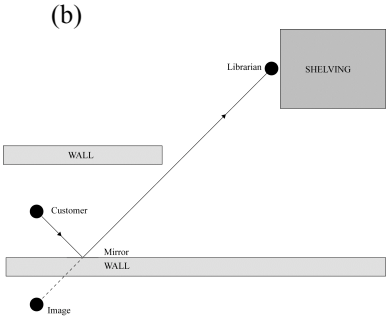
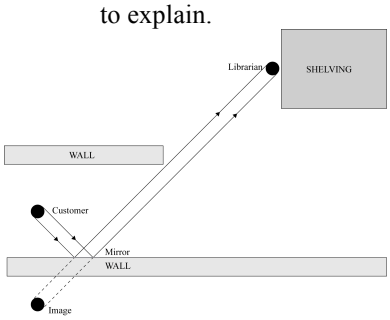
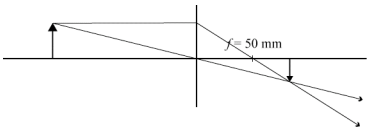
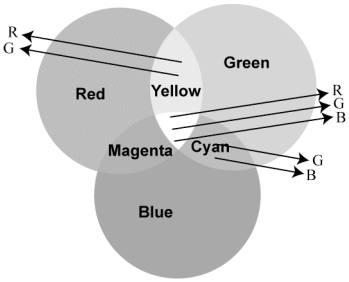
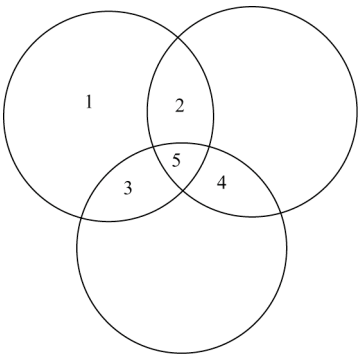
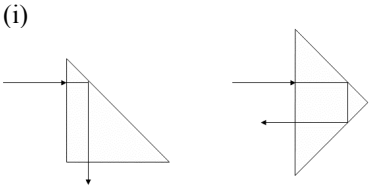
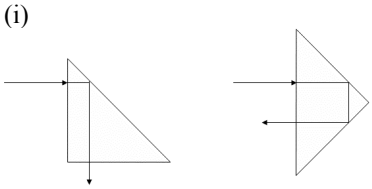
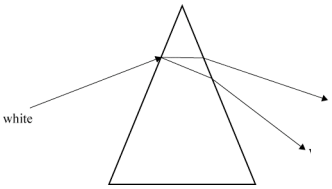
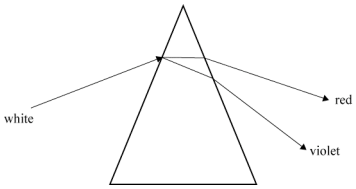
Assessment Schedule – 2007

Science: Use physics concepts and principles to describe the behaviour of light (90768)

Evidence Statement

1(a)	(a) Position of mirror on the wall that solves problem. (b) 	(c) Correct position of image and sufficient rays drawn to explain. 	
2(a)	Converging **OR** Convex lens.		
(b)	 Object in correct position **AND** focal point inserted correctly **AND** at least one light ray drawn accurately. If ray diagram is incorrect but student has image (real, diminished, inverted (at least 2)) described correctly.	Object in correct position **AND** focal point inserted correctly **AND** TWO light rays drawn accurately **AND** image shown correctly. Object and image are consistent: Eg Object has arrow then image has arrow.	**ALSO** image size correct (**18 ± 2 mm**) **AND** image distance correct (**86 ± 5 mm**) behind mirror. **AND** nature of image **real**, **diminished**, **inverted** (at least TWO) described
3(a)	 Correct rays from ONE at least of cyan, yellow or white.	THREE correct rays from **white** **AND** two correct rays from ONE of at least of cyan or yellow. (Ray directions irrelevant.)	

(b)	 Colours of at least THREE parts correct. 1 no colour/black 2 green 3 blue 4 cyan 5 cyan		
(c)	Filters absorb certain selected colours / wavelengths **OR** allow other colours / wavelengths of light to travel through.	Filters absorb certain selected colours / wavelengths **AND** allow other colours / wavelengths of light to travel through. One correct example of a blue, green or red filter given.	Filters absorb certain selected colours / wavelengths **AND** allow other colours / wavelengths of light to travel through. A red filter absorbs blue and green wavelengths but red can pass through. A blue filter absorbs red and green wavelengths but blue can pass through. A green filter absorbs red and blue wavelengths but green can pass through. **THREE** examples correct.
4(a)	(i)  *Both diagrams correct.* **OR** (ii) The light rays strike the surfaces of the prisms at angles of incidence greater than the critical angle of the glass-air interface. Therefore the light rays reflect rather than refract.	(i)  *Both diagrams correct.* **AND** (ii) The light rays strike the surfaces of the prisms at angles of incidence greater than the critical angle of the glass-air interface. Therefore the light rays reflect rather than refract.	
(b)	 Refraction at both interfaces. Spectrum produced.	 Correct Refraction at both interfaces. Spectrum produced. **AND** Violet refracts more than red/red refracts less than violet.	Correct Refraction at both interfaces. Spectrum produced. **AND** Violet refracts more than red/red refracts less than violet. **BECAUSE** Different colours travel at different speeds. **OR** the refractive index is different for different colours.

Judgement Statement

Achievement	Achievement with Merit	Achievement with Excellence
FIVE opportunities answered correctly. Minimum of $5 \times A$	FIVE opportunities answered correctly, including at least THREE at Merit level. Minimum of $3 \times M + 2 \times A$	FIVE opportunities answered correctly, including at least TWO at Excellence level and at least ONE at Merit level. Minimum of $2 \times E + 1 \times M + 2 \times A$