

Disposable Archwire Rulers

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Most orthodontists learn to fabricate archwires by marking a shaped wire in the mouth with a wax pencil. This technique has several disadvantages:

- Patient irritation from the wire ends.
- Inaccurate measurements due to inadvertent movement of the wire.
- Accidental erasure of markings after removal from the mouth.
- Potential cross-contamination from the wax pencils.

Indirect measurement methods are generally faster and more precise.¹⁻³ One such technique uses a flexible, clear plastic ruler available at office-supply stores.⁴ The ruler is cut to a 70mm length and laid over the brackets (Fig. 1). Measurements are made from the midline to the points



Fig. 1 Clear plastic ruler used to make indirect archwire measurements in the mouth.



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where the clinician wishes to place steps, tiebacks, closing loops, tipbacks, etc.

These data are then recorded on a paper Brader archform with millimeter scales⁵ (Fig. 2). The archwire is placed over the appropriate archform, and the markings are transferred to the wire with a wax pencil or wax-tipped marker

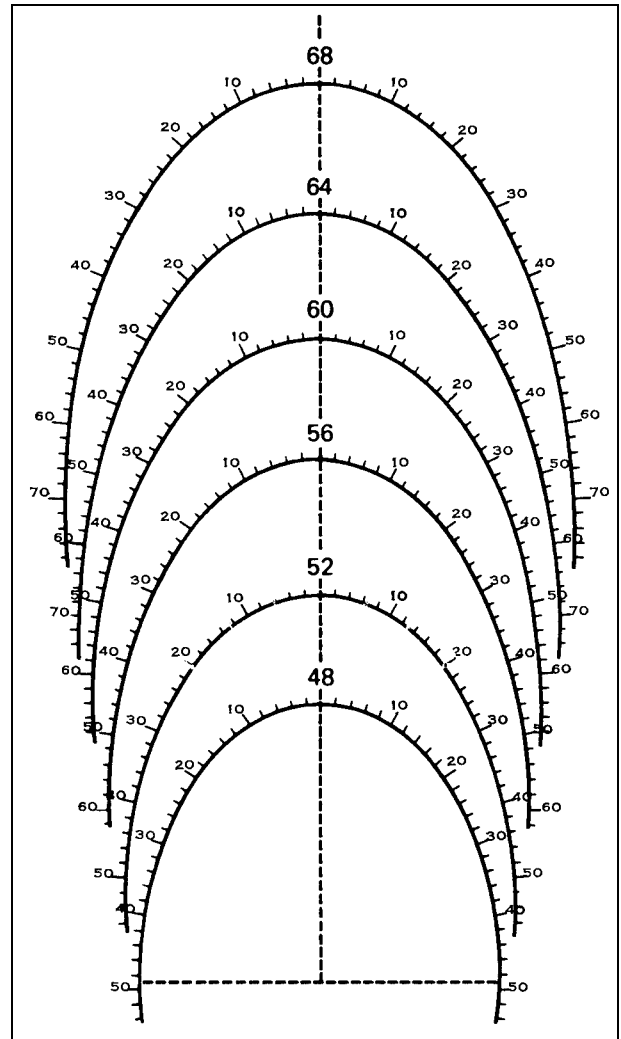


Fig. 2 Brader archform with millimeter scales.

(Fig. 3). Because the plastic rulers cannot be heat-sterilized and need time to soak in cold disinfectant, several rulers must be kept on hand.

Disposable Rulers

I have recently begun using inexpensive, disposable archwire rulers for indirect measurement. I make a template for an entire page of rulers by gluing a series of 70mm rulers to a sheet of paper (Fig. 4, opposite page). I then photocopy the page onto either thick white paper or clear transparencies. (It is important to check that the photocopier does not enlarge or reduce the rulers.) If the page is laid out carefully, the rulers can be quickly cut apart with a paper cutter or scissor (Fig. 5).

The transparencies are slightly more expensive than plain paper, but the cost is still negligible. Clear rulers have the advantage of allowing the clinician to see the brackets and teeth for more accurate measurement. Like the commercial plastic rulers, they can be soaked in disinfectant if there is any concern about cross-contamination from the initial photocopying or storage. After each archwire fabrication, however, the ruler is thrown away.

Conclusion

This indirect method of archwire marking is more accurate, efficient, and cost-effective

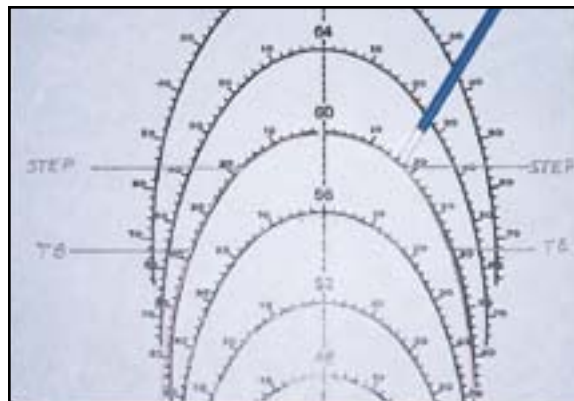


Fig. 3 Measurements transferred to archwire with wax-tipped marker.

than conventional techniques. It is especially helpful for new employees who are learning to fabricate archwires. Although novices often find working inside the mouth somewhat intimidating at first, this method allows them to learn an important skill under more relaxed conditions (Fig. 6), with the possibility of immediate feedback.

