

## Title: Aggregate: we cannot do without it

**Materials Needed:** pics of agg use/magazines/newspapers/  
11x17 poster paper/scissors/gluestick



### TRANSPORTATION

- **road base** under road
- gravel in **asphalt** on road
- **fill** under skytrain
- gravel in **skytrain concrete**
- fill/base for **railroad tracks**
- fill for **ship docks**
- rock/sand/gravel base for **airport runways**
- gravel/sand in **runway concrete**
- crushed rock on **pathways**

### RIVERS/STREAMS/FISH HABITAT

- **spawning mix** in this new stream
- sand on the bottom **permits eggs** to be laid
- sand **prevents silt/dirt** from making water muddy
- medium rocks **hold sand** on bottom
- medium rocks **prevent water from washing** away sand/eggs
- medium rocks make the **water bubbly** so oxygen is created in the water
- large rocks (rip rap) **slow water** and prevent banks from **eroding** on rivers/dykes/streams



### LARGE BUILDINGS

- sand in **cement blocks**
- **gravel** in sidewalk concrete
- sand/large rocks in **building base**
- sand in **window glass**
- aglime to **help grass/trees grow**
- sand to help **field drain**
- rocks/gravel to help **water drain** away from building
- large cut rocks for **dimension stone** (wall of buildings)





### GOLF COURSES/AGRICULTURE

- sand in **sand traps**
- sand as a **base to grow** grass for drainage/greenhouses
- aglime to **help plants grow** esp. for forestry seedlings and orchards

### HOUSE CONSTRUCTION

- sand in **shingles**
- sand in **fibreglass insulation**
- sand in **paint**
- gypsum in **drywall**
- rocks for **drainage** around house
- rocks/sand for **foundation base**
- gravel in **concrete** for foundation/sidewalk
- sand in soil for **drainage** for grass
- sand in **window glass**
- gravel for **drainage** around sewer pipes
- clay in **porcelain sinks/toilets**
- sand in **bricks/mortar**



### PLAYGROUNDS/SPORTS FIELDS

- birdseye/small gravel for **safety** on playgrounds
- sand base for all weather playing fields for **drainage**
- aglime for **grass** growth
- gravel for **concrete base** for equipment/goal posts
- crushed rock for **baseball infields**
- gravel for **concrete** for changing rooms/spectator stands

### INDUSTRIAL USES OF AGGREGATE

- |                 |   |
|-----------------|---|
| · paint         | · sand/limestone for water filtration         |
| · plastic       | · rocks for erosion control                   |
| · some medicine | · crushed limestone for cleaning polluted air |
| · vinyl         | · fill/concrete for dams                      |
| · toothpaste    |   |

# HOW DO I BENEFIT FROM AGGREGATES EVERY DAY?

List three ways aggregate products help me get around my community faster:

- car on roads
- skytrain
- train
- pathways on bike/walk
- bus on roads

Name \_\_\_\_\_

## Activity 8

time 30 minutes

Name 3 ways aggregate products help me stay healthy:

- clean teeth with toothpaste
- fight germs with medicine
- glass in windows keep my room warm at night
- glass in windows allow sun in
- roads permit ambulance/police/fire fighters to travel
- fibreglass keeps house warm
- sand filter clean water
- porcelain sinks allow me to wash hands
- birdseye allow me to fall safely on playgrounds
- aglime allow us to grow enough food to eat
- sand fields allow me to play soccer even in the wet winter



Name 3 ways aggregate products help me have fun in my community:

- biking on pathways
- roller blade on paved trails
- use skateboard park
- swim in concrete pool
- play basketball/tennis/roller hockey on paved courts
- play soccer/baseball/football on sand/grass fields
- watch movies in concrete movie theatres
- fish safely from large rocks on river bank

1. Name the **3 most important ways** aggregate products make life better for me and explain why:
  - Example: Aggregate in asphalt is very important for several reasons;
    1. allows emergency vehicles to get to people who need help quickly
    2. permits people to get to work easily which helps us keep a high standard of living
    3. permits food and other important things to get to stores easily no matter the weather

\*\*\*a good reason explained with a couple of examples for 3 marks

3 x 3 = 9	_____	/9
2 x 3 = 6	_____	/6
total = 15	_____	/15

A	= 14+	_____
B	= 13	_____
C+	= 11/12	_____
C	= 9/10	_____
C-	= 8	_____
D	= <8	_____

# AGGREGATE COLLAGE

time 1 hour

## Activity # 9

- cut out pictures from newspapers and magazines
- pictures should show how aggregate is used
- show as many ways as possible
- cut pictures neatly with a scissors
- glue the edges down firmly
- leave a white rectangle in the lower right for your name to be printed clearly

### Variety of uses

10 x 1 = 10 max

\_\_\_\_\_/10

### Neat cutting

5 ... all edges neat  
4 ... a couple of mistakes  
3 ... almost all neat -90%  
2 ... many errors -  
          watching tv  
1 ... half errors - baby  
          brother helped  
0 ... ripped them with  
your                          hands

score \_\_\_\_/5

### Neat cutting

5 ... all edges tight  
4 ... a couple of mistakes  
3 ... almost all neat -90%  
2 ... many errors -  
          watching tv  
1 ... half errors - baby  
          brother helped  
0 ... used spit for glue

score \_\_\_\_/5

### Total

\_\_\_\_ A = 18+  
\_\_\_\_ B = 16/17  
\_\_\_\_ C+= 14/15  
\_\_\_\_ C = 12/13  
\_\_\_\_ C-= 10/11  
\_\_\_\_ D = <10

Name \_\_\_\_\_