per inch)		
(dents per 10 cm)			
20	5.1		
25	6.4		
30	7.6		
35	8.9		
40	10.2		
45	11.4		
50	12.7		
55	14.0		
60	15.2		
65	16.5		
70	17.8		
75	19.1		
80	20.3		
90	22.9		
100	25.4		
110	27.9		
120	30.5		

Imperial	Metric			
(dents per inch)	(dents per 10 cm)			
5	19.7			
6	23.6			
8	31.5			
10	39.4			
12	47.2			
15	59.1			
18	70.9			
20	78.7			
22.5	88.6			
25	98.4			
30	118.1			
32	126.0			

Karen Isenhower WarpedforGood.com

Record Sheet

Candidate's Na	me:	Modul	e:	Date:		
Notes from Draf	ft obtained from: _					
Sett (ends per i	nch):	# of ends	in warp:	Leng	th of warp:	
Materials						
Fibre:		_Size:		Amount requ	uired:	
Source:			Sample Attac	ched:		
Warp:			Pattern Weft	:		
Tabby Weft:						
Beat Technique	used:					
Aim (weft face,	warp face, 50/50, o					
Size Details:	Under Tension		Off Loom		Finished	
Length:						
Width:						
Finishing Metho	od Used:					
Additional Note	s:					

23

OLDS COLLEGE