REFERENCES

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Fig. 5 Rulers trimmed apart with paper cutter.



Fig. 6 Measurements made in the mouth using disposable paper ruler.

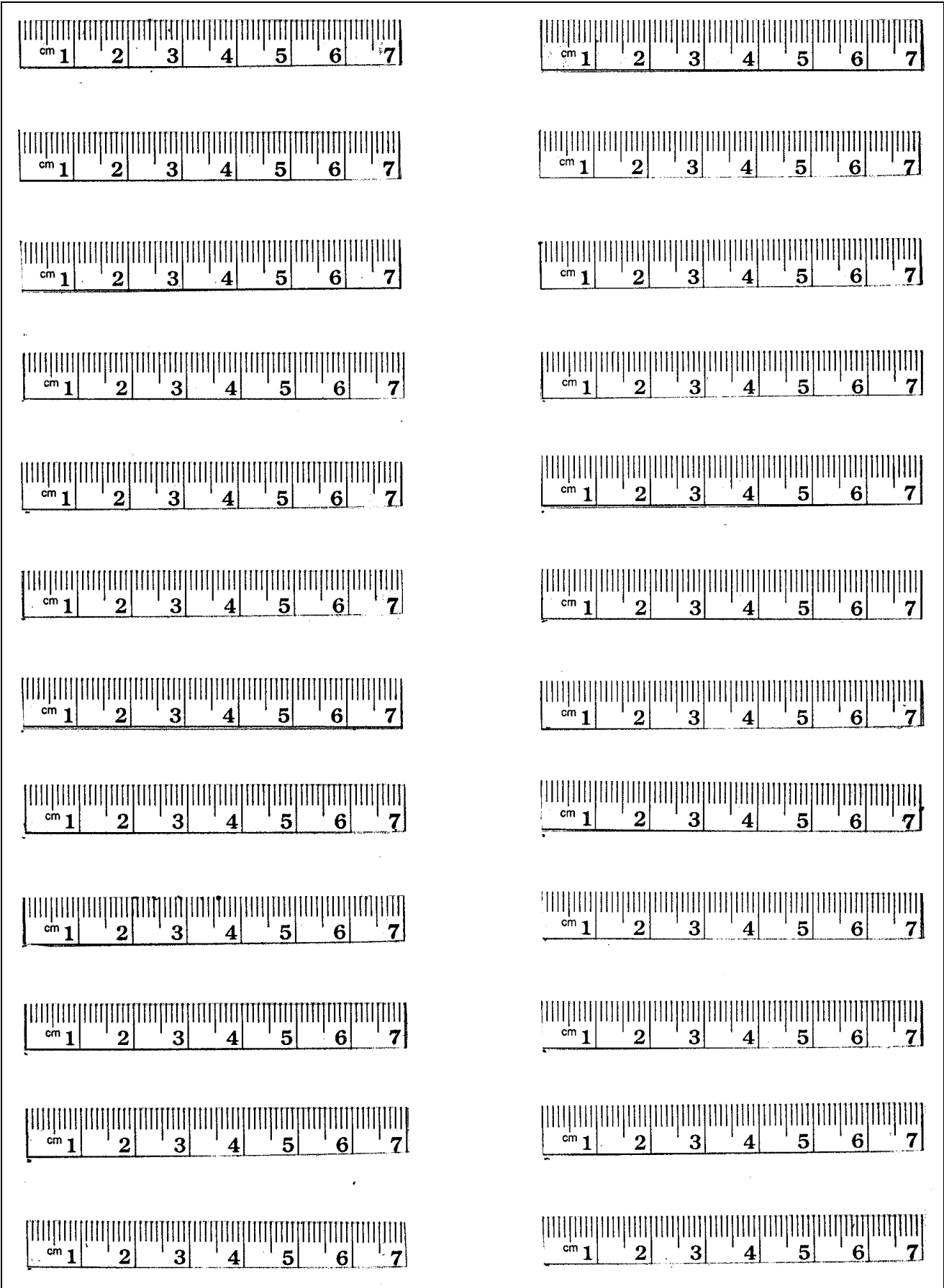


Fig. 4 Page of 70mm rulers that can be photocopied onto thick white paper or clear transparencies (may be used with photocopies of Figure 2 if scale of both is accurate).