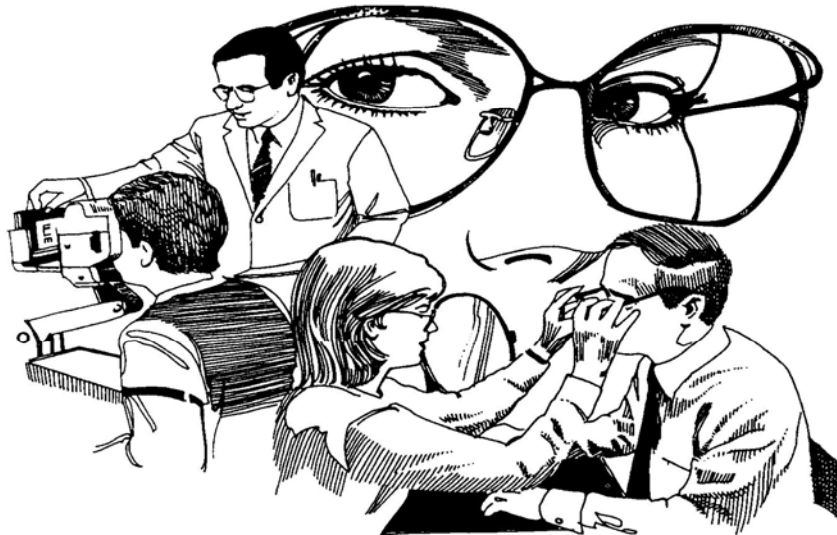




CONSTRUCTION SAFETY EDUCATION PROGRAM #2

EYE SAFETY



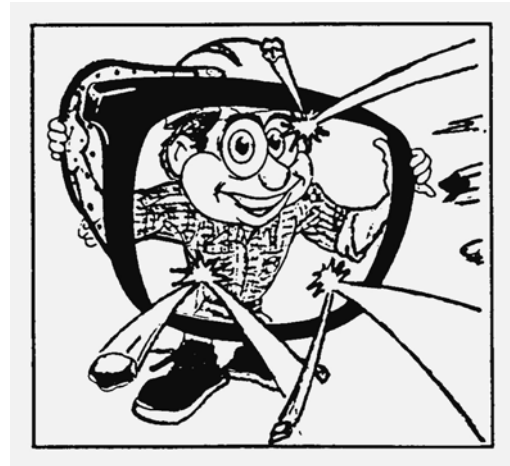
This education program provides a guideline for eye protection required in the construction industry. It is intended to give contractors and workers practical information relating to eye safety.

This education program contains general information. For specific regulatory requirements, please consult the appropriate Workplace Safety Health Act & Regulation adopted under the Workplace Safety and Health Act, The Canadian Standards Association (CSA) Standards, and any applicable Manitoba Guidelines.



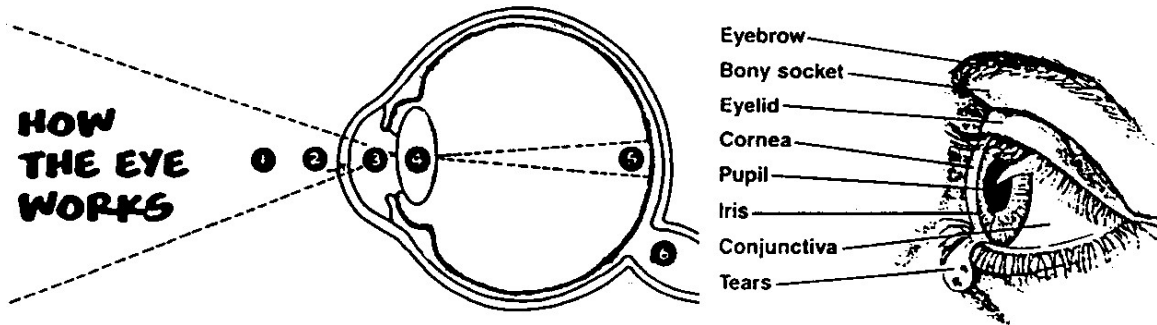
EYE SAFETY

- Each year hundreds of Manitoba construction workers needlessly suffer the effects of an eye injury on the job. These injuries are, to a large extent, avoidable and the vast majority (**up to 90%**) might have been prevented entirely if established safety guidelines and proper safety eyewear had been worn by the victims.
- Some of the most common eye hazards are
 - Flying particles originating from operations such as grinding, sawing, hammering etc.
 - Dusts and other airborne particles of wood, metal, plastic, or other material
 - Fumes and splashes from molten material or chemicals and
 - Harmful light rays from operations such as arc welding or oxyacetylene cutting
- Workplace Safety Health Act & Regulation 217/2006, requires that workers be provided with and use suitable eye protection when engaged in work which constitutes a hazard to the eyes or face. Typical hazards include flying objects and particles, splashing liquids, molten metal, and ultraviolet, visible, and infrared radiation.



Pre-Job Hazard Assessments will assist in identifying the need for proper Eye Protection.

- The following information about the eye and eye safety is intended to assist you in making informed decisions respecting the selection, use, and care of some of the most common types of protective eyewear appropriate for use on construction sites.



1. Light strikes an object in your field of vision and is REFLECTED to your eyes.
2. Light passes through the CORNEA (transparent “front window” of the eye).
3. The PUPIL (the opening at the center of the colored IRIS) changes size to allow the correct amount of light through.
4. The CRYSTALLINE LENS focuses light rays onto the retina.
5. The RETINA (rear inner lining of the eye which contains optic nerve cells converts light into electrical signals.
6. The OPTIC NERVE carries these signals to the brain, which fuses images from each eye into a single picture.

The vital parts of the eye have
FEW NATURAL DEFENSES

- THE CORNEA AND LENS have few blood vessels, so they heal slowly if injured.
- THE RETINA is made up mostly of nerves, which do not heal if damaged or destroyed.

Your Eyes – You need them

- for learning

Almost everything you learn comes in through your eyes.

- for earning

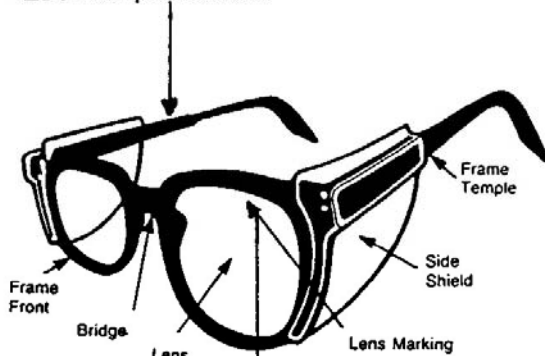
without your eyesight, you probably couldn't perform your present job.

SAFETY GLASSES

- Standard industrial safety glasses look very much like normal glasses, but are designed to provide the wearer with impact protection against flying particles. Safety features include:
 - Lenses made from impact resistant **plastic** or **polycarbonate**. Glass lenses are no longer CSA approved.
 - More rugged frame construction than street-wear frames with special design lens holder which prevents the lens from being pushed backwards into the wearer's eyes.
 - Protective side shields as well as protective lens coatings can reduce fogging.
- Safety glasses are readily available in plain or clear lenses with zero magnification as well as in prescription form for those who require corrective lenses. Contact lenses are not a substitute for proper eye & face protection.

HOW TO RECOGNIZE SAFETY GLASSES

Frame Imprint: All safety frames that meet C.S.A. standards have the imprint "Z94" stamped on them.



Lens Marking: The manufacturer's logo is marked (or etched) on the top of each safety lens that meet C.S.A. standards.

FIT

- **ENSURE** your safety glasses fit properly. Eye size, bridge size and temple length all vary, so safety glasses need to be individually assigned and fitted.
- **WEAR** safety glasses so that the temples fit comfortably over the ears. The frame should be as close to the face as possible and adequately supported by the bridge of the nose.

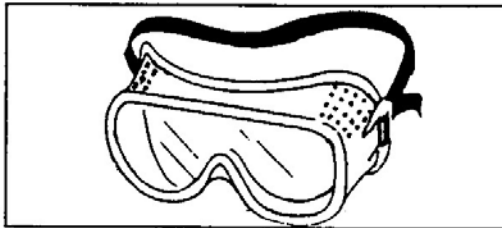
CARE

Safety glasses need maintenance.

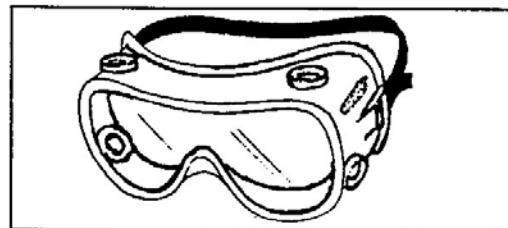
- **CLEAN** your safety glasses frequently. Follow the manufacturer's instructions. Avoid rough handling which can scratch lenses. Scratches impair vision and can weaken glass lenses.
- **REPLACE** scratched, pitted, broken, bent or ill-fitting glasses. Damaged glasses interfere with vision and do not provide adequate protection.

SAFETY GOGGLES

- Many types of specialty goggles are being manufactured today as no one type will protect against every conceivable hazard likely to be encountered. For construction work the following types may be required from time to time.
- Dust Goggles – this type of protective eyewear is designed to fit **snugly** around the eyes and provide a tighter seal around the eyes as compared to safety glasses. Most brands are certified to provide impact penetration in addition to the protection from fine dusts.
- Manufacturers generally offer these types of goggles for sale with direct or indirect ventilation. The latter may be required if you are exposed to chemical splash hazards, corrosive or reactive dusts. Also available are scratch and fog resistant lenses and tints.

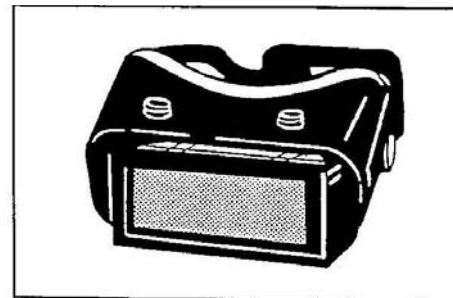


DIRECT VENTILATION



INDIRECT VENTILATION

- Cover Goggles – this type of protective eyewear is commonly referred to as cutting goggles. They provide impact protection dusts, as well as heat, glare, molten metal and light burns (radiation).



CUTTING GOGGLE

- The flip front plate holder is quipped with a shaded filter plate for use when cutting. The holder can then be flipped up in order to perform grinding, fitting or other work.
- The advantage of this type of protection is that the wearer's eyes remain fully protected **at all times**.

FACE SHIELDS AND HELMETS

- Face shields and helmets are **not** in themselves protective eyewear. They are frequently used in conjunction with other eyewear to provide additional full face protection against flying particles, heat, chemical or molten materials.
- Face shields alone **do not** provide adequate eye protection. For this reason they are often referred to as **secondary protectors** as opposed to safety glasses or impact goggles which are referred to as **primary protectors**. Both types are often required to perform some jobs safely.
- By wearing the appropriate protective eyewear and accepting responsibility for your safety you can help reduce the frequency and severity of eye injuries.

FIRST AID

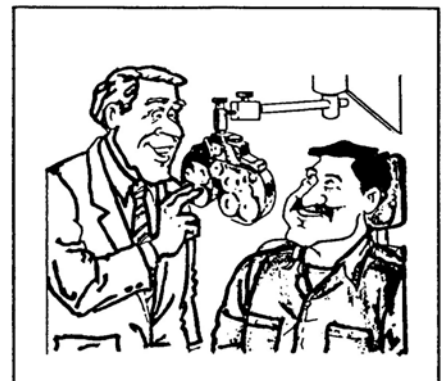
Despite taking every precaution, eye injuries can still occur. Knowing what to do in such a situation may reduce the severity of the injury or even save your eyesight.



- **Immediately** report all eye injuries to your supervisor for appropriate action and attention.
- **Never** try to remove objects embedded in your eye by yourself. This can cause further damage.
- At any workplace where there is a risk of eye injury from exposure to hazardous chemical substances, employees shall provide approved emergency eyewash equipment.

EYE TIPS

- Have regular eye exams to find out if you need corrective lenses.
- Use protective eyewear when working at home or playing certain sports as an incident can happen at anytime.



EYE SAFETY CHECKLIST:

1. Be alert to the eye hazards present at your worksite.
2. Wear the appropriate protective eyewear – glasses, goggles, and/or hoods, face shields and welding helmets – provided by your employer for the specific hazards you face.
3. Make sure that your protective eyewear fits properly and is clean and in good condition before and after each use.
4. Replace scratched or pitted lenses.
5. Know where all eyewash stations and emergency equipment are located.
6. In the event of eye injury, report the incident to your supervisor and get medical attention immediately.

**TAKE CARE OF YOUR
EYES – THEY CAN'T BE
REPLACED**

**EYE AND FACE PROTECTION
REVIEW QUESTIONS**

NAME: _____
Date: _____

PART 1 FILL IN THE BLANKS WITH THE CORRECT ANSWER

- 1) The percentage of eye injuries which might have been prevented through the use of proper protective eyewear is _____.
- 2) The type of hazard commonly produced from operations such as grinding, sawing or hammering is _____.
- 3) The Workplace Safety Health Act & Regulation requires every worker who may be exposed to eye or face hazards to wear appropriate _____.
- 4) 2 Types of lenses that are CSA approved for use in safety glasses are _____ and _____.
- 5) If safety glasses become scratched, pitted, or bent, they must be _____.

PART 2 ANSWER TRUE OR FALSE TO EACH OF THE FOLLOWING

- T / F 1) Face shields constitute adequate eye protection against impact hazards.
- T / F 2) Safety glasses and impact goggles are examples of primary eye protection.
- T / F 3) The cornea and retina will heal quickly if injured.
- T / F 4) Any worker who experiences an eye injury must report immediately to their supervisor.
- T / F 5) It is acceptable to allow co-workers trained in first aid to attempt to remove objects from your eyes.
- T / F 6) Safety glass frames incorporate special design considerations into the lens holder which prevent the lens from being pushed _____ into the wearer's eyes